



Department of  
Veterinary Science  
Periodic Program Review

Submitted August 2011

# Self Study

## **SELF-STUDY**

**Department of Veterinary Science  
MAXWELL H. GLUCK EQUINE RESEARCH CENTER  
University of Kentucky  
Lexington, KY 40546-0099**

**Mats H.T. Troedsson, Chairman & Director**

### **ACCOUNT ON SELF-STUDY PROCESS**

The self-study is based on discussions and documents from a faculty retreat for researchers at the Gluck Equine Research Center in November 2009. Following the faculty retreat, subcommittees were formed to develop a strategic plan for the Gluck Center. This document is included in the self-study.

Documentation of productivity, annual reports, graduate program and budget data has been generated from the Department of Veterinary Science archives.

In 1987, the Department of Veterinary Science was restructured to three functional units: Maxwell H. Gluck Equine Research Center, Livestock Disease Diagnostic Laboratory (recently renamed to University of Kentucky Veterinary Diagnostic Laboratory), and the Equine parentage Testing and Research Laboratory (renamed to Animal Genetic Testing and Research laboratory). The UKVDL and AGTRL programs have recently had comprehensive reviews, and the current external review is focusing on the research program at the Gluck Equine Research Center.

As a result of the restructuring of the Department of Veterinary Science in 1987, research faculty at the Gluck Equine Research Center were expected to contribute 100% of their distribution of effort on research. New faculty were added to existing faculty as endowed chairs were developed within the Center. The Gluck Center currently has six of the twenty faculty members in endowed chair positions.

As most academic institutions, the Gluck center faces many challenges at this time of economic difficulties and uncertainties. One specific challenge for the Gluck Center is to obtain funding to support 15-20 faculty with 100% effort on equine research. This problem has been addressed in the self-study. The timing of this review is important since the Gluck Center is approaching a generation shift of its faculty and decisions need to be made to make sure that the future Center is well prepared to meet scientific and industry expectations. It is now time to assess the current programs, their relevance to the overall mission of the Gluck Center and to the veterinary community/equine industry. Decisions need to be made in the near future on how to strategically replace retiring faculty, how to maintain, add, or discontinue current programs. We expect this external review of the Gluck Equine Research Center to help us make the right decisions for the future of the Center. Specifically, we ask the Committee to give recommendations regarding:

- Scientific directions and performance;
- Contributions to the veterinary community and the industry;
- Current programs
  - o Are these the best for the future?

- Do we have a critical mass?
- Recommendations to expand or discontinue programs;
- Composition of the foundation board and interaction with the board;
- Relationship and support from the College of Agriculture;
- Interaction with local practices;
  - Good idea?
  - Right approach?
- Quality of graduate program.

## **COMMITTEE COMPOSITION**

Dr. Doug Antczak  
 Baker Institute for Animal Health  
 College of Veterinary Medicine Cornell University

Dr. Don Knowles  
 ADRU-ARS-USDA-PWA  
 Washington State University

Dr. Ed Robinson  
 College of Veterinary Medicine  
 Michigan State University

## **MISSION STATEMENT**

The mission of the Gluck Equine Research Center is scientific discovery, education, and dissemination of knowledge for the benefit of the health and welfare of horses.

## **VISION STATEMENT**

The Gluck Equine Research Center strives to be an international leader in equine research as well as provide the equine industry and veterinary community with information to improve health and well-being of the horse. We also strive to educate the next generation of researchers through our graduate program.

## **INTRODUCTION**

For more than a century, the Department of Veterinary Science at the University of Kentucky has received international recognition for its research, which has contributed to improving health and welfare of the horse, not only in Kentucky but throughout the world. Building upon the research achievements of the faculty in the 50s, 60s and 70s, the department obtained funds from private and public sources to build the Maxwell H. Gluck Equine Research Center, which was completed in 1987. The Center is one of three functional divisions that comprise the Department of Veterinary Science at the University of Kentucky, the other two being the UK Veterinary Diagnostic Center and the Animal Genetic Testing & Research Laboratory. The majority of the research activities of the department are carried out at the Gluck Equine Research Center, while the Veterinary Diagnostic Center and the Animal Genetic Testing and Research Laboratory are mostly focused on diagnostic services to the horse community. This self study will focus on the research and graduate programs at the Gluck Equine Research Center.

Since it became operational in mid-1987, the Gluck Center has become recognized internationally for its equine research programs. It is widely acclaimed for the many significant contributions its faculty has made to further our understanding of some of the most important diseases of the horse. It has been designated a world reference center for three of the most economically

significant equine diseases, influenza, equine viral arteritis and equine rhinopneumonitis, by the Office International des Epizooties (OIE) in Paris, France. Vaccines have been developed at the Gluck Center against many of the most common equine infectious diseases. In addition, the genetics/genomics group at the Gluck Center initiated and participated in the international effort to sequence the equine genome, which was published in *Science* in 2009.

### **Current situation and future challenges:**

A separation of research and service has allowed faculty members at all three units (Gluck, UKVDL and AGTRL) to focus on their area of expertise, and great accomplishments have been made in both equine diagnostic service and research. The possibility of conducting research with a 100% distribution of effort has attracted some of the best equine scientists in the world to the Gluck Center. However, a regular interaction between researchers and the veterinary/equine communities has been suffering somewhat in this process. As a result,

- local veterinarians and horse owners/breeders do not feel that they are as well informed about research or other activities at the Gluck Center as they used to be when service and research components of the Department of Veterinary Science were at one location.
- expectations from the veterinary and equine communities are not always in line with academic expectations of faculty members. This is particularly the case with regards to disease investigations, research on current disease outbreaks etc.
  - o There is an academic expectation that Gluck Center faculty members should develop a sustainable, focused research program.
  - o There is an expectation from the horse industry that faculty members at the Gluck Center should be flexible in their research on current equine problems.
- Another challenge for the Gluck Center and the University of Kentucky is that in the absence of a Veterinary College, the University of Kentucky is not attracting clinical scientists to join faculty. This has led to a void in clinical scientists in central Kentucky. With the notable exception of individual researchers and their programs, it has also resulted in a perceived disconnection between the University of Kentucky and veterinary practitioners in central Kentucky.
  - o The need for, and possibility to develop a clinical science program in partnership with large equine practices in Lexington has been investigated. There is a great enthusiasm for this initiative from the equine industry and the veterinary community. A proposal has been developed (see below), and funding sources for the program need to be identified.

### **LABORATORY FACILITIES:**

The four-story Gluck Center provides approximately 69,500 feet of space, comprising 50 spacious laboratories, a computer-based library, classrooms, a 130-seat auditorium, an electron microscopy suite and animal accommodation facilities. The space is sufficient to accommodate current research activities, but may not be enough if new faculty are added. Addition to the existing building is unlikely in the near future. A flexible allocation of laboratory space based on research activities has been discussed and may be necessary in the future. A shift from individual laboratory space to function based assigned laboratory space may also be considered. Renovation of horse barns and construction of new animal facilities at the farms should include laboratory space to allow investigators to conduct some laboratory work. The Gluck Animal Annex has been utilized as an animal facility, office space, and storage. Alternative office and storage space need to be identified to accommodate needs for animal use of this facility.

## **RESOURCES AND EQUIPMENT:**

To continue to maintain a vibrant and successful program in equine research, the department will require resources additional to those already available. Equipment for biomedical research is rapidly developing at increasing costs. Without an infrastructure that allows us to replace and upgrade major equipment, it is increasingly difficult to meet the needs of progressive research programs. In the past, endowment fund income from intellectual property accounts and gifts have helped to support the purchase of new equipment, but this source is currently limited by a decreased value of University endowments and a decline in gifts due to the downturn of the economy. The College of Agriculture has been very helpful in identifying matching support of major equipment and full funding of minor equipment on both competitive and non-competitive basis, but the need clearly exceeds the resources. This is a problem that is unlikely to go away and a strategy has to be developed to identify equipment priorities that can be supported from limited pool of funding. Recruitment of world-class caliber faculty requires provision of adequate financial support for technical staff, post-doctoral and graduate students. Whilst individual faculty make every effort to secure extramural funds in the form of grants or contracts to support their research, however, the availability of competitive funding for equine research is very limited. Consequently, it has become necessary to depend to an increasing extent on the generosity of various members and groups within the horse industry to underwrite the costs of research in certain critical areas and to enable initiation of new research programs. A mechanism by which the Gluck Center is able to return the investment from donors and the equine industry is necessary to sustain a strong industry support. Dissemination of research findings, short courses, and seminars are all important components of a return of investment in research. Stronger ties with the local, national, and international veterinary communities, as well as other stake holders are key components in this strategy.

## **FARM FACILITIES:**

The Department of Veterinary Science have 450 horses on 450 acres (320 acres of Maine Chance farm, 120 acres at Woodford Farm, and a 10 stall isolation/quarantine facility at the South farm). Maintenance of buildings have been neglected for many years and significant expenses can be expected in the near future to renovate facilities in order to meet IACUC requirements. New construction of an infectious disease facility (currently used for research on *Streptococcus equi*), and a biosecurity level 2 facility was recently completed. The BSL2 facility has severe structural problems and this issue has been handled by the College of Agriculture. Repair of the facility is expected to start this fall. A new mare reproduction facility has recently been completed, and a stallion reproduction facility is underway. Both of these research facilities include stalls, animal handling facilities, and well equipped laboratories. Financial support of all these facilities was obtained through fundraising and matching funds from the Commonwealth of Kentucky.

It is not likely that funding will be available to renovate existing buildings at the farms. A strategic decision needs to be made regarding buildings that are needed for current and future research activities and those who can be eliminated. The addition of “open exam facilities” should meet the needs of sample collection and examinations of horses for several research projects. These facilities can replace some of the old non-sustainable barns. The Maine Chance Farm already has two of these exam facilities in use.

Animal sheds and wind breaks are present in some, but not all pastures. In order to comply with federal animal care regulations, some form of protection against severe weather and wind will be necessary to install on all pastures. Funding for this has not yet been identified.

## **FARM OPERATION:**

In order to better control and monitor farm costs, we have developed a separate budget for this unit and a cost center is currently being developed for the farm. Gluck faculty are required to include cost of horses (per diem) on all extramural research grants. This will reduce the department's expenses for the farm operation. In addition, short- and long-term needs of horses have been estimated and will allow us to more efficiently use animals and possibly reduce the number of horses. These measures are necessary to sustain the farm operation and continue to provide faculty with a unique source of research horses.

Steps have been taken to improve the veterinary care of horses within the Department of Veterinary Science. Instead of relying on veterinary service from local private practices, we utilize veterinary services from licensed (and in some cases, board certified) veterinarians among our graduate students. The system allows graduate students with a DVM to continue clinical work during their time at UK, and to provide in-house veterinary care at the farm for health problems as well as ongoing monitoring of equine health. The farm veterinarians (graduate students) are under direct supervision of the department chair and ultimately under supervision of the University Veterinarian, Dr. H. Stills. The system will help us recruit graduate students with a veterinary degree following their residency training. These students need continuous clinical exposure to be able to obtain faculty positions at clinical departments after their graduation.

A new electronic health record system that can trace involvement of individual horses in research projects and veterinary intervention has been developed within the department. The record system allows us to report on veterinary intervention immediately to the division of animal resources as required by IACUC. It also allows us to document research use of individual horses over time, to avoid undesirable interactions between studies and minimizes repeated use of horses on experiments with high pain levels.

### ***Animal Care/Farm Crew***

Lynn Ennis, Animal Resources Manager  
Kevin Gallagher, Farm Manager  
Felicia Kost, Research Farm Technician  
John Allen, Research Farm Technician  
Chip Stamper, Research Farm Technician  
Pedro Deluna, Research Farm Technician  
Seth Hatfield, Research Farm Technician

In addition to the above, the department employs 26 student and/or temporary workers.

## **FACULTY:**

The faculty in the Department of Veterinary Science total 31. There are 20, including 1 librarian, located in the Gluck Equine Research Center, 1 in the Animal Genetic Testing & Research Laboratory, and 10 in the KY Veterinary Diagnostic Laboratory. Ranging widely with regard to their respective research interests, the faculty includes a number of world-acclaimed scientists in a variety of specialty fields.

## **PROGRAM DESCRIPTION AND GOALS:**

The overall goal of the research program at the Gluck Equine Research Center has been to improve the health and wellbeing of the horse through an increased understanding of the biology of *Equidae*. The program has emphasized investigation of the causes and mechanisms of diseases which affect the economy of production and the performance of horses, inclusive of all breeds. Greatest attention is paid to those diseases of considered economic importance and concern to the horse

industry not only in Kentucky, but elsewhere in the U.S. and abroad. The range of topics under current study is reflective of an awareness and recognition of those concerns. A programmatic organization of research activities was recently established, with the purpose of increasing collaborations between individual researchers and facilitate communication regarding research activities at the Gluck Center to the equine and veterinary communities. The fields of current research activity comprise:

### **Equine Genetics/Genomics**

#### ***Faculty, Students & Research Assistants***

Bailey, Ernie, Professor

#### ***Graduate Students***

Cook, Debbie, PhD Candidate

Eberth, John, MS Candidate

Gaubatz, Breanna, MS Candidate

Graves, Kathy, Assistant Professor

#### ***Research Staff***

Daugherty, Brock, Scientist I

Davies, Karin, Scientist I

Eakins, Mandy, Laboratory Technician

Lear, Teri, Associate Professor

#### ***Graduate Students***

McGee, Rose, MS Candidate

#### ***Research Staff***

Lundquist, Judy, Lab Technician

MacLeod, Jamie, Professor

#### ***Graduate Students***

Coleman, Stephen, PhD Candidate

Cosden, Rebekah, PhD Candidate

Detlefsen, Lauren, MS Candidate

Janes, Jennifer, PhD Candidate

Vanderman, Kadie, MS Candidate

Zhu, Wenying, PhD Candidate

***Program Description:*** Faculty members within the genetics/genomics program conduct research on the equine genome disease processes, study cytogenetics and provide services in this area to the veterinary community. The group played a major role in the Horse Genome Project, and have studied genetic diseases and traits in Saddlebreds, American Miniature horses, and coat color genetics in a variety of breeds. This group has also recently described specific fertility issues in Thoroughbred mares with chromosomal translocation.

***Evaluation:*** The research program benefits from the availability of the horse genome sequence, access to local horse farms and collaborations with local veterinarians. The genomics program is relevant to other research programs within the Gluck Center, and collaborations with researchers within the Center can be expected to grow. The program is also closely affiliated with the genetic testing and research laboratory and there are great opportunities to develop new tests for this lab. The program is in need of replacement and upgrading of equipment in order to meet current and future needs.



## **Equine Infectious Diseases**

### ***Faculty, Students & Research Assistants***

Artiushin, Sergey, Assistant Professor

Balasuriya, Udeni, Associate Professor

#### ***Graduate Students/Post Docs***

Campos, Juliana, MS Candidate

Pfahl, Kristin, PhD Candidate

Smith, Kathryn, PhD Candidate

Li, Yanqiu, Post Doctoral Scholar

Zhang, Jianqiang, Post Doctoral Scholar

#### ***Research Staff***

Pam Henney, Research Specialist

#### ***Visiting Scholar***

Fabien Mischczak, PhD student -France

Chambers, Tom, Associate Professor

#### ***Graduate Students***

Sarkar, Sanjay, PhD Candidate

Tiwari, Ashish, PhD Candidate

#### ***Research Staff***

Reedy, Stephanie, Research Specialist

Cook, Frank, Assistant Professor

#### ***Graduate Students***

Even, Debbie, PhD Candidate

Dwyer, Roberta, Professor

Horohov, David, Professor

#### ***Graduate Students/Post-Docs***

Adams, Amanda, Post Doctoral Scholar

Liu, Chong, PhD Candidate

Page, Allen, PhD Candidate

Sun, Lingshuang, PhD Candidate

#### ***Research Staff***

Betancourt, Alex, Research Analyst

Issel, Charles, Professor

#### ***Research Staff***

Cook, Sheila J., Scientist II

Powell, David, Professor Emeritus

Swerczek, Tom, Professor

Timoney, John, Professor  
***Graduate Students/Post Docs***  
DeNegri, Raphaela, PhD Candidate  
Velineni, Sridhar, Post Doctoral Scholar

***Research Staff***  
Mike Fettingner, Lab Technician (Part-Time)

Timoney, Peter, Professor  
***Graduate Students***  
Go, Yun Young, PhD Candidate  
Hennig, Jessica, MS Candidate  
Meade, Barry, PhD Candidate

***Research Staff***  
Kathy Shuck, Principal Research Analyst

***Program Description:*** The infectious disease program is the largest research program within the Gluck Center. Research in diagnostics, molecular epidemiology and vaccines is conducted on equine herpes virus, equine arteritis virus, equine influenza virus, *Streptococcus equi* (“strangles”), *Clostridium perfringens/difficil*, *Lawsonia intracellularis*, *Rhodococcus equi*, and leptospirosis. The program includes a very active immunology section with ongoing research on the characterization and response to vaccination in young and aged horses. The program is supported by USDA, NIH, industry and pharmacological companies. A longstanding collaboration between this group and Fort Dodge (Pfizer) has resulted in vaccine development and support of graduate students.

***Evaluation:*** The infectious diseases group has an outstanding national and international reputation and recognition. The group has enjoyed considerable success in the past and is likely to continue this success in the future. Several individual investigators have a good and continuous record of extramural funding. A potential problem for the group is to obtain future funding for research in infectious diseases in a time when this area is losing support from USDA. Structural problems with the newly constructed BSL2 facility has set back researchers within this group.

- **Musculoskeletal Diseases**

***Faculty, Students & Research Assistants***

MacLeod, J.N., Professor  
***Graduate Students***  
Coleman, Stephen, PhD Candidate  
Cosden, Rebekah, PhD Candidate  
Detlefsen, Lauren, MS Candidate  
Janes, Jennifer, PhD Candidate  
Vanderman, Kadie, MS Candidate  
Zhu, Wenying, PhD Candidate

***Program Description:*** This program has one faculty member only, but is very productive in the study of cartilage repair and other joint diseases. Dr. MacLeod is an active participant in the genetics/genomics program, and has successfully integrated genomic research tools into his program.

Evaluation: Research within this program is of great importance to the horse industry, and will most likely continue to be of great importance in the future. Dr. MacLeod has developed productive collaborative interactions with the Department of Computer Science, the Department of Statistics, and the Department of Orthopedic Surgery at the School of Medicine. He is also collaborating with local veterinary practitioners and is exploring a programmatic connection to the Muscle Biology Group in the Department of Physiology. The program has been well funded and was recently awarded a NSF grant.

A weakness is the insufficient number of faculty in this program to reach a critical mass. A large number of graduate students are enrolled in Dr. MacLeod's laboratory, but additional faculty members would further help this program.

- **Parasitology**

***Faculty, Students & Research Assistants***

Howe, Dan, Associate Professor

***Graduate Students/Post Docs***

Gautam, Ablesh, PhD Candidate

Dangoudoubiyam, Sriveny, Post Doctoral Scholar

***Research Staff***

Yeargan, Michelle, Research Specialist

Lyons, Eugene, Professor

***Research Staff***

Collins, Sandra, Lab Technician

Tolliver, Sharon, Research Specialist (Part-Time)

***Visiting Scientists***

Mariana Ionita, PhD, DVM – Romania

Tetiana Kuzmina, PhD – Ukraine

Vacant Assistant Professor – currently advertised and ongoing search

Program Description: The parasitology program consists of one faculty member with an interest in classical parasitology and one faculty member with an interest in molecular aspects of equine protozoal myeloencephalitis. The program has a longstanding tradition of excellence and leadership in equine parasitology. With new threats of parasite resistance against current anthelmintics and no new class of dewormers on the horizon, a productive research group in parasitology is essential to our contribution to the horse industry. In order to strengthen this program, we are recruiting a new entry level, tenure-track faculty position.

Evaluation: The program enjoys good recognition and have productive faculty members. Dr. Lyons interacts well with the local equine farms, and is highly respected for his contributions. Dr. Howe is currently funded by USDA for research on equine protozoal myeloencephalitis, and Dr. Lyons receives gifts from the industry for funding of his research. The program needs to increase its participation in graduate program (currently only one graduate student), and better demonstrate applicability of EPM research to the veterinary community and the equine industry. This will probably improve through the establishment of a collaboration with Dr. Steve Reed, Rood & Riddle Equine Hospital.

- **Pharmacology and Toxicology**

***Faculty, Students & Research Assistants***

Tobin, Tom, Professor

***Post Docs***

Gutierrez, Julio, Post Doctoral Scholar

***Research Staff***

Hughes, Charlie, Laboratory Technician (Part-Time)

Tharappel, Job, Laboratory Technician

Gaskill, Cynthia, Associate Professor (UKVDL)

***Program Description:*** The pharmacology and toxicology program is made up of one faculty member at the Gluck Center, Dr. T. Tobin, and one faculty member at the UKVDL, Dr. C. Gaskill. Dr. Tobin's research focus is currently on pharmacology (establishment of reference standards for drug testing, and therapeutic medication regulations). Dr. Gaskill has a 20% research appointment (80% service), and her office and laboratory are located at the UKVDL. Her research is in collaboration with faculty at the University of Kentucky as well as other institutions to investigate topics of toxicological importance to Kentucky agriculture and to the UKVDL. Current research projects underway include: (1) investigation of hepatic mineral concentrations in mares with uterine artery rupture (collaboration with Dr. Andy Allen, University of Saskatchewan, Saskatoon Canada); (2) investigation of effects of harvest, transport, storage and processing conditions on ergovaline analyses of tall fescue (collaboration with Dr. Ray Smith, UK); (3) comparison of various methods of ergovaline concentration determination in tall fescue and establishment of a round-robin proficiency program for ergovaline analysis in forages; (4) evaluation of DART-linear ion trap methodology for rapid screening for seizure-causing toxins in baits and stomach contents (collaboration with Dr. Darren Smith, Eastern Kentucky University and Dr. Lori Smith, UK); (5) evaluation of DART-linear ion trap methodology for detection of ethylene glycol and glycolic acid in urine, serum stomach contents, baits and tissues (collaboration with Dr. Darren Smith, Eastern Kentucky University and Dr. Lori Smith, UK); (6) evaluation of serum trace mineral concentrations in central Kentucky goats (collaboration with Dr. Michelle Bilderback, UK); and various method validation studies.

***Evaluation:*** There is limited collaboration among the two faculty members in this program. Dr. Tobin has been very active in developing assays for drug testing and reference standards. He has also been successful in the area of intellectual property/technology transfer. He has been able to attract funding from private donors and horse organizations. The program lost an important source of funding when the Equine Drug Research Council funds were discontinued in late 2003. The Gluck Center needs to increase our participation and leadership in this timely and important area of research.

Dr. Gaskill's research is of a collaborative nature because of her 20% research distribution of effort. Dr. Gaskill joined the Department of Veterinary Science in 2008. The current budget situation has prevented the hiring of a technician in her laboratory to help with research projects. This position is absolutely necessary for Dr. Gaskill's future productivity given the fact that she has a 20% research appointment.

- **Reproductive Health**

***Faculty, Students & Research Assistants***

McDowell, Karen, Associate Professor

***Graduate Students***

Hestad, Drew, MS Candidate

Squires, Ed, Professor

***Graduate Students***

Cerny, Katheryn, PhD Candidate

Hughes, Sydney, MS Candidate

Troedsson, Mats, Professor

***Graduate Students***

Klein, Claudia, PhD Candidate

Miller, Lynda, PhD Candidate

Toro Mayorga, Ana Gabriela, MS Candidate

Woodward, Elizabeth, MS Candidate

***Research Staff***

Scoggin, Kirsten, Scientist II

***Visiting Scholars***

Petersen, Morten, Asst. Professor, University of Copenhagen

Ababneh, Mohammed, Assoc. Professor, University of Jordan

Christoffersen, Mette, PhD student, University of Copenhagen

Ball, Barry, Professor (recently hired (9/23/10) to fill the Clay Endowed Chair in Equine Reproduction (not part of the evaluation))

***Program Description:*** Faculty members in the reproductive health program conduct research in areas spanning from fescue toxicity during late gestation in mares, equine endometritis and the interaction between semen and the female reproductive tract, conceptus – maternal signaling during early pregnancy, characterization of sperm surface proteins, semen preparation for artificial insemination, and estrous suppression. In addition, the group is conducting retrospective studies on reproductive treatments and management of Thoroughbreds, based on farm records.

***Evaluation:*** The group has good recognition, and the recent addition of Dr. Barry Ball will likely further increase the visibility of the group in the future. The group has a history of good communication and connection with the veterinary community and stakeholders. Faculty members are active participants in the graduate program.

The group needs to develop a focused research program in order to obtain extramural funding. Equine reproduction has been de-emphasized at many veterinary colleges in the US and funding may be increasingly difficult to obtain in the future. A future concern is that two of the group's faculty members have major administrative commitments and will most likely not be replaced with faculty in the area of reproduction. A strategy to overcome this potential problem needs to be developed in the future.

### ***General Support Staff***

Hale, Grace, Librarian Faculty  
Eberhart, Edith, Library Technician  
Leach, Roy B., Business Manager  
Mollett, Debbie, Administrative Support Assoc.  
Wells, W. Scott, Account Clerk  
Watkins, B. Gail, Account Clerk  
Garrett, Patsy, Staff Support Assoc.  
Furry, Diane, Staff Support, Assoc.  
VanMeter, Patricia, Electron Microscopist  
Dillon, Patricia, IT Support (part-time)  
Gabbard, Doris, IT Support

### **FACULTY PRODUCTIVITY:**

	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>
# Refereed Articles	37	48	48	50	48
# Non-Refereed Articles	38	25	30	41	40
# Chapters	3	3	9	18	14
# Presentations	50	58	65	73	113
# Grants	10	10	8	16	14
Value	\$1,796,840	\$724,514	\$603,552	\$1,492,214	\$4,949,649

### **BUDGET:**

The budget for the three units of Veterinary Science (Gluck Equine Research Center, University of Kentucky Veterinary Diagnostic Laboratory, and the Animal Genetic Testing & Research Laboratory) are separate. Funding for the Gluck Center consists of grants/gifts, endowments, and state/federal funding. THE UKVDL is funded from the Commonwealth of Kentucky and from service revenues. The Animal Genetic Testing & Research Laboratory is self-supporting through service revenues.

Veterinary Science Department

Research Program

Funding History

	Fiscal year 2005-'06	Fiscal year 2006-'07	Fiscal year 2007-'08	Fiscal year 2008-'09	Fiscal year 2009-'10	Fiscal year 2010-'11
<u>"Hard" funding</u>						
State Research Funds.	\$1,632,974.00	\$1,708,693.69	\$1,765,314.73	\$1,911,312.03	\$1,824,727.30	\$1,763,814.76
Federal Hatch Funds.	\$304,063.00	\$398,562.00	\$647,841.93 *	\$376,488.61	\$302,652.61	\$414,676.61
Federal Animal Health Funds.	\$66,708.00	\$66,708.00	\$60,743.81	\$42,107.00	\$45,308.00	\$45,308.00
Total "hard" funding	\$2,003,745.00	\$2,173,963.69	\$2,473,900.47	\$2,329,907.64	\$2,172,687.91	\$2,223,799.37

\* 2007-'08 Federal Hatch funds include \$300,000 made available from College for reproduction barn.

<u>Endowed gift support</u>						
Research chairs.	\$987,500.75	\$1,007,832.41	\$1,100,990.77	\$1,176,918.43	\$768,243.94	\$1,001,097.58
Grad. student and postdoc support.	\$337,466.06	\$345,357.72	\$377,341.60	\$403,855.51	\$249,048.80	\$343,983.11
Library support.	\$57,973.34	\$57,855.91	\$62,819.87	\$66,766.56	\$40,072.58	\$56,671.13
Endowed department support.	\$320,053.82	\$585,104.62	\$753,196.46	\$837,408.77	\$768,272.08	\$1,085,626.72
Gluck Foundation transfer.	\$360,000.00	\$360,000.00	\$400,000.00	\$399,235.32	\$400,000.00	\$400,000.00
Total endowed funding	\$2,062,993.97	\$2,356,150.66	\$2,694,348.70	\$2,884,184.59	\$2,225,637.40	\$2,887,378.54
<u>Grant awards</u>						
State awards.	\$49,835.13	\$109,336.65	\$62,323.37	\$128,850.06	\$100,455.12	\$212,108.59
Federal awards directly.	\$418,844.06	\$288,170.17	\$46,155.07	\$128,301.90	\$626,245.52	\$254,728.16
Federal awards intramurally.	\$0.00	\$0.00	\$45,423.86	\$132,696.06	\$166,991.33	\$55,992.11
Federal Regional project funding.	\$70,000.00	\$70,000.00	\$70,000.00	\$70,000.00	\$70,000.00	\$70,000.00
Research foundations.	\$231,979.44	\$119,095.82	\$292,203.54	\$81,758.70	\$125,858.51	\$167,204.04
Corporate sponsors.	\$187,596.82	\$322,658.16	\$203,089.68	\$172,264.73	\$234,173.63	\$150,933.61
Total grant funding	\$958,255.46	\$909,260.80	\$719,195.52	\$713,871.45	\$1,323,724.10	\$910,966.51
<u>Direct gift support</u>						
Research activities.	\$239,260.68	* \$248,797.97	\$426,518.40	\$436,898.38	\$269,874.62	
Gift transfers from Gluck Foundation.	\$90,000.00	\$0.00	\$0.00	\$0.00	\$125,000.00	
Grad. student and postdoc support.	\$259,875.00	\$217,940.00	\$219,700.00	\$0.00	\$400,136.00	
Total direct gift funding	\$589,135.68	\$466,737.97	\$646,218.40	\$436,898.38	\$795,010.62	\$0.00
* An additional bequest of \$6,660,098.56 was received in 2005-'06 and endowed for research support						
Total research funding	\$5,614,130.11	\$5,906,113.12	\$6,533,663.09	\$6,364,862.06	\$6,517,060.03	\$6,022,144.42
Undergraduate teaching/advising	\$51,139.00	\$51,151.00	\$58,970.64	\$62,894.11	\$76,981.19	\$71,397.00
<u>Veterinary extension</u>						
State extension funds	\$86,271.00	\$189,027.00	\$195,896.74	\$152,690.09	\$201,559.81	\$222,995.00
Federal extension funds	\$186,113.67	\$31,428.50	\$31,921.13	\$10,706.00	\$30,706.00	\$10,706.00
Total extension funds	\$272,384.67	\$220,455.50	\$227,817.87	\$163,396.09	\$232,265.81	\$233,701.00
Foundation endowment income	\$340,049.73	\$339,360.59	\$368,477.53	\$391,627.10	\$381,601.17	

Approximately 35% of the 2010-11 department support for the Gluck Center is from state and federal funding. The remaining 65% is made up by grants/gifts and endowments. While the recent budget cuts from state funding has been relatively mild for the Gluck Center, the downturn in the economy and stock market has had a profound effect on endowments and gifts and ultimately, on the

funding situation during the current fiscal year. Much of the department's continuing support is derived from the income generated by gifts that were endowed for either a specific research chair, a specific research/education area, or general support of the department. The distribution for expenditure of funds earned from endowment investments are wisely metered so that growth of the endowed base can continue to support the same level of operation, that is, the same level of buying power. Therefore each year the University's investment strategists determine a rate of money distribution based on a running 36-month average value of the invested funds.

During the recent economic downturn, the market value of many endowed funds dropped below the dollar amount of the initial gifts that formed them. Those funds are characterized as being "underwater". A Kentucky statute based on accepted accounting practices required that public institutions holding endowed funds distribute only actual funds earned month-by-month for expenditure. That assured donors and fund managers that even though the value of the endowed fund base may continue to drop it would not be eroded by over expenditure. That law considered each individual endowment gift as a separate entity. However, the University's many endowments are not invested or valued as individual entities but rather as one fund in which all endowments participate in proportion to their relation to the whole at the time they were deposited and subsequent changes to the whole due to growth or loss of investment value and deposits of other new gifts. Therefore, it became logical to alter the statute to reflect upon the University's total endowment base rather than on individual pieces of that base.

During the time between the occurrence of the "underwater" status of individual endowment funds and the alteration of the statute, only actual income was distributed to those associated expenditure funds. The law was changed and it is now possible to distribute for expenditure funds based on a rational ratio of distributions to market value.

However, it still makes sense to re-grow the underwater endowments as quickly as possible to a level at least equal to if not greater than the value at the time of the market downturn. To accomplish that and make funds available to programs supported by underwater endowments, the University has distributed to each endowment fund their portion of the investment income based on their "ownership" of the total University endowment base. Still, only the actual earnings are transferred to the associated expenditure account and the remaining distribution is added to the endowment base for future earnings. That reinvested portion does, however, remain available for transfer to the expenditure account if deemed necessary for the operation. There will continue to be a great incentive to keep as much of the distribution as possible in the endowment base to achieve re-growth and recovery from the underwater status.

In the current fiscal year, the endowment income listed is based on the University's estimates of total income to be distributed – that is, the earned income, the income based on expectations of the University's investment strategists, and the income withheld during the period distributions were affected by the previous Kentucky statute. Since we will try very hard to rebuild the investment base, that figure is very much higher than what we should allow to be spent.

Measures have been taken to redistribute funding resources, adjust costs, and use temporary funding from reserves to guide the Center through this challenging time without having to cut positions or affect productivity.

Federal funding for research in equine veterinary science is very limited. While some research areas within the Gluck Center are suitable for NIH funding using the horse as a model for human disease, and others can attract funding from federal agencies for fundamental and basic research, the support for the Gluck Center from the equine industry makes us obligated (to a significant degree) to



conduct research on topics that are relevant to the industry. The Grayson-Jockey Club Research Foundation and the American Quarter Horse Association have set aside funds for competitive research applications, but the amount that is typically awarded, and the duration of these grants (1-2 years) makes it difficult to build and sustain a research program based on this source of funding only.

An intramural source of research funding appears to be necessary to sustain research on multiple areas within equine science. In the past, the Gluck Center has supported investigators without funding to generate preliminary data. However, funding was not coupled to attempts to obtain extramural funding. We have now set aside limited funds that are available to investigators through intramural competitive research proposals. A departmental research committee evaluates proposals for scientific merits, importance to industry and potential to generate extramural funds. Decision is based on quality, importance to industry and individual needs to keep faculty members productive. The investigators are required to generate a progress report at the end of the year and sign an agreement that they will use results from the research as a base for extramural research fund applications. Proof of application for extramural grants and submission of a progress report (that can be used by the office of industry relations to publish lay articles) is required for future funding from this departmental source. The purpose of these intramural grants is to stimulate research productivity as well as improve the competitiveness of extramural grant submissions from the Gluck Center. The current budget situation did not allow this program to continue during 2010/11, but our goal is to reinstate the program as soon as funds are available.

The Gluck Equine Research Center has a strong and longstanding tradition of successful collaboration with the pharmaceutical industry. It is our intention to build on this success and maintain collaborations with Pfizer (Fort Dodge), Intervet, Merial and other companies for funding of programs with mutual interest.

### **COMMUNICATION WITH VETERINARY COMMUNITY AND INDUSTRY:**

It is part of the mission of the Department of Veterinary Science to disseminate the findings of its research programs for the benefit of the horse industry. In addition to its primary research focus, the Gluck Center has served on numerous occasions as a source of specific scientific expertise for horse industries and national animal health authorities in other countries when they have been confronted with equine disease issues of major economic importance. In order to establish a dialogue and further communicate new knowledge effectively with the industry and veterinary community, we have recently:

- Recruited an assistant with a background in journalism to support the Director of Industry Relations. This person has been translating research information from faculty members to lay term articles and contributed to the Bluegrass Equine Digest and Gluck Research & Service Report on a regular basis with information on the latest research findings at the Gluck Center.
- Organized courses for veterinarians and farm managers.
- Invited veterinarians to identify research priorities.
- Communicated with farm managers and owners regarding research needs.

In order to respond effectively to industry needs, we have initiated a dialogue with individual veterinary practices, CEOs for Rood & Riddle Equine Hospital/Hagyard Equine Medical Center, farm managers and owners to identify research areas that stakeholders consider important. We have also had meetings with selected veterinarians during 2010 and this conversation is scheduled to continue on a regular basis. An interaction with the veterinary community will help us identify important research areas and alert us to emerging diseases. Research on *Lawsonia*, funded by Morris Animal Health, Mt. Brilliant Farms in Lexington, and funds from the Koller Emerging Research Funds, is an example of this initiative during 2009. The Koller Emerging Research Funds were also used to quickly respond to

last year's CEM outbreak in Central Kentucky and eventually throughout the country. Results from the study identified practical means to reduce the spread of disease and developed a rapid PCR to identify asymptomatic carriers.

**GRADUATE/POST-DOCTORAL PROGRAM:**

*Mission Statement:* To provide opportunities for graduate students to develop the skills necessary to become competent scientists who are creative and critical thinkers with the contemporary skills and knowledge to perform independent research and to effectively communicate their results.

One of the successes of the research program in the Department of Veterinary Science has been an active, post-doctoral and graduate student training program. The department offers a course of study and research leading to the MS or PhD degree. The research productivity of the faculty is to a very significant extent dependent upon the quality and success of these programs. The Department of Veterinary Science has awarded 21 PhD degrees and 13 MS degrees over the past 5 years. The graduation rate for our students is 92%. The average time to complete an MS degree for students enrolled in the Veterinary Science graduate program is 2.6 years and for PhD students, 5.7 years. A list of 23 of these students and their positions after graduate is included (see attached). Guidelines for the Graduate Program in Veterinary Science, and a list of current and recent graduate students are attached.

## Graduate Student Placement

Stephen Coleman, PhD Candidate, UK

Kathryn Smith, PhD Candidate, UK

Lauren Detlefsen, searching for job

Amanda Adams - Postdoctoral student, UK

Fernanda Camargo - Assistant Professor, UK

David Hall, Emergency Preparedness Coordinator, Dept. Vet Affairs, Tennessee Valley Healthcare System

Rebecca Herman, Senior Research Technician, Battelle Biomedical Research Center, Columbus, OH

Diane Strong, Housewife

Scarlett Black, Auburn Veterinary School student

Madhu Kateplalli, Research Associate, University of Minnesota

Jianqiang Zhang, Assistant Scientist, Veterinary Diagnostic Lab, Iowa State University

Karen Bosh, Epidemiology Division, KY Dept. of Public Health

Samantha Brooks - Assistant Professor, Cornell University

Raj Gaji, Postdoctoral Research Fellow, University of Michigan

Suresh Muthupalani, Comparative Pathologist, Division of Comparative Medicine, MIT

Barbara Murphy, Lecturer, University College Dublin

Raksha Tiwari, Senior Scientist, Pfizer Animal Health

Ashutosh Verma, Research Associate, Microbiology & Immunology, University of Kentucky

Mandi Vick, Lindner Center for Conservation and Research of Endangered Wildlife, Cincinnati Zoo

Dawn Sessions, Post Doc, Colorado State University

Saikat Boliar, Post Doc, Emory Vaccine Center, Yerkes National Primate Research Center, Emory University

Mike Mienaltowski – Post Doc, University of South Florida

Tracy Sturgill – Post Doc, University of Georgia

**EVALUATIONS FROM STAFF AND STUDENTS WILL OCCUR DURING THE SITE VISIT.**

**EVIDENCE OF ADHERENCE TO EDUCATIONAL POLICIES AND PROCEDURES:**

- Faculty and the Director of Graduate Studies at the Gluck Equine Research Center adhere to all UK educational policies and regulations, including senate rules and graduate student policies.

**EVIDENCE OF ADHERENCE TO PROCEDURES ON FACULTY PERSONNEL ACTIONS AND BUDGET REQUEST PREPARATIONS:**

- College annual performance review and promotion and tenure reviews are conducted according to University rules and academic procedures.
- Evidence of quality of collegial environment: The department strives to foster an environment of quality and respectful work environment.
- The department adheres to all UK procedures regarding faculty hiring.

**QUALITY OF FACULTY AND STAFF EMPLOYEES, COMMUNICATION AND INTERACTIONS:**

- The department holds monthly faculty meetings, unless scheduled conflicts. The graduate faculty meet once per year to select candidates to the program, and discuss guidelines and procedures. Between meetings, faculty and staff are informed via e-mails on matters of relevance. The director has an "open door" policy and is always available to discuss issues with faculty, staff and students.
- A faculty retreat was held in November 2009 to discuss a strategic plan for the Gluck Center.
- Recently, the department has begun hosting a "coffee break" session every Friday morning, to which all faculty, staff and students are invited for informal communication.

**QUALITY OF ORIENTATION, ADVISING AND OTHER STUDENT SERVICE PROGRAMS:**

- A graduate student orientation is held for the Veterinary Science graduate students every fall at the beginning of the semester. The DGS has an "open door" policy and is available for consultation at all work hours.

**Proposal for Clinical Science Program  
Department of Veterinary Science  
Gluck Equine Research Center**

**Background:**

The Department of Veterinary Science has served the local equine industry with diagnostic services and research for over 100 years. As a Department of a "land grant" University, faculty members have traditionally held positions with obligations to service, research and education (extension). Under this structure, significant research accomplishments were made in vaccine development, diagnostics and disease prevention, reproduction, and parasitology. Faculty members from the Department of Veterinary Science interacted on a regular basis with the veterinary and equine communities in Central Kentucky, and important bonds of confidence were formed during this time.

In 1987, the Maxwell H. Gluck Equine Research Center was established with funds from the Gluck family and support from the equine industry. The Department was divided into three sections with specialized functions:

1. The Gluck Equine Research Center, with a research mission that encouraged faculty members to focus 100% on research
2. The Livestock Disease Diagnostic Center, with a service mission that encouraged faculty members to focus 100% on service
3. The Equine Blood Typing Research Laboratory, with a service mission that encouraged faculty members to focus 100% on service

In addition, the Gluck Equine Research Center and the LDDC had two faculty members with an extension mission.

**Current situation:**

A separation of research and service has allowed faculty members at all three areas to focus on their area of expertise, and great accomplishments have been made in both equine diagnostic service and research. The possibility of conducting research with a 100% distribution of effort has attracted some of the best equine scientists in the world to the Gluck Center, and extraordinary skillful diagnosticians have been added to the LDDC. However, the interaction between researchers and the veterinary/equine communities were somewhat lost in this process. As a result,

1. local veterinarians and horse owners/breeders are not well informed about research or other activities at the Gluck Center.
2. expectations from the veterinary and equine communities are not always in line with academic expectations of faculty members and College administration. This is

particularly the case with regards to disease investigations, research on current disease outbreaks etc.

- a. There is an expectation from the University that Gluck Center faculty members should develop a sustainable, focused research program.
  - b. There is an expectation from the horse industry that faculty members at the Gluck Center should focus research on current equine problems.
3. Gluck Equine Research Center is not attracting clinical scientists to join faculty. This has lead to a void in clinical scientists in central Kentucky. It has also resulted in a disconnection between scientists at the Gluck Center and veterinary clinicians in central Kentucky.

### **Proposed model:**

Without a Veterinary College, practices cannot offer research opportunities, and the University of Kentucky cannot offer clinical appointments for clinical veterinary scientists. Hence, we have limited research expertise in areas such as neonatology, orthopedics, ophthalmology, and other relevant clinical sciences. A joint appointment between world class equine clinics and the University of Kentucky may offer an attractive employment for leading equine clinical scientists around the world.

We propose to establish a clinical scientist program within the Gluck Equine Research Center. Specifically we propose to establish:

1. five endowed faculty positions in (1) orthopedics, (2) neonatology, (3) ophthalmology, (4) infectious diseases/epidemiology, and (5) medical imaging.
2. an endowed fund to allow local practitioners (with appropriate research training and qualifications) to take up a part time research appointment at the Gluck Equine Research Center.
3. adjunct faculty positions at the department of veterinary science for clinicians with appropriate background.
4. laboratory and research space for the program.

### **Benefits to the equine industry:**

A clinical research program at the University of Kentucky will bring expertise in areas of immediate importance to health and well being of horses in central Kentucky. The program will also attract world class clinicians with established research programs in veterinary science to local veterinary clinics. This represents an important competence in veterinary science that we currently do not have in Kentucky.

### **Benefits to the Gluck Center:**

Successful partnerships between veterinary clinicians and key research programs at the Gluck Center will promote our chances to obtain funding from Grayson Jockey Club Foundation, the American Quarter Horse Association, and private donors.

The proposed program will allow researchers at the Gluck Center to conduct research that encompasses molecular and cellular levels to the whole animal.

**Cost of the program:**

- Endowment for part time faculty positions (\$4-20M depending on the number of positions).
- New buildings on campus (\$7M).
- Operating expenses (\$200,000 per year or an endowment of \$4.5M).

**Strategic Plan Developed by Faculty  
at the Maxwell H. Gluck Equine Research Center  
June 2010**

**Goal 1a: Identify and build core areas of expertise.**

**Strategy 1:** Define the overall research mission of the Gluck Equine Research Center.

1. Expand our involvement in research that addresses areas of critical importance to the health and welfare of horses.

**Plan**

- a. Hold periodic meetings to discuss research areas of critical importance at a national/international level.
  - b. Meet regularly with pharmaceutical companies and other equine industry groups to discuss areas of critical importance to equine health and well being.
  - c. Discuss research areas of national/international importance at faculty meetings.
2. Identify specific research problems of particular importance to the equine industry in the state of Kentucky.

**Plan**

- a. Hold regular conferences with local practitioners and other local industry representatives to discuss specific problems affecting the health and welfare of Kentucky's horses.
  - b. Explore opportunities for developing/providing unique diagnostic services and technologies.
3. Increase interactions between Gluck Equine Research Center (GERC) scientists and local practitioners to address specific problems or opportunities.

**Plan**

- a. Meet with local practitioners to discuss collaborative research opportunities
- b. Develop a framework for identifying and appointing local practitioners as adjunct faculty.



4. Enhance research interactions between GERC and the University of Kentucky Veterinary Diagnostic Laboratory (UKVDL).

**Plan**

- a. Identify a workable structure for collaborations between UKVDL and GERC.
5. Enhance research and educational activity within the GERC by forming collaborative relationships with other academic departments, industry and governmental agencies.

**Plan**

- a. Continue to pursue interdepartmental research and teaching collaborations.
- b. Develop a fairer process for evaluating and crediting interdepartmental research and teaching efforts.

**Strategy 2:** Identify funding opportunities that may support the overall research mission of GERC.

1. Expand extramural funding by federal and state agencies, private foundations and commercial entities.

**Plan**

- a. Hold periodic meetings to discuss research funding opportunities.
  - b. Meet regularly with pharmaceutical companies and other equine industry groups to discuss research funding opportunities.
  - c. Discuss research funding opportunities at faculty meetings.
  - d. Encourage College of Agriculture research office to provide support and information regarding equine-specific funding opportunities.
2. Increase sources of funding to support research activities related to problems unique to Kentucky's equine industry.

**Plan**

- a. Communicate research funding needs to the Gluck Equine Research Foundation.

**Strategy 3:** Determine faculty resources needed to address identified research opportunities.

1. Enhance scientific expertise within the GERC.

**Plan**

- a. Convene a research meeting to assess faculty expertise and technological capabilities and to establish priorities and develop a strategy for adding additional faculty expertise to the GERC.

**Strategy 4:** Determine technical staff resources of the GERC and assess their ability to support key areas of research.

1. Explore approaches for enhancing the technical expertise in the GERC.

**Plan**

- a. Inventory current staff placement and utilization and report to faculty at annual research meeting.
  - b. Identify current and projected needs for technical support and expertise.
  - c. Establish priorities for updating technical expertise within current GERC staff.
  - d. Develop a funding strategy for expanding technical staff, as needed.
2. Ensure faculty have access to training in all relevant new state of the art research techniques.

**Plan**

- a. Develop a departmental policy for providing funds and resources to expand technical expertise of faculty, staff and students.
- b. Evaluate current usage of Clay Fellowship funds for this purpose.

**Goal 1b: Assess the current research space utilization at Gluck to identify ways to increase efficiency in use of space.**

**Strategy 1:** Become more imaginative in the use of facilities.

1. The Department will review current space utilization to determine whether there are important areas of research that are being impaired by a lack of space/facilities.

**Plan**

- a. A space utilization survey has been done for 2010. Review of the survey will be done by the space subcommittee to identify space reallocations for general discussion.
2. Projected space assignments for new or replacement faculty and grad students will be developed.

**Plan**

- a. The space subcommittee will identify projected needs and potential office spaces, and meet with Debbie Mollett who makes the grad student office assignments, and with the chair regarding new faculty offices.

3. Develop parameters to survey laboratory use.

**Plan**

- a. The space subcommittee will audit the survey to assess whether the data collected is sufficient to measure usage.
- b. The subcommittee will assess needs and space utilization and provide this information to the chair.

4. Requirements for new major equipment should be identified.

**Plan**

- a. Faculty will be polled to determine what items of new major equipment need to be purchased, and their proposed locations. Insofar as is reasonable, all major new equipment should be housed within the laboratory of the faculty member who purchases it. When this is not reasonable, faculty will confer with the chair on possible space assignment.

5. Make contingency plans to free up small animal rooms in the Gluck Animal Annex. These are in short supply and can quickly become insufficient, due to IACUC requirements for (1) single-species rooms and (2) separate rooms for animal maintenance and animal experimental procedures.

**Plan**

- a. Identify additional space in the Annex that can be easily freed for animal use as the need arises.
- b. Identify under-utilized space within the main Gluck building that may be used to free up space with the Animal Annex.
- c. Develop a plan where investigators using the same small animal species could share space for animals.

**Strategy 2:** Try to foresee and plan for future facilities/space utilization needs.

1. The need for BSL-3 capability has been noted for many years.

**Plan**

- a. The space subcommittee will review the needs for BSL3 laboratory, small animal, and large animal facilities, and develop proposals for facilities in one or more of these areas that can be submitted to the faculty for review, and then to the Foundation for fund-raising.

2. The Gluck Center Animal Annex (B Building) is becoming increasingly inadequate. Enhancement of the Animal Annex should be the next priority.

**Plan**

- a. The space subcommittee will review the historical and probable future utilization of the Annex, develop a future facility requirement, and develop a building proposal addressing the requirement.
  - b. Partitioning of the small animal rooms (one becomes two) may be considered where the ventilation can be adapted.
3. Long-term availability of the AP Building (necropsy suite and adjacent stalls) is uncertain. Eventual replacement is a long-term priority.

**Plan**

- a. An extensive survey of the departmental utilization of the AP has been carried out and Departmental use of the building is extensive. In the near term, department use of the AP building will continue and the Chair will support the need before the College/University administration. This subcommittee will assess the space needs if replacement becomes necessary. The subcommittee will develop options for replacement of the necropsy facility at other locations (e.g. Gluck/North Farm/UKVDL). Gluck options will be communicated to the other subcommittees dealing with utilization of Gluck laboratories and the Annex.

**Goal 1c: Research Animals and Farm Facilities**

**Strategy 1:** Specify and prioritize needed facilities and equipment.

**Plan**

- a. Completion and certification of BL2 isolation facility.
  - A number of infectious disease projects on viral and bacterial pathogens are on hold pending access to the BL2 isolation facility. The lack of this facility seriously impairs faculty ability to capitalize on basic discoveries on pathogenesis and immune response and obtain funding for in vivo studies relevant to vaccine efficacy.
- b. Modifications to animal facilities in Annex B, Gluck Center.

**Strategy 2:** Devise innovative strategies to enhance / maximize use of horses/ponies.

**Plan**

- a. The Animal Resources Committee will conduct an announced meeting at 6-month intervals to review projected and current animal and facilities use.
- b. Communication among faculty users of horses and ponies is a vital component in efficient use of the resource. Some studies by different investigators could be performed on the same group of animals. Communication with faculty in other institutions in the US with an interest in equine research but inadequate access to experimental horses should be encouraged.
- c. Faculty must schedule animal/facilities usage with the Animal Resources Manager at least 4 months in advance. Use of foals/weanlings must be planned prior to breeding.
- d. Budgets of projects funded by the equine biologic/pharmaceutics industry must include full payment for the costs of animals and per diem care and feeding.

Develop a plan for prompt, efficient, economic performance of maintenance.

**Plan**

- a. Use of experienced external contractors paid from a contingency fund controlled by the Director of the Gluck Center.
- b. A list of repair/reconstruction/new construction projects in order of priority should be maintained by the Resources Farm Overnight Committee with real-time input from the Farm Supervisor/Animal Resources Manager.

**Strategy 4:** Devise a mechanism to involve students in Equine Science/Initiative Program in farm operation and animal experiments.

**Plan**

- a. Develop an internship program for students enrolled in Animal and Food Science and Veterinary Science.

**Goal 2: Establish a premier graduate program with a focus on equine health and science**

**Strategy 1:** Strengthen the graduate program.

1. Revise core curriculum required for all VS students.

**Plan**

- a. STA 570 (Basic Statistical Analyses) or 580 (Biostatistics).
- b. Selection of 2 courses from the IBS series (IBS 601-605).

2. Establish expectations for student accomplishments.

**Plan**

- a. Each PhD student must have a minimum of 1 presentation at a professional meeting prior to scheduling the dissertation defense.
- b. Each PhD student must have a minimum of 1 first-author manuscript submitted for publication in a peer-reviewed journal prior to scheduling the dissertation defense.
- c. Presentation of 1-hour seminars (e.g., VS 770) are required of each student prior to scheduling the thesis/dissertation defense (1 seminar for MS students, 2 seminars for PhD students).
- d. Stipend support will be limited to 2.5 years for MS students and 5 years for PhD students. Extensions beyond the time limit will require written justification by the student and the major professor.

3. Establish graduate seminar courses/journal clubs based on rotating topics related to equine health and wellness.

**Plan**

- a. VS 791 (Techniques in Vet Microbiology) will be coordinated by the DGS to enlist participation by members of the graduate faculty.

4. Provide opportunities for grad students to gain experience teaching.

**Plan**

- a. Tutoring of undergraduate students (paid or unpaid); to be coordinated by R. Dwyer.
- b. Assist with labs/lectures (e.g., VS 351, ASC 364, etc.); coordinated by R. Dwyer.
- c. With faculty supervision, offer an undergraduate seminar course/journal club taught by VS Grad Students (use VS 395, Special Problems in Vet Science; coordinated by R. Dwyer).

5. Enhance recruitment efforts.

**Plan**

- a. Update Graduate program brochure for distribution at professional meetings.
- b. Establish Graduate program budget to support applicant visits.

6. Develop graduate courses within the department.
7. Establish guidelines for allocation of graduate assistantships amongst Dept. research programs.

**Plan**

- a. Maximum of 2 department-supported assistantships/faculty member. Exceptions will require written justification and ratification by the graduate faculty.

**Strategy 2:** Increase the number of funded graduate assistantships.

1. Increase funds available for support of graduate student stipends/tuition.

**Plan**

- a. Fund-raising efforts that target the graduate program.
- b. Encourage UK Graduate School fellowship applications from eligible students.

2. Establish industry-supported fellowships.

**Plan**

- a. Solicit support from current animal health company partners (e.g., Pfizer).

**Strategy 3:** Increase the stipends of graduate assistantships to better compete with graduate programs at benchmark institutions.

1. Increase funds available for support of graduate student stipends/tuition.

**Plan**

- a. Fund-raising efforts that target the graduate program.

**Goal 3: Increase the financial resources available to support the full range of Gluck activities**

**Strategy 1:** Cultivate relationships with current and prospective benefactors.

1. Printed material. Develop and distribute a brochure of Gluck faculty

**Plan**

- a. Publish biannual *Research & Service Report*.
- b. Publish an annual GER report.
- c. Monthly *Bluegrass Equine Digest*.
- d. Publish brochures for each of the 6 research programs.

2. Develop and cultivate personal relationships with potential donors.

**Plan**

- a. Identify donors and develop a plan of making contact, cultivating relationship, and asking for funds.
- b. Develop relations with veterinarians that will help in identifying potential donors.
- c. Create loyalty with horse farms and veterinarians by engaging them in collaborative research projects.

3. Enhance annual giving activities.

**Plan**

- a. Send out letter soliciting funds in last quarter of each year.
- b. Provide a good website with easy ability to give money online.
- c. Mail out *Research & Service Report* twice a year and have tear off sheet for giving.

4. Develop and initiate a strategy for one-time gifts.

**Plan**

- a. For those \$10,000 and below, personalized written communication.
- b. Major gifts - \$10,000 and above, personalized visit/discussion.

5. Enhance utilization of Horseman's Card.

**Plan**

- a. Communicate regularly with Mark Cole of Horseman's Card.

6. Continue to work with the Equine Drug Research Council.

**Plan**

- a. Stay on advisory board.
- b. Attend monthly meetings
- c. Communicate with Dr. Mary Scollay.

7. Establish relationship with equine health and welfare groups.

**Plan**

- a. Interact with members of this group to encourage funding of equine health issues.

8. Develop strategy and position with regard to expanding gaming.



**Plan**

- a. Provide supporting information for encouraging funding of equine research.

9. Expand patents, royalties, license agreements by faculty.

**Plan**

- a. Encourage faculty to obtain these.

10. Expand fee for service activities by department.

**Plan**

- a. Provide services that would generate funds for farm maintenance.
- b. Reproductive services (not to compete with existing services offered by local veterinarians).
- c. Genome services.
- d. Animals for product development.
- e. Animals for research studies by outside companies.
- f. Develop diagnostic tests.

11. Increase involvement in College of Agriculture teaching mission in order to qualify for additional support.

**Plan**

- a. Participate in undergraduate classes through lectures in course and participate in teaching labs.

12. Establish a pool of unrestricted funds for internal competitive research grants and equipment.

**Plan**

- a. Use funds from Horseman's Card.
- b. Use indirect cost recovery monies.
- c. Obtain new endorsements for internal research projects.
- d. Restructure funds that are being spent from Gluck Foundation.
- e. Create savings within the department budget that could be re-allocated to internal research fund.

13. Increase funding through collaboration with other departments.

**Plan**

- a. Encourage faculty to write grants with faculty in other departments.
- b. Hire faculty that have ability to obtain federal grants using horse as a model for human medicine.

14. Establish a cost center for the farm.

**Plan**

- a. Support per diems on grants in order to decrease cost of maintaining farm and generate dollars that could go into farm maintenance.



**Department of Veterinary Science**

**Faculty Self-Evaluation at  
Departmental Retreat**

**November 17, 2009**

## **AGENDA**

### **Department of Veterinary Science Gluck Faculty Retreat**

November 17, 2009  
President's Room, Boone Center

#### **Overview of Gluck programs**

- Infectious diseases
- Genetics/genomics
- Parasitology
- Musculoskeletal Diseases
- Pharmacology
- Reproduction

What are the scientific strengths and weaknesses of these programs?

How would you explain the relevance of these programs to the industry?

What are future opportunities and/or challenges that have research consequences?

What are the major factors affecting the success of your program?

#### **Fund raising priorities and strategies**

What fund raising strategies have been successful?

What fund raising strategies have not played out as desired and why?

What are your priorities for fund raising?

Who are potential donors to your research?

What are their interests and needs?

How do you think about the connection between basic research and needs or concerns in the real world?  
How do you help your potential donors to understand these connections?

#### **Graduate Program**

What are the characteristics of the students you would like to attract?

What kinds of professional positions are you preparing students for?

What do your graduate students need to know and be able to do in order to move into these professional positions?

What criteria should you use to evaluate graduate student progress through the program?

Is there a need in your program for more graduate students?

What limits the number of students you are able to take?

### **Defining faculty evidence of productivity**

### **Identifying goals for a Gluck strategic plan**

Think about the Gluck Center as a whole as you would like it to be 5 years from now. What would you want to be able to say about the accomplishments of the faculty, staff and students?

What should be the configuration of programs 5 years from now? What would you want to be able to say about the accomplishments of these programs?

What do you need to start doing now to accomplish these outcomes?

Are there changes needed to improve the organizational structure and organizational processes at Gluck to make it more likely that you can accomplish your vision?

What human, capital or financial resources will be needed to accomplish this vision?

How are you preparing for the generational transition in faculty?

### **Discussion Guidelines**

Focus on generating ideas so try to jot down your ideas before you speak so you can focus your comments

Keep to the topic – we will maintain an “idea bin” of important but not directly relevant issues

Don't nit-pick ideas, evaluation of ideas will come later

Everyone contributes – so - No one dominates

# **PRESENTATIONS**

# GENETICS / GENOMICS

## Strengths and Weaknesses:

### *Strengths*

1. Strengths are our personnel:
  - a. Ernie Bailey, Professor (2 grad students)
  - b. Jamie MacLeod, Professor (5 grad students; 1 tech)
  - c. Teri Lear, Research Associate Professor (1 grad student; 0.5 tech)
  - d. Kathy Graves, Research Assistant Professor (3 techs)
2. Strength is the horse genome sequence.
3. Strength is access to local horse farms and collaboration with local vets.
4. Strength is relevance to other research programs in the department: we are natural collaborators since horse genetics is not a separate discipline as we apply it.
5. Strength is service components: parentage, genetic markers and karyotyping
6. Strength in the number of samples that go through the parentage labs that can be used for research and also in the strong, positive relationships it builds with the breed organizations. They know they need genetic counseling.
7. Strength in past, existing and potential collaboration with LDDC scientists. Past project on Transferrin and R. equi (Bailey and Donahue) and current proposal on contracted foal tendons (Lear, Giles and Carter) are examples.
8. Strength in reputations:
  - a. Gluck Center is internationally recognized as the center for Horse Genomics based on home for the workshop website. We are the first site identified by Google search using “horse genome”. (competitors are Texas, Minnesota and California);
  - b. With a little promotion and some investment, the Gluck Center could be premiere in equine cytogenetics (only competition is Texas); Teri Lear is among 6 people in the world with this expertise and has discovered the most chromosome abnormalities.
  - c. With a little promotion we could be “the other lab” for parentage and genetic marker testing in the US (UCD has a strangle hold on the premiere lab... but we could be competitive in research.);
  - d. With a little bit of effort we could become the laboratory for genetic research on horses since we have the skills and personnel for gene expression and genetic studies (competition is Texas, Minnesota, California, New York, Switzerland and AHT.)

## ***Weaknesses***

1. Weakness is soft money funding status for two faculty members.
2. Weakness is limited budgetary resources to address pertinent research problems. Genetics and Genomics, per se, is a low priority for extramural funding agencies for the horse.
3. Weakness is that equipment is aged and needs replacement, especially for karyotyping (\$60,000 for a new image analysis system... useful to other programs.)
4. Weakness in that genetic marker testing and karyotyping have difficulty recovering, or do not recover, all costs. Nonetheless, the services are highly regarded by the industry and provide a valuable storefront for the program.
5. Weakness in that some in the industry consider molecular genetics and genomics basic research and only distantly relevant to interests of horse industry(... reputation issue.)
6. Weakness in that we have not developed the basic research aspects of the program that might be funded by NSF or NIH.
7. Weakness is the cost of rapidly evolving technologies. We have focused on doing things in house while many things may be better done through contract or collaboration elsewhere.

## **Relevance to Industry**

1. Service needs for parentage testing and genetic marker testing are highly regarded.
2. Service aspect provides opportunity for outreach.
3. Research programs focus on specific problems or interests for the industry: laminitis, swayback, dwarfism, contracted tendons of foals, chromosome abnormalities, JEB of saddlebreds, coat color genes.
4. Grad students have continued horse research beyond the program (Darrilyn Fraser and EIA; Rebecca Bellone and LP; Samantha Brooks and laminitis, coat color, stature, lavender foal.)
5. Unappreciated... but genetics has been the un-testable aspect of animal health. We can do something about it... suggest new approaches to therapeutics.



## **Future Planning and Needs**

### ***Needs***

1. Secure funding for all faculty members' positions.
2. Equipment replacement.
3. Infrastructure support for Karyotyping program (permanent technician/scientist)
4. Addition of a young faculty member to program.

### ***Plans***

1. Obtain extramural funding for genetics projects;
2. Either emphasize or de-emphasize the karyotyping program.
3. Develop a stronger "web presence" for genetic marker testing for the Gluck parentage lab.
4. Integrate research from the parentage lab with other labs in Gluck.
5. Integrate work with LDDC.
6. Obtain additional research positions (1 faculty and 1 senior technician).
7. Explore contracting out more genomic services.

### **Additional Notes:**

Only 6 people in the world with expertise in cytogenetics. It would be easy to become the premier site and could possibly expand cytogenetics program beyond horses.

Need to get Teri Lear and Kathy Graves off of soft money.

Cost of technologies rapidly evolving and rising. Should explore outsourcing some of the tests.

Need another faculty line and/or technician to help in cytogenetics.

With completion of genome sequence, there is tremendous opportunity for new projects and possible funding.

# **ANIMAL GENETIC TESTING & RESEARCH LAB**

## **Strengths**

Experience of personnel

Range of testing available-blood typing

Funding potential through breed-specific projects

Immediate access to genetic breakthroughs in department

Archived samples since 1992 (minimum 340,000)

## **Weaknesses**

Small technical staff with limited research experience

Little time for research development

Budget is dependent on sample load

Competition from large scale commercial labs is making it more difficult to secure contracts

Lack of computer expertise restricts ability to come up with innovative programs and services

## **Relevance to Industry**

Need for registries to maintain the integrity of the stud books through parentage verification

Need for owners to confirm identity and parentage of horses for breeding/buying/selling purposes

Owners are interested in genetic tests for traits, both desirable and undesirable

Avenue for research to address specific problems in breeds

## **Future planning**

Tight budget makes it hard to be ready to move into new technologies

Patents on tests developed elsewhere makes it cost-prohibitive to offer full panels of tests

Keep up-to-date on genetic identification methods such as SNPs and try to adapt current equipment

Be proactive in contacting new registries

Increase visibility of the lab through the website, local, regional and national meetings, articles

## **Additional Notes:**

Competition not only from other institutions, but also private commercial operations.

Budget dependent on number of samples tested. Difficult to increase number of samples because of limited personnel. Can't increase personnel because of limited budget...

Not much time for research.

Wealth of archived samples available to other researchers at Gluck with need for breed-specific material.

# PARASITOLOGY

## **Strengths and Weaknesses:**

### *Strengths*

1. 2 faculty members
  - a. Gene Lyons, Professor (classical biology of helminth parasites)
  - b. Dan Howe, Assoc. Professor (molecular biology of protozoan parasites)
2. Good productivity – 2-4 publications per year.
3. Intermittent extramural support, largely from private foundations or industry (e.g., biologics/pharmaceutical companies)
  - a. Government agency funding for EPM
4. Very active with Clay Visiting Scientist program
  - a. Helps to bridge the gap between classical and molecular parasitology
  - b. Clay Visiting Scientists help introduce new ideas and approaches in helminth biology
5. Reasonable program recognition (both) and good relationships with local horse farms and veterinarians (Lyons)

### *Weaknesses*

1. Need more extramural funding.
2. Currently only one graduate student. Need to increase participation in graduate program.
3. Need to better demonstrate applicability of EPM research to industry. This is improving through the establishment of a collaboration with Dr. Steve Reed, Rood and Riddle.

## **Relevance to Industry**

1. Both EPM and helminths are recognized as problems for the equine industry. Drug resistance for helminths becoming very important to industry.
2. Significant service to local farms (Lyons).
3. Consultations on EPM.

## **Future Planning and Needs**

1. Need third investigator to overlap with Dr. Lyons before he retires.
2. Will need space at farm for vaccination studies.
3. Critical to maintain herd not exposed to de-worming drugs.
4. Addition of a young faculty member to program.

## **Additional Notes:**

There should be future funding possibilities that result from Sarcocystis genome project. Implementation of ideas that have been discussed for use of Koller bioinformatics funds would be beneficial in helping with the genome project.

# MUSCULOSKELETAL DISEASES

## **Strengths and Weaknesses**

### ***Programmatic Strengths***

1. Close interactions with the Gluck Center genomics group.
2. Productive collaborations with Dr. Jinze Liu in the Department of Computer Science and Drs. Arne Bathke and Arny Stromberg in the Department of Statistics
3. Collaborative interactions with veterinary practitioners – Steve Reed at R&R, Duncan Peters at HDM, Chris Johnson at Woodford Equine.
4. Programmatic connection to Department of Orthopaedic Surgery in the medical school
5. Emerging programmatic connection to the Muscle Biology group in the Department of Physiology

### ***Scientific Strengths***

1. Efforts to apply genomic strategies to the investigation of equine musculoskeletal questions.
2. Development of the axolotl salamander as a model to study articular cartilage repair

### ***Weaknesses***

1. Insufficient faculty personnel working on musculoskeletal questions
2. Important musculoskeletal areas (i.e., tendons/ligaments, skeletal muscle, bone, hoof) are not being studied to any substantial degree.

## **Relevance to Industry**

1. Musculoskeletal issues are highly relevant to many subgroups within the equine industry

## **Future Planning and Needs**

### ***Planning***

1. Achieve stable extramural funding
2. Develop and cultivate collaborations

### ***Needs***

1. Recruit one or two postdoctoral scholars
2. Increase the size and scope of the musculoskeletal faculty group

### **Additional Notes:**

Need to increase size and scope of musculoskeletal group. Musculoskeletal group is one faculty and graduate students. Many areas of musculoskeletal science are not being addressed.

Dr. MacLeod is trying to recruit 1-2 post-docs.

Dr. Garkovich stated the need to draw a line between genomic research and practical outcome – emphasize the application rather than the science.

# PHARMACOLOGY

## EQUINE PHARMACOLOGY, THERAPEUTICS AND TOXICOLOGY

### Thomas Tobin

Professor, The Maxwell H. Gluck Equine Research Center  
Professor, The Graduate Center for Toxicology  
University of Kentucky,

#### FACULTY RETREAT

Tuesday November 17<sup>th</sup> 2009

[www.thomastobin.com](http://www.thomastobin.com)

11/18/2009

© Thomas Tobin 2009  
<http://thomastobin.com>

1

## TOBIN BACKGROUND

- Veterinarian, Dublin, Ireland, 1964
- MS, Pharmacology, Guelph, 1966
- PhD, Pharmacology, Toronto, 1970
- Inst.->Assoc Prof, MSU, 1970-74
- All basic science, Na-K-ATPase
- Noooo clinical applications----->
- University of Kentucky, 1975-Date

11/18/2009

© Thomas Tobin 2009  
<http://thomastobin.com>

2



## **GROUP MEMBERS**

- 1/ Julio Gutierrez, PhD, Post-Doc., Synthetic Chemist.**
- 2/ Job Tharappel, PhD, Research Scientist.**
- 3/ Charlie G. Hughes, MSc, Analytical Chemist.**
- 4/ Elizabeth Armstrong, Asbury College, Research Assistant.**

© Thomas Tobin 2009  
<http://thomastobin.com>

3

## **SCIENTIFIC STRENGTHS**

### **1/ TRADITIONAL ACADEMIC PUBLICATIONS**

- 1.1/** About 450 academic publications, [163 in PubMed],
- 1.2/** One 480 page text, “Drugs and the Performance Horse”, 1981,
- 1.3/** 1979-> Date: Twelve or more National / International Proceedings / Workshops / Short Courses.

© Thomas Tobin 2009  
<http://thomastobin.com>

4

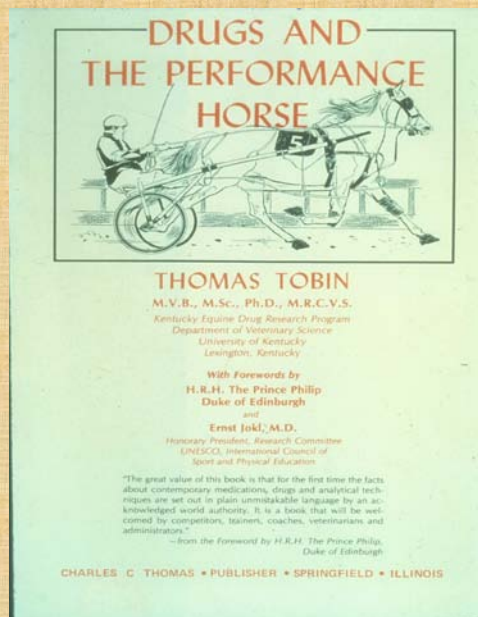
## “DRUGS AND THE PERFORMANCE HORSE”

I was writing a general pharmacology text at Michigan State University (73-5).

Came to Kentucky: This was a much better book to write.(75-80).

First and only book to describe this field. Time to be rewritten.

11/18/2009



© Thomas Tobin 2009  
<http://thomastobin.com>

5

## SCIENTIFIC STRENGTHS 2/ OUTREACH:

- 2.1/ 1982: Equine Drug Research Council  
Legislation [0.1% of income to State gov. from racing dedicated to equine medication research].
- 2.2/ 1983: Killed “Corrupt Horse Racing Practices Act” before the Criminal Justice subcommittee.
- 2.3/ 1983: Thresholds-> Furosemide threshold  
1995-1990-> Scientific basis for more general urinary thresholds for therapeutic medications.

© Thomas Tobin 2009  
<http://thomastobin.com>

6



**Caldwell Butler, David Vienna and Thomas Tobin before the Criminal Justice Sub-Committee, April 1983, or thereabouts, Washington, DC.**

11/18/2009

© Thomas Tobin 2009  
<http://thomastobin.com>

7

## **SCIENTIFIC STRENGTHS**

### **3/ INTELLECTUAL PROPERTIES [IP] / TECHNOLOGY TRANSFERS**

11/18/2009

© Thomas Tobin 2009  
<http://thomastobin.com>

## IP / TECH TRANSFER #1

### ELISA TESTS;1985->ONGOING:

Adapted ELISA testing to racing, created WTT [Watt, Tai, Tobin] ELISA Tests, first company sold as a going concern by UK, now Neogen Corp, Nandino Blvd, Lexington, KY, Winchester Rd, 100 plus employees, \$50M/year into Lexington, significant UK Royalties.

11/18/2009

© Thomas Tobin 2009  
<http://thomastobin.com>

9

## IP/ TECH. TRANSFER #2

### NOVEL TREATMENT FOR EPM

1996->9:With David Granstrom, identified, patented and licensed first FDA approved treatment for EPM, now Marquis®, \$600K p/a KY royalty. Further work ongoing.

11/18/2009

© Thomas Tobin 2009  
<http://thomastobin.com>

10



*S. neurona* becomes a parasite of the opossum and later moves to Kentucky with the opossum. The opossum, however, has had to wait for South America to float up and touch North America at Panama, about 2.5 million years ago.

## INTELLECTUAL PROPERTY

### #3

### MARE REPRODUCTIVE LOSS SYNDROME [MRLS], 2001-2

3.1/ May 01-> Identified caterpillars/black cherry trees as the key biological system in MRLS

3.2/ July 02 -> BIOLOGICALLY UNIQUE caterpillar dependent MRLS pathogenesis proposed and description copyrighted.

3.3/ 2003-09 -> Accumulating supportive mathematical [03], pathological [later 03], Australian EAFL [04] and other unique mechanism related characteristics.

© Thomas Tobin 2009  
<http://thomastobin.com>

12

# Eastern Tent Caterpillar (ETC) Very Much Present at Scene



11/18/2009  
Photographs courtesy of Hank Q. Murphy  
<http://thomastobin.com>

13

## IP/ TECH. TRANSFER #4

### REFERENCE STANDARDS/METABOLITES

Quantitative regulatory thresholds require:

**4.1/** Unique drug metabolite/fragment reference standards.

**4.2/** Stable isotope internal standards.

**4.3/ 1996:** Started synthesis: 10 licensed to Neogen in 98 or so.

**4.4/ 2006:** Demand increasing; ongoing project with Neogen/Frontier Biopharm, 10 plus standards in progress

11/18/2009  
© Thomas Tobin 2009  
<http://thomastobin.com>

14

## OTHER PATENTS HELD / OTHER IPs

**1/ 2006:** Novel Equine Tranquilizer of the detomidine / xylazine family.

**2/ 1983:** Patent for morphine analysis, now expired.

**3/ Estimated 3-4 or thereabouts other IP disclosures not pursued to final patenting.**

11/18/2009

© Thomas Tobin 2009  
<http://thomastobin.com>

15

## RELEVANCE TO INDUSTRY

**1/ The Equine Pharmacology, Therapeutics and Toxicology program has been highly productive of technology transfers, colloquially, "TANGIBLES IN A TRUCK".**

**2/ Optimal economic return for Kentucky was/is obtained when the "tangible" manufacturing is "spun off" locally, as in the Neogen example, a x 20 multiplier of Kentucky economic impact.**

**3/ The benefit to the Kentucky economy is much less when the property simply brings in a royalty income, as in the EPM example.**

11/18/2009

© Thomas Tobin 2009  
<http://thomastobin.com>

16

## FACTORS AFFECTING SUCCESS OF PROGRAM

- 1/ ABILITY TO COMMUNICATE: I learned to teach / communicate at MSU, [where I also taught antibiotics--->spotting the EPM property].
- 2/ ABILITY TO COMMUNICATE:-----> Equine Drug Research Council and other support.
- 3/ FINANCIAL SUPPORT: The ELISA program was, fundamentally, an investment of state resources in a niche market.
- 4/ EXPERIENCE: The identification and execution of the various IPs reflects broad professional **training and experience** in Vet Med, Pharmacology and Toxicology

11/18/2009

© Thomas Tobin 2009  
<http://thomastobin.com>

17



11/18/2009

18

COMMUNICATION: T Tobin before the Criminal Justice Sub-Committee, April 1983, Washington DC



## FACTORS AFFECTING SUCCESS OF PROGRAM

5/ ADMINISTRATIVE SUPPORT: The ELISA program received critical university wide administrative support, as did the Equine Protozoal Myelitis project.

6/ OUTSIDE SUPPORT: Outside commercialization expertise was critical in the effective marketing of the EPM project and the 20 fold growth of Neogen Lexington around the ELISA IP.

11/18/2009

© Thomas Tobin 2009  
<http://thomastobin.com>

19

## CURRENT PROJECTS

---

#1/ Support of the Neogen ELISA program with hapten synthesis.

#2/ Certified Reference Standards project: Support from KSEF and National and Local HBPA's.

#3/ EPM continuation project: Supported by KSEF.

#4/ Ergot alkaloid project: Supported by KSEF.

11/18/2009

© Thomas Tobin 2009  
<http://thomastobin.com>

20

## TEACHING/OTHER ACTIVITIES

---

- 1/ TT is a 1980 Diplomate of the American Board of Toxicology [DABT], and from 1988->93 was Director of the UK Graduate Center for Toxicology [GCT].
- 2/ Under TT the GCT brought in UK's first NIH/NIEHS Training Grant, \$800K/year, still ongoing.
- 3/ At the GCT, TT created two unique courses, one on "Risk Assessment" and a second course on "Ethics in Scientific Research".
- 4/ TT guest lectures in Toxicology 509 and also in the "Ethics in Scientific Research" course.
- 5/ When the NRC reviewed doctoral programs in Kentucky in 1993, only the Graduate Center for Toxicology was rated "EXTREMELY EFFECTIVE".

12/3/2009

© Thomas Tobin 2009  
<http://thomastobin.com>

21

## RESEARCH SUPPORT

---

- 1/ State Research Support: Generous ongoing support through the Kentucky Equine Drug Research Council enabled much of the program's productivity.
- 2/ National and Local HBPA's: The program started 40 years as a cooperative HBPA/Kentucky State Racing Commission program, and continuing support from the HBPA's has been critically important.
- 3/ KSEF: Because of the program's intellectual property/tech transfer record, we have attracted support from the Kentucky Science and Engineering Foundation.

12/3/2009

© Thomas Tobin 2009  
<http://thomastobin.com>

22

## TAKE HOME MESSAGES

---

- The Equine Pharmacology, Therapeutics and Toxicology program has been highly productive of commercial intellectual properties and traditional academic contributions .
- Optimal Kentucky value was/is obtained when the company is “spun off” locally, as in the Neogen instance.
- The benefit to the local economy is much less when the property simply brings in a royalty income.

12/3/2009

© Thomas Tobin 2009  
<http://thomastobin.com>

23

## THANKS TO THE FOLLOWING

---

- Thanks to my colleagues at UK, Neogen Corp, New Ace Research and FrontierBiopharm.
- All the members of my research group over the years.
- The Kentucky Racing Commissions, the Kentucky Equine Drug Research Council and the Board of the Gluck Equine Research Foundation for research support.
- My long time colleague, Dr. Peter Timoney, Director of the Gluck Equine Research Center and to all my colleagues at Gluck, the UK and elsewhere for their support over the years.

12/3/2009

© Thomas Tobin 2009  
<http://thomastobin.com>

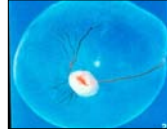
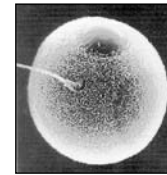
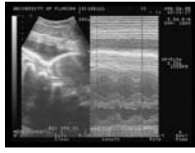
24

**Additional Notes:**

At Jockey Club Round Table, it was stated drug control research is a top priority. Unable to take advantage because we would need accredited lab, 20 horses in training and a chemist. Our position will be to put the standards in place.

Difficult to have graduate students without a fully functioning laboratory.

# REPRODUCTION



## Program overview

1. Non-pregnant mare
  - Endometritis
  - CEM
  - Estrus suppression
2. Pregnant mare
  - Pregnancy loss
  - Endophyte infected fescue
  - Uterine artery rupture
3. Stallion
  - Biology of seminal proteins - importance for fertility
  - EVA (Infectious disease)
4. Breeding record analysis

## Productivity (last year)

Karen McDowell – 1 FTE  
Barry Fitzgerald – 1 FTE  
Tom Swerczek – 1 FTE  
Ed Squires – 0.1 FTE  
Mats Troedsson – 0.3 FTE

- Refereed publications: 15
- Non-refereed publications: 7
- Book chapters: 9
- Lay articles: 7
- Presentations at Scientific and professional meetings: 38 (17 int.)

## Funding (last year)

Karen McDowell – 1 FTE  
Barry Fitzgerald – 1 FTE  
Tom Swerczek – 1 FTE  
Ed Squires – 0.1 FTE  
Mats Troedsson – 0.3 FTE

- USDA-ARS: \$ 50,000 (tot. \$120,000)
- GERC \$ 37,000 (CEM; Koller Em. Dis Resp.)
- Univ. Copenhagen \$ 25,000 (Co-PI. Tot. \$ 80,000)
- GJCRF: \$ 40,000 (tot. \$ 78,000; Adm. UF)
- CSU \$ 66,000 (CSU/ Squires)
- TOTAL: \$ 218,000**

## Graduate students

- **3 PhD students**
  - Claudia Klein
  - Lynda Miller
  - Elisabeth Woodward (GERC scholarship)
- **2 MS students**
  - Sydney Hughes
  - Gabriella Toro

## Strengths

- Recognized faculty – local, nationally and internationally
- Connection with Vet. Community and horse industry
- Response to emerging reproductive problems (MRLS, CEM)
- Translational research from basic to clinical
- Recruitment of graduate students
- Reasonable productivity among faculty members
- New facilities at Main Chance Farm

## Weaknesses

- Individual programs / need research focus
- Funding
- Critical mass and leadership (Clay endowed Chair)
- Uneven productivity within the group

## Relevance to the Equine Industry

- Input from the local veterinary community on needed research
- Endometritis and pregnancy losses are major problems with high costs to the equine industry
- MS projects are using farm records to identify problems and breeding efficiency
- Response to emerging reproductive problems (MRLS, CEM)
- The program/ research have strong local support from veterinary community and equine industry (e.g. fund raising for facilities)



# Future opportunities and challenges

## Goals:

- Should be a top ranked research program in reproduction, if focused on specific areas
  - Pregnancy loss (early and late gestation)

## Needs:

- Critical mass of faculty
- Funding
- Graduate students (funding/ space)

## **Additional Notes:**

Dr. Garokovich asked how we should prepare for generational transitions.

What is a critical mass of faculty to make program internationally recognized?

Are there “low hanging fruit” research problems that can help elicit funding and widen exposure?

Need sustainable funding sources.

Responds to emerging problems. Exemplified by industry approaching Dr. Squires re reproduction facility development.

Aspire to be top program in reproduction. Need to have program-based approach to research rather than individual research programs.

# INFECTIOUS DISEASES



G. Lyons

P. Timoney

D. Powell

R. Dwyer

C. Issel

J. Timoney



## Infectious Diseases Faculty at the Gluck Center



F. Cook

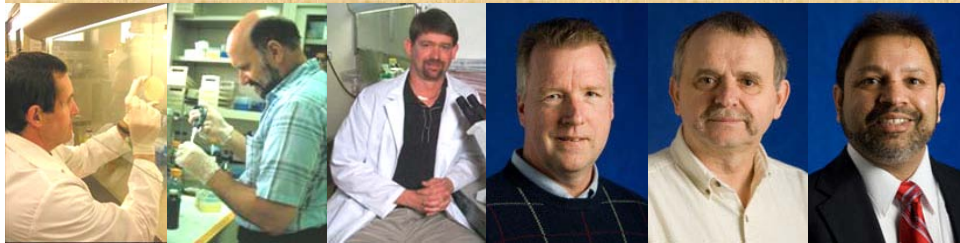
T. Chambers

D. Howe

D. Horohov

S. Artiushin

U. Balasuriya



## Infectious Diseases Group

Perspective on

Who we are

Where we think we are now

Where we want to go

What we need to get there

## **Infectious Diseases Group**

**General comments for department:**

**We came here to do experiments on horses**

**We require animals and facilities**

**Federal constraints + industry**

## **Infectious Diseases Group**

**Strengths/weaknesses: Frank/Udeni**

**Relevance to Industry: Peter**

**Facilities: Chuck**

**Farm Resources: John/Tom**

**Faculty recruiting: Dave**

**Group discussion leading to solutions**

## **Infectious Diseases Group Current Major Strengths:**

**Wide experience - considerable success**

**Versatility and capacity to respond**

**Experiment in Target Species**

**Archived Clinical Samples - Reagents**

## **Basic Research Essentials :**

- **Significant Funding**
- **Long Term View**
- **State of the Art Equipment**
- **Animal Facilities**
- **Expert People/Teams**

## **Weaknesses:**

### **Lack of Funding :**

- Agriculture < Human
- Equine < Porcine, Bovine, Avian
- Short Term Viewpoint with Clinical Bias
- Eroding Infrastructure
- New Technologies? High \$\$\$
- People/Difficulty in Building Teams
- Horse Outbred/Genetic Manipulation/#s

## **State of the Art Basic Research**

- Expensive Technology
- Huge Sample Throughput
- Large Numbers of People
- Multi-Center Collaborations

## Broad and Potent Neutralizing Antibodies from an African Donor Reveal a New HIV-1 Vaccine Target

Laura M. Walker,<sup>1\*</sup> Sanjay K. Phogat,<sup>2,†</sup> Po-Ying Chan-Hui,<sup>3</sup> Denise Wagner,<sup>2</sup> Pham Phung,<sup>4</sup> Julie L. Goss,<sup>4</sup> Terri Wrin,<sup>4</sup> Melissa D. Simek,<sup>2</sup> Steven Fling,<sup>1</sup> Jennifer L. Mitcham,<sup>5</sup> Jennifer K. Lehrman,<sup>2</sup> Frances H. Priddy,<sup>6</sup> Ole A. Olsen,<sup>7</sup> Steven M. Frey,<sup>8</sup> Phillip W. Hammond,<sup>3</sup> Protocol G Principal Investigators,<sup>†</sup> Stephen Kaminsky,<sup>9</sup> Timothy Zamb,<sup>2</sup> Matthew Moyle,<sup>2</sup> Wayne C. Koff,<sup>5</sup> Pascal Poignard,<sup>1</sup> Dennis R. Burton<sup>1,2,4</sup>

Broadly neutralizing antibodies (bNAbs), which develop over time in some HIV-1-infected individuals, define critical epitopes for HIV vaccine design. Using a systematic approach, we have examined neutralization breadth in the sera of about 1800 HIV-1-infected individuals, primarily infected with non-clade B viruses, and have selected donors for monoclonal antibody (mAb) generation. We then used a high-throughput neutralization screen of antibody-containing culture supernatants from about 30,000 activated memory B cells from a clade A-infected African donor to isolate two potent mAbs that target a broadly neutralizing epitope. This epitope is preferentially expressed on trimeric envelope protein and spans conserved regions of variable loops of the gp120 subunit. The results provide a framework for the design of new vaccine candidates for the elicitation of bNAb responses.

Despite more than two decades of research, a protective vaccine against HIV-1 remains elusive. It is widely accepted that such a vaccine will require the elicitation of both T cell-mediated immunity and a broadly neutralizing antibody (bNAb) response (1–3). All of the known bNAbs provide protection in the best available primate models (4–9) and, therefore, are considered to be the types of antibodies that should be elicited by a vaccine. Unfortunately, these antibodies tend to display limited breadth

and potency against non-clade B viruses, which make up the majority of infections outside North America and Europe, and they recognize epitopes on the virus that so far have failed to elicit bNAb responses when incorporated into a diverse range of immunogens (10–12). Therefore, in order to develop a successful vaccine, it is of high priority to identify new bNAbs that bind to epitopes that may be more amenable to immunogen design.

We have screened serum from ~1800 HIV-1-infected donors from Thailand, Australia, the

United Kingdom, the United States, and several sub-Saharan African countries for neutralization activity and have identified donors who exhibit broad and potent neutralizing serum activity (13, 14). Monoclonal antibodies (mAbs) are currently being generated from these donors by different approaches. In this study, we used a high-throughput strategy to screen immunoglobulin G (IgG)-containing culture supernatants from ~30,000 activated memory B cells from a clade A-infected donor for binding to monomeric recombinant envelope glycoproteins gp120 (HIV-1 primary isolate JR-CSF) and gp41 (HIV-1 strain HxB2) (trimeric gp120 and gp41 complexes, referred to as Env, mediate viral entry) and neutralization activity against HIV-1 primary isolates JR-CSF and SF162 (table S1) (15). The memory B cells were cultured at near clonal density, which enabled us to reconstitute the authentic antibody heavy and light chain pair from each culture well.

<sup>1</sup>Department of Immunology and Microbial Science, and IAVI Neutralizing Antibody Center, The Scripps Research Institute, La Jolla, CA 92037, USA; <sup>2</sup>AIDS Vaccine Design and Development Laboratory, International AIDS Vaccine Initiative, New York, NY 11220, USA; <sup>3</sup>Theracore Sciences, Seattle, WA 98104, USA; <sup>4</sup>Monogram Biosciences, Inc., South San Francisco, CA 94080, USA; <sup>5</sup>International AIDS Vaccine Initiative, New York, NY 10038, USA; <sup>6</sup>Ragon Institute of Massachusetts General Hospital, Massachusetts Institute of Technology, and Harvard, Boston, MA 02114, USA.

\*These authors contributed equally to this work. †Protocol G Principal Investigators are listed at the end of the manuscript. ‡To whom correspondence should be addressed. E-mail: burton@scripps.edu (D.R.B.); SPhogat@iavi.org (S.K.P.)

Clade	No. of viruses	Median IC <sub>50</sub> (μg/ml) against viruses neutralized with an IC <sub>50</sub> <50 μg/ml						
		b12	2G12	2F5	4E10	PG9	PG16	PGC14
A	27	6.98	17.10	5.70	6.20	0.16	0.11	41.59
B	31	0.80	0.82	2.41	5.22	0.43	0.70	21.38
C	37	6.46	2.93	31.31	2.97	0.22	0.25	11.97
D	25	1.47	7.71	3.17	4.60	0.10	0.02	38.52
CRF01_AE	10	21.33	>50	0.26	0.51	0.08	0.03	>50
CRF_AG	10	10.40	0.95	0.64	1.42	0.80	0.08	45.70
G	15	3.07	33.68	1.24	1.44	0.29	1.21	>50
F	15	>50	9.23	1.78	2.30	0.08	0.08	26.71

**Table 1. Neutralization activity of mAbs. (A)** Neutralization potency. Boxes are color-coded as follows: white, median potency >50 μg/ml; green, median potency between 20 and 50 μg/ml; yellow, median potency between 2 and 20 μg/ml; orange, median potency between 0.2 and 2 μg/ml; red, median potency <0.2 μg/ml. CRF\_07BC and CRF\_08BC viruses are not included in the clade analysis, but are counted toward the total number of neutralized viruses, because there was only one virus tested from each of these clades. **(B)** Neutralization breadth. Boxes are color-

npg nature publishing group

nature.com | about npg | news@nature.com | naturejobs | natureevents | help | site index

nature

my account | e-alerts | subscribe | register

SEARCH JOURNAL  Go

Thursday 05 November 2009

Journal Home  
Current Issue  
AOP  
Archive

article

Nature 227, 680 - 685 (15 August 1970); doi:10.1038/227680a0

THIS ARTICLE

Download PDF  
References  
Export citation  
Export references

Send to a friend

More articles like this

Table of Contents  
< Previous | Next >

### Cleavage of Structural Proteins during the Assembly of the Head of Bacteriophage T4

U. K. LAEMMLI

MRC Laboratory of Molecular Biology, Hills Road, Cambridge

Using an improved method of gel electrophoresis, many hitherto unknown proteins have been found in bacteriophage T4 and some of these have been identified with specific gene products. Four major components of the head are cleaved during the process of assembly, apparently after the precursor proteins have assembled into some large intermediate structure.

## **Funding for Basic Research on Infectious Diseases of the Horse**

**May not improve**

**Keep pace with tech developments?**

**Support multiple large programs?**

## **Delete Basic Research?**

**Unable to Solve Fundamental Complex  
Disease Problems**

**If we did, we may become a backwater**

**Faculty/Graduate Students/Training**

**Lose Funding Appeal – USDA**

**Allow Trendsetters to Access Equine  
Funding?**

## **Solutions to Fund Basic Research**

- **Horse as a Model System**
- **Comparative Genomics etc.**
- **Fortunate Associations**
- **Collaboration at all Levels**
- **Re-Think “One Person, One Disease”**
- **Lose the Horse : Recruit Faculty with Equine Side Projects**
- **Encourage Faculty to Move to Other Species**

## **Alternative Models For Gluck**

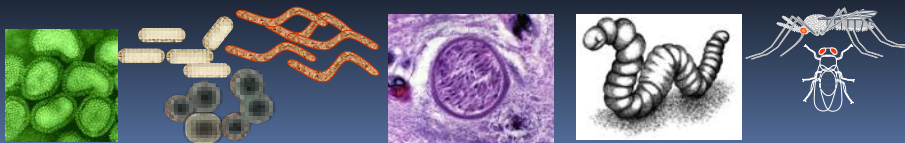
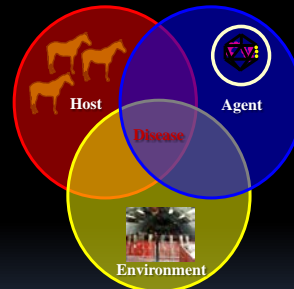
**Bias Infectious Diseases Research  
towards Clinical or Extension?**

**Expand Teaching and Instruction?**

**The Key: Adaptation**



# Infectious Disease Group (IDG) at the Gluck Equine Research Center: Strengths, Weaknesses and Future Directions



## IDG Productivity: Exceeds Expectations?

- Number of Publications: 37
- Book Chapters: 13
- Lay Articles: 6
- Number of Presentations: 68
- Graduate Student Productivity: 27 (Pubs and Presentations)
- Number of Undergraduate Students Working in the Labs: 11
- Graduate Students: 12
- Postdoctoral Fellows: 5
- Visiting Scientists: 7
  
- Grant Totals:
  - Direct Costs: \$512,000
  - Indirect Costs: \$152,000
  
- Major Consultations: 27
- Memberships on Journal Editorial Boards: 12
- Offices Held in Professional Organizations: 6
- Interdepartmental Collaborations: 5

## Weaknesses

### Funding:

- Lack of funding for research and graduate student education
  - No intramural funding through Gluck for basic research
  - No support for basic research from the industry or stakeholders
- Transparency of Gluck funds available for research and graduate student support

### Equipment:

- Communal equipment is outdated
- Lack of state of the art equipment

### Facilities:

- BSL3 laboratory space (lack of)
- BSL2 (limited) and BSL3 small animal housing facilities

### Personnel

### Lack of short term and long term plans

## Future Directions

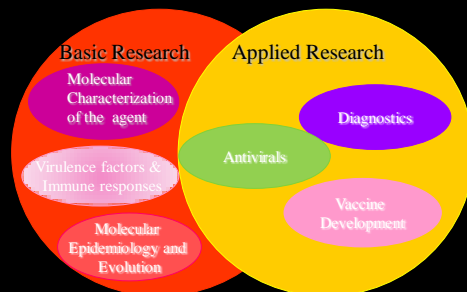
- Where and what we want to be in 10 years
- How to compete with other equine research groups and organizations in the US and around the world
- How to attract new young faculty to Gluck and best graduate students to the program
- How to respond to industry demands and emerging infectious diseases of the horse
- What we need to achieve our future goals

# Equine Infectious Disease Programs in the World



- Veterinary Schools in the US are expanding their equine programs from clinical research to basic and applied research e.g. **Center for Equine Health at UC, Davis, CA (BSL2 and BSL3)**, **University of Georgia College of Veterinary Medicine (BSL3-Ag)** and **Kansas State University, Manhattan, KS (BSL3-Ag)**
- Multi institutional state wide programs e.g. **Southeast Regional Center of Excellence for Emerging Infections and Biodefense (SERCEB), FL**
- Laboratories in other countries - European Union, Asia, Australia

## Balancing Basic and Applied Research

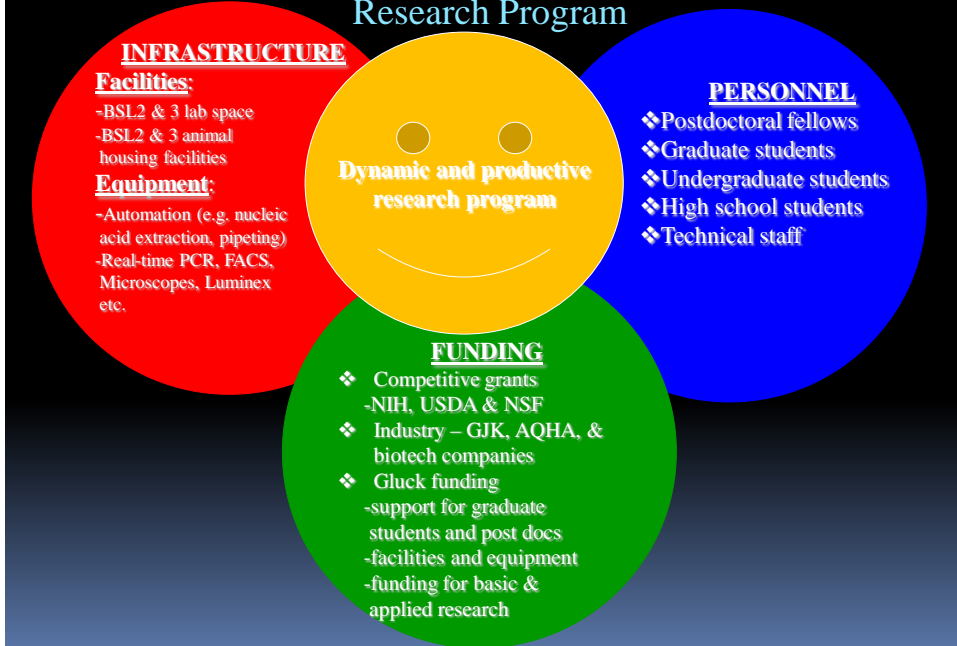


Academic Institutions  
Demand **Basic or**  
**Fundamental Research**

Industry or Stakeholders  
Demand **Applied Research**

- **A proper mix of basic and applied research can benefit both academic and industry requirements**

## Specific Needs to Maintain a Productive Research Program



## How to be the Leader in Equine Research?



■ It is absolutely critical to provide the necessary infrastructure, personnel and funding to the IDG faculty to develop and maintain research programs focused both on applied and basic research in infectious diseases

### ■ Urgent Needs:

- Establish an endowment for basic research (internal funding for basic research)
- Establish a state of the art communal equipment room
- Increase funding for graduate student projects and travel
- Increase funding for postdoctoral research projects and travel
- Restructure the graduate program: Allocation of graduate students based on the productivity of the faculty, QE format/project and set standards for graduating etc.
- Full-time research staff/technicians
- Recruit young faculty to work on new and emerging diseases of horses
- Maintain the essential core staff and programs that provide the foundation for cutting edge infectious disease research at the Gluck

➤ Fundraising! Fundraising!! Fundraising!!!

## How to be the Leader in Equine Research?

### ■ Long term needs:

- BSL2+ and BSL3 small animal and large animal isolation facilities
- Assemble a multidisciplinary research faculty that seeks fundamental understanding of host-pathogen interactions as well as direct impact on horse health through translational research
- The IDG members should approach problems of equine infectious disease agents from a diverse perspective
  - cell biology, biochemistry, proteomics, structural biology, genetics, molecular epidemiology, immunology, vaccinology and diagnostics
- Recruit young faculty to work in the shadow of senior faculty to fill the vacuum created by the retirement of the senior faculty

**Fundraising! Fundraising!! Fundraising!!! Fundraising!!!!**

“The greater danger for most of us is not that our aim is too high and we miss it, but that it is too low and we reach it”  
*-Michelangelo*

## Relevance to Industry

### Importance of Epidemic/Endemic IDs

#### Why are we here?

To study Infectious Diseases of Horses?

Full time research appointment?

Availability of adequate numbers of horses  
for meaningful experimental outcomes?

## **Relevance to Industry**

- **Importance of Infectious Diseases to economic well-being of equine industry**
- **Cornerstone of department research activities for ~100 years**
- **Specific disease occurrences can halt interstate/international movement**

## **Relevance to Industry**

- **Important to maintain and enhance reputation of the Gluck Center**
- **Horse as primary focus must be maintained but not limited by proclamation**
- **Need for emphasis on translational function of faculty in communicating their research to veterinarians/equine industry**

## **Infectious Diseases Group**

<u>Facilities</u>	<u>Laboratory</u>	<u>Animal</u>
BSL1	Adequate	Improving
BSL2	Adequate	8 Stalls - Annex
BSL3		

**Priority: complete BSL2 12 stalls, funds for core and 12 stalls (Renovate Annex?)**

**Increased faculty demand anticipated**

## **Infectious Diseases Group**

<u>Facilities</u>	<u>Laboratory</u>	<u>Animal</u>
BSL1	Adequate	Improving
BSL2	Adequate	8 Stalls - Annex
BSL3		

**Priority: complete BSL2 12 stalls, funds for core and 12 stalls (Renovate Annex?)**

**Increased faculty demand anticipated**

**Justify?? Cannot do the work without**

# **Animal Experimentation**

## **Infrastructure and support**

## **Existing Department Philosophy**

The availability for research of a population of equids

- in usable numbers
- of defined status regarding infectious diseases

Is KEY to the mission of this program  
and to meeting the expectations that the horse  
industry has of us.



## Existing Department Philosophy

The availability for research of a population of equids

- in usable numbers
- of defined status regarding infectious diseases

Is KEY to the mission of this program and to meeting the expectations that the horse industry has of us.

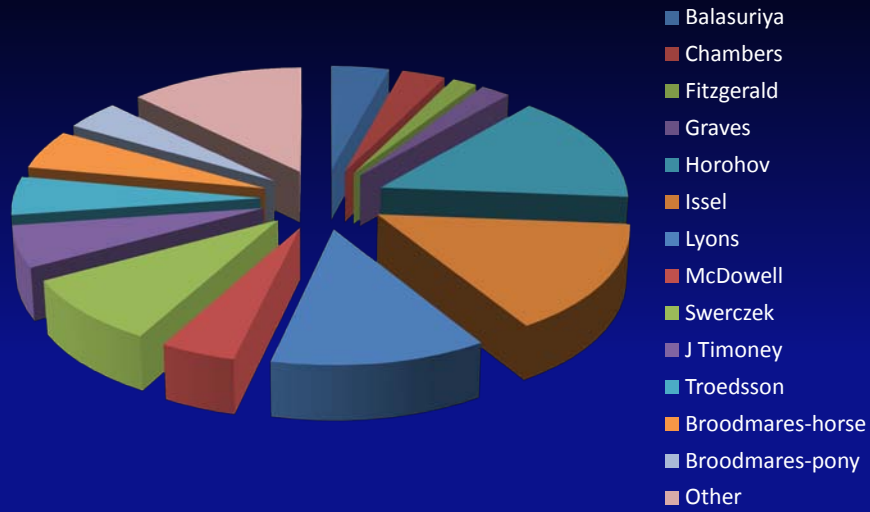
## Large Animal Census 10/2009

	Horses	Ponies	Donkeys	Goats
North Farm	278	108	3	46
South Farm	3	0	0	0
Woodford	17	60	0	0

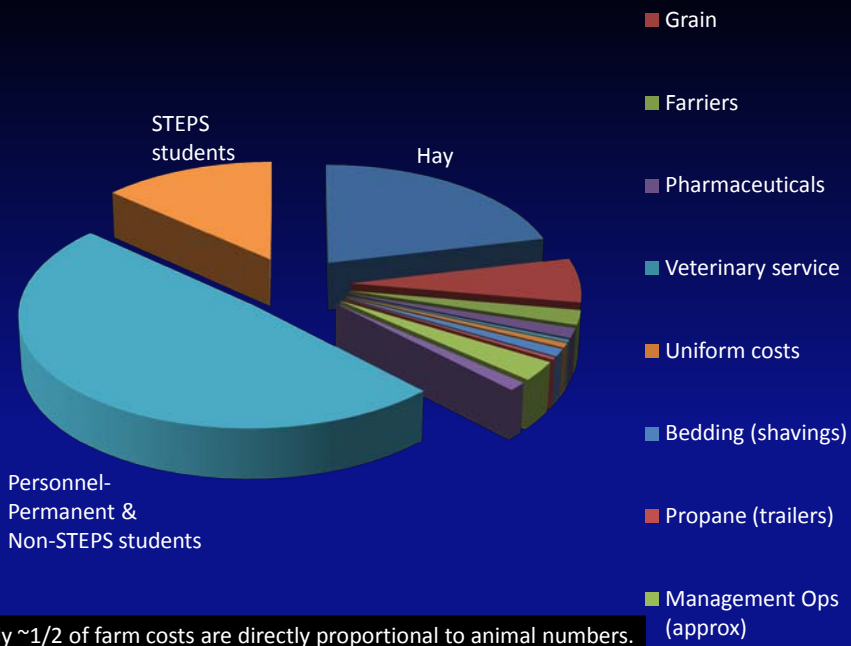
Totals      298            174            3            46  
Equids:    475  
Caprids:    46  
Overall:    521

Possibility that we will be required to reduce these numbers.

## Large Animal Use snapshot



## Farm Costs 2008-09 (estimated)



## **Farm Infrastructure Wish List**

- \$20,000 worth of fence every year (approx 4000 feet)
- Trucks –at least two ASAP; followed by establishment of a plan to buy one truck every two years (\$25,000 - \$30,000/each).
- 3 working chutes – the last one was built by college personnel (no labor charge) at a cost of \$20,000.00 in 2001.
- Barn 11 Roof repair, electrical upgrade, etc
- Run-in sheds – these will be mandated by the Ag Guide very soon.
- Renovate barn 10A into a useable structure.
- Renovate stalls at South Farm

## **Current Budgeted Support**

**Experiment station**

**Endowments (3)**

**Koller – BSL2 unit only?**

**4M, now 3.1M?, <150K/yr**

## **Projected Horse Needs**

**Breeding bands:**

**30-40 pony mares:**

**Multiple use philosophy – time tested**

**Immunology-Flu-S equi-EIA**

**30-50 horse mares**

**Identical multiple users**

**Different sequences probable**

## **Estimating animal costs**

**Bred pony mares through all 4 users:**

**Mare past: 365 days @ \$4      1460**

**Foal past: 600 days @ \$4      2400**

**Stalls: 100 days @ \$15      1500**

**300 days @ \$25      7500**

**1 pony foal for 4 users: <\$12,860 over 3 yrs**

## **Estimating animal costs**

**Bred horse mares through all 4 users:**

**M - Pasture: 365 days @ \$6      2190**

**F - Pasture: 600 days @ \$6      3600**

**Stalls: 100 days @ \$15      1500**

**300 days @ \$25      7500**

**1 horse foal for 4 users: <\$14,700 over 3 yrs**

## **Estimating animal costs**

### **Production: 60 per year**

**30 pony foals: \$12,860 x 30 = \$385,800**

**30 horse foals: \$14,700 x 30 = \$441,000**

**Total 3 year costs: \$826,800**

**Annualized costs: \$275,600**

## **Estimating animal costs**

### **Production: 60 per year**

**30 pony foals: \$12,860 x 30 = \$385,800**

**30 horse foals: \$14,700 x 30 = \$441,000**

**Total 3 year costs: \$826,800**

**Annualized costs: \$275,600**

**Current crop: about 40**

## **Faculty Recruitment**

### **Current Situation**

**21 Faculty in GERC**

**18 tenured**

**3 research track**

**1 position in transition (Powell)**

**1 frozen faculty line (G. Allen)**

**2 open endowed chair positions**

## Faculty Recruitment

12 Infectious Disease Faculty

10 tenured

2 research

+ G. Allen position

+1 endowed chair



Almost half are near retirement

## Faculty Recruitment

Who are their replacements?

– What will we want them to be?

Where will they come from?

What will it take to recruit them?

When and how shall we recruit them?

## **Who are we likely to recruit**

- **What is our future direction ?**
  - **Clinical/Applied emphasis**
    - Responding to stakeholders needs
    - Emphasis on the horse
  - **Basic Scientist**
    - Emphasis on technology
    - Competitive for federal funding
    - Disease models with equine possibilities?

## **Where will they come from?**

- **Applied scientist**
  - **Veterinary Clinical Science Department**
    - Likely DVM-PhD
  - **Other Veterinary Science Programs?**
- **Basic Scientist**
  - **Microbiology Department**
  - **Veterinary School or Medical School**
    - Likely PhD



## What will it take to recruit them?

- **Opportunity to work with horses**
  - animals and facilities
    - Federal constraints + industry
- **What else will we need?**
  - Equipment, advanced facilities (BSL3)
  - Start-up funds, laboratory space
  - Opportunities for clinical experience

## Recruitment Strategies

- |   |  |
|---|--|
| <ul style="list-style-type: none"><li>• <b>Replace as needed</b><ul style="list-style-type: none"><li>– Advantage<ul style="list-style-type: none"><li>• Use currently assigned faculty lines</li><li>• Re-use of available space and resources</li></ul></li><li>– Disadvantages<ul style="list-style-type: none"><li>• Loss of programmatic emphasis</li><li>• Failure to take advantage of new opportunities</li></ul></li></ul></li></ul> | <ul style="list-style-type: none"><li>• <b>Early recruitment</b><ul style="list-style-type: none"><li>– Advantage<ul style="list-style-type: none"><li>• Addition of new technology/emphasis</li><li>• Increased opportunity and competitiveness</li></ul></li><li>– Disadvantages<ul style="list-style-type: none"><li>• Lack of Faculty lines</li><li>• Lack of new space</li><li>• Increased demand on resources and facilities</li></ul></li></ul></li></ul> |
|---|--|

## Summary

- **Traditional model**
  - Replace as needed
  - Endowed chairs
- **Alternative models**
  - **Clinical track positions**
    - Shared appointment with Veterinary Practices
  - **Research Track positions**
    - Non-tenured
    - Soft money
    - Independently supported

## Summary

- **Traditional model**
  - Replace as needed
  - Endowed chairs
- **Alternative models**
  - **Clinical track positions**
    - Shared appointment with Veterinary Practices
  - **Research Track positions**
    - Non-tenured
    - Soft money
    - Independently supported

## **Additional Notes:**

BSL2 & BSL3 facilities around the country funded with state money. Tufts may be funded with combination of state and federal funds

Clinical vs. basic science – both equally difficult to fund – joint efforts fare better with granting agencies

Current solutions that have provided funding: horse as model, comparative genomics, associations/collaborations, perhaps recruit faculty interested in other species that also work on horses.

Must teach cutting- edge technology to graduate students. Must publish in refereed journals. Responding to industry pressures may mean less scoring on productivity measurement.

Must recruit young faculty to work along the senior faculty.

Horse must be of defined status. Example, horses for Dr. Chambers must have no prior exposure to flu. What was a useable number 30 years ago is just a pilot number today.

Have over 500 large animals. Number has grown instead of decreasing. EPA may want us to reduce the number by 50%.

# FUND RAISING PRIORITIES & STRATEGIES

## Infectious Diseases

- ▣ \$250,000 – re-allocation of Troedsson’s start-up funds.
- ▣ \$260,000 – Put in for CPE match
- ▣ \$60,000 – Greg Goodman
- ▣ \$100,000 – Darley
- ▣ \$1 million – Shapiro Endowment

## Reproduction

- ▣ \$600,000 – CPE Match
- ▣ \$400,000 – Pledges & Cash

# **Parasitology Symposium**

▣ \$13,000

**IT'S TIME!**



**Strategic planning to  
identify the needs of the  
Gluck Center**



# History of the Department of Veterinary Science

## **Additional Notes:**

Fund raising must be a joint effort.

“It’s Time” - UKGERF new fund raising campaign

Gluck needs to identify priorities for fund raising.

The possibility of a book on the history of the department is being discussed. It was noted that one of Dr. Tobin’s previous students has already done some interviews and gathered some information regarding the department’s history.

Identifying strengths and accomplishments is essential to successful fund raising.

Endowments vs. contributions for specific research or facilities. Both are appropriate and depend on the mindset of the donor.

It was suggested that Gluck might attempt some fund raising jointly with other programs, i.e. biomedical research. Some felt that the Equine Initiative had subverted Gluck fund raising. It was stated that Gluck was the most underfunded.

# GRADUATE PROGRAM

## Veterinary Science Graduate Program

- Current enrollment of 28 students
  - 21 PhD, 7 MS
  - 16 domestic, 12 international
  
  - 13 infectious disease
  - 1 parasitology
  - 3 genetics
  - 6 musculoskeletal
  - 5 reproduction

## Student Support

- All Research Assistantships, no Teaching Assistantships
  
- Stipend, tuition, health insurance provided
  - Stipend range \$18K to \$35K per year
    - w/B.S. or M.S. - \$18K or \$21K (Hughes)
    - w/DVM (or equivalent) - \$25K or \$27K (Hughes)
  
- 11 students department supported
- 7.32 Hughes fellowship
  - 0.68 Kentucky Opportunity Fellowship
- 1 LDDC support
- 6 have mentor/other support



## Program of Study

- Course requirements
  - MS: 24 credit hours
  - PhD: 36 credit hours pre-qualifying, 2 semesters of VS 767 post-qualifying (4 credit hours)
  - Core courses (highly recommended):
    - Biochemistry CHE 550 (2 semesters)
    - Statistics STA 570
    - Remaining coursework TBD by advisor/committee
  - VS 791/792, Techniques in Vet Microbiology/Pathology
    - 1-9 credits/semester, 24 credit hours maximum
    - No formal course requirements

## Student Recruitment

- Gluck website
  - Website provides basic program information
  - Can make request for application package (cover letter, application checklist, Dept. brochure)
- Graduate Program brochure
  - out of date (606 area code)
- Individual recruitment/word of mouth

## Recruitment

- Admission requirements:
  - 3.0 GPA, GRE of 1100 (verbal + quantitative)
  - Minimums can be waived
- Applicant pool
  - About 23-24 complete applications/year ('07-'09), average of 14 domestic applicants
    - 10 accepted in '07 (1 declined)
    - 6 accepted in '08 (2 declined)
    - 8 accepted in '09 (1 declined)

## Questions/Issues

- Do we attract the students we want?
- Appropriateness of coursework?
  - Required core courses in different areas (micro, genetics, repro, etc.)?
- Expectations
  - Publication prior to graduation
  - Lab rotations
  - Participation at meetings

## Questions/Issues

- Allocation of Dept./Hughes support
  - Increase mentor support (e.g., 50% after year 2)?
  - Based on faculty productivity?
- Qualifying exam format
  - Proposal based on project or unrelated topic?
  - Presence of major professor at Q exam?
- Faculty participation
  - Each faculty member expected to train grad students?

### **Additional Notes:**

“Graduate Program in Veterinary Science: Guidelines for Students and Faculty” - last revised in June 2002, and in need of further revision. Many of the courses recommended are no longer offered.

Graduate Program brochure also needs to be updated.

VS-791 & VS-792 have no formal course requirements and this has been abused in the past.

No formal course offerings for graduate students in our program. All core classes are outside of the department.

Possibility of offering some classes that would be taught by a team.

This would ensure the level of knowledge we want our students to have.

Potential classes discussed were equine reproduction, equine genetics/genomics, and epidemiology.

In order to have a formal class listed, 5 students must be enrolled every 3 years.

Dr. McDowell noted that Clinical & Reproductive Sciences was now offering a PhD in Reproductive Sciences and this might be useful for some of our students.

Stipends might influence applicant pool.

Challenge to determine which applicants would make the best graduate students. Some determinants could be good writing skills (letter of application) and through a personal recommendation from colleagues.

What is the goal of our graduate program. Our answer should help determine the core for our graduate program.

To produce research scientists.

Student's expectation of the program.

To create greater opportunities after graduation.

What is our competitive edge to attract students?

The diversity and expertise of our faculty is one of our greatest assets.

The ability to do "hands-on" research.

General time limit for an MS degree is 2 years, and for a PhD degree is 4-5 years.

Expectations for our graduate students:

Publications in peer-reviewed journals

Presentations

MS students currently expected to give 1 departmental seminar

PhD students currently expected to give 2 departmental seminars

Presentation requirements should be revised so that each student would give 1 seminar per year

Students should also be able to give a 15 minute presentation followed by a 3 minute question session. This would help prepare them for actual presentations at scientific meetings where the time limit would be 15-20 minutes.

Presentations at national/international scientific meetings

To mature, become self-reliant

Enhance communication skills (verbal and written)

Writing research grants

# **DEFINING FACULTY EVIDENCE OF PRODUCTIVITY**

## **Additional Notes:**

Drafted by department's Faculty Performance Advisory Committee

To be used in determining faculty evaluation scores as well as for promotion and tenure

The document was handed out for faculty review and it was determined that this would be discussed and voted on at a later date, after the faculty has had a chance to review the document in detail.

# IDENTIFYING GOALS FOR A GLUCK STRATEGIC PLAN

## Gluck Equine Research Center Challenges

- Insufficient resources (intramural and extramural) to support over 20 faculty members with 100% research DOE
- Limited research funding for “basic science”
- Sustainable farm operation
- Generational transition of faculty

## Gluck Equine Research Center Short-term plan

- **Funding for research:**
  - Federal and industry grants
  - Intramural funding of research (accountability)
  - Industry support (new gifts and endowments)
    - Connect with industry needs
    - “Marketing” of the Gluck Center
    - Program-based research presented to stakeholders and potential donors
    - Dissemination of knowledge generated from Gluck to the Veterinary community and the equine industry
      - Bluegrass Equine Digest, Seminars, Short Courses

# Gluck Equine Research Center

## Short-term plan

- **Sustainable farm operation:**
  - Establish a cost center to manage farm expenses and maintenance
  - Growing population of horses (currently >500)
    - Efficient use of horses
    - Reduction of horse population
    - Share costs (research grants)

# Gluck Equine Research Center

## Short-term plan

- **Recruit young faculty:**
  - Only open positions are 2 Endowed Chairs
    - Recruit young faculty with a solid record of productivity
  - Approach future perspective faculty

# Gluck Equine Research Center

## Long-term plan

- **Funding for Basic Science:**
  - Use the horse as a model for human medicine when applicable
    - Limited by commitment to equine veterinary science
  - Increase attraction for Basic Science from funding agencies and donors
    - Addition of a Clinical Science program to partner with Basic Science
    - New separately funded program to support basic research
    - May require some form of partnership with veterinary practices
    - Muscular/skeletal; Neonatology; Infectious diseases

# Gluck Equine Research Center

## Long-term plan

- **Sustainable farm operation:**
  - Plan for maintenance of barns, pasture, fences, equipment etc.



# Gluck Equine Research Center

## Long-term plan

- **Generational transition of faculty:**
  - Establish a vision of future direction – input from stakeholders
  - Gradual transition
  - The choices we make will decide the future of the Gluck Center

### **Additional Notes:**

What to say at 50<sup>th</sup> Anniversary

Premier research institute in world

A major valued research institute in industry

Priorities for Funding

Space restricts faculty hiring

May need to go to functional labs/space

How to attract transitional faculty

Phased retirement

Maintain/Sustain Farm

Establish cost center for farm

Need endowment for farm

Internal Competitive Grants

Research Support

Graduate Students

Additional 12 stalls for BSL2

Approach board for specific needs

Define Quality Measures of Success

Good graduate students

- Problem solvers
- Scientists
- Good Writing skills
- Graduate Program
  - Number of applicants
  - Number of graduates staying in field of biomedical research
  - Competitive with other PhDs
  - Success of student while in program
    - Presentations
    - Publications
  - Offer unique access to horses
  - Stipends
  - Number of positions

- How to Become Premier
  - Cutting-edge research
  - Use system approach
  - Attract best graduate students/post-docs
  - Recognized by peers as premier institution
    - Currently recognized in:
      - Infectious Diseases
      - Genomics
      - Parasitology
      - Pharmacology
    - Future:
      - Reproduction
      - Musculoskeletal Science
  - Expertise
  - Location in Central KY

# **Proposed Plan<sup>1</sup>**

---

<sup>1</sup> This plan was proposed by Dr. Garkovich and will be discussed at the next faculty meeting

**Gluck Equine Research Center**  
DRAFT Strategic Plan

**VISION**

In 20 years, the Gluck Equine Research Center will be:

The premier equine research institution

Viewed as the source of translated research to address critical industry issues

Both a partner and a source of information for other research institutions and private industry

<b>GOAL 1</b>			
<b>Identify and build core areas of expertise to address critical health issues affecting the industry</b>			
<b>Strategies</b>	<b>Tactics</b>	<b>Time Frame</b>	<b>Responsible Party</b>
Determine the faculty resources needed to build core areas of expertise	Identify research questions of critical interest to the industry that link the knowledge and expertise of several of the Gluck programs into a more holistic understanding of equine health by discovering the potential in collaborating and overcoming our individualistic approach to research	3 mos	Ad Hoc Planning committee with representatives from each of the program areas
	Identify gaps in scientific expertise for addressing these questions given current faculty expertise		
	Determine the calendar of prospective retirements over the next 5 years		
	Identify and evaluate creative alternatives to hiring tenure track faculty to address expertise needs		
	Establish priorities for faculty hiring based on this analysis		
Assess the costs and benefits <u>in the long term</u> to adding a clinical science program to partner with the research that is being done.	Assess the possibilities for using a Think creatively as to how this could occur by building more effective/productive relationships with the many practitioners in local vet clinics	12 mos	Ad Hoc Clinical Planning Committee with representatives from Gluck, KYEPA, and local vet clinics
	Develop an analysis of the mutual gains for all parties in this type of relationship		
Determine the technical staff resources needed to build core areas of expertise	Define and evaluate current staff capacity	5 mos	Ad Hoc Planning committee with representatives from

			each of the program areas
	Identify gaps in technical expertise		
	Establish priorities for filling gaps in technical expertise within Gluck		
Determine the research equipment essential for supporting core areas of expertise	Evaluate the suitability of current equipment	6 mos	Ad Hoc Planning committee with representatives from each of the program areas
	Develop a list of needed equipment		
	Establish priorities for acquisition of needed equipment		
Assess current research space utilization at Gluck to identify ways to increase efficiency in use of space	Determine if you can become more imaginative in collaborations in the use of the farm herds and facilities	6 mos	Ad Hoc Planning committee with representatives from each of the program areas
	Determine the requirements for maintaining accreditation		
	Incorporate accreditation requirements into funding priorities and all future planning		
Determine the farm requirements essential for supporting core areas of expertise	Evaluate the current status of the research farm facilities and animals	6 mos	Farm oversight committee, Lynn Ennis
	Develop a list of needed facilities, equipment and animals		
	Develop a maintenance schedule for the operation of the farm as needed for supporting core areas of expertise		
	Determine if you can become more imaginative in collaborations in the use of the farm herds and facilities		
	Establish priorities for acquisition of needed facilities and animals and maintenance of existing facilities		

<b>GOAL 2</b>			
<b>Establish the premier graduate program with a focus on equine health and wellness</b>			
Expand and strengthen the graduate program	Establish consensus within the faculty as to core knowledge and experience that you want all graduates to have when they leave	18 mos	Graduate Committee
	Develop a departmental consensus on expectations for common graduate students experiences:  Present papers at professional meetings Co-author publications (as first author) with faculty mentors Present seminars within the College and elsewhere Gain experience teaching		
	Establish a calendar for offering graduate seminars related to equine health and wellness on a rotating topic basis		
	Offer one undergraduate/graduate seminar a year related to an equine health topic to provide opportunities for graduate students to gain experience teaching		
	Evaluate advantages and disadvantages of sponsoring an e-journal devoted to equine health and wellness issues that is edited and produced by graduate students in Gluck and related departments		
Increase the number of funded graduate assistantships		On-going	Chair Director of Graduate Studies Foundation Board
Increase the value of graduate assistantships to be competitive with top ranked graduate programs in the sciences		On-going	Chair Director of Graduate Studies Foundation Board

<b>GOAL 3</b>			
<b>Increase the financial resources available to support the full range of Gluck activities</b>			
Increase existing sources of income	Develop a strategic funding plan that conveys to external audiences and potential funders the straight and logical line that connects the research you do at Gluck and the development of solutions to the practical problems confronting the industry (e.g., how does genomic research lead to practical problem solutions?)	9 mos	Foundation Board, Executive Director
	Convey to current and potential funders the history of Gluck's accomplishments and the ways in which cutting edge technologies, competitive research facilities, and opportunities to access funding for innovative and creative research		
Diversify sources of income for Gluck	Establish an endowment for the farm		Chair Ad Hoc Financial Planning Committee
	Establish a cost center for the farm		
	Insure that all grant proposals from Gluck include overhead costs for use of horses and facilities at the research farm		
Establish a pool of unrestricted funds for internally competitive research grants			Chair Ad Hoc Financial Planning Committee
Determine if there are opportunities to increase funding through collaborations with other departments on fundamental scientific questions			Individual faculty with an incentive for those accomplishing this
Identify opportunities to work with researchers focused on other species to identify mutual problems (e.g., parasites) and to develop a national research initiative addressing this shared challenge			Individual faculty with an incentive for those accomplishing this



UNIVERSITY OF KENTUCKY  
**GLUCK EQUINE RESEARCH**  
FOUNDATION

**Role of Board Members**  
**University of Kentucky**  
**Gluck Equine Research Foundation**

---

The Gluck Equine Research Foundation board is composed of horse owners, breeders, industry leaders and academic faculty. The primary roles are: to be a strong advocate for the Gluck Equine Research Center; to assist in fundraising for the Gluck Center initiatives; and to provide feedback as to the direction of the research programs at the Gluck Center.

Responsibilities include:

1. Attending the spring and fall Gluck Equine Research Foundation board meetings.
2. Promoting and advertising the research programs at the Gluck Center.
3. Facilitating fundraising efforts through donations, identification of potential donors or providing ideas and/or organizing events that would result in fundraising opportunities.
4. Being aware of the research at the Gluck Center and providing suggestions as to research direction and future needs.



**UNIVERSITY OF KENTUCKY  
GLUCK EQUINE RESEARCH FOUNDATION  
Board of Directors  
(Current as of August 2010)**

**INDUSTRY MEMBERS**

**Mr. Bruce Addington**  
Fairwinds Mountain Horses

**Mr. Alan Balch**  
American Saddlebred Horse Association

**Mr. Stacy V. Bearse**  
Blood-Horse Publications

**Mrs. Jane Beshear**  
First Lady, Governor's Office

**Mr. Bill Casner**  
WinStar Farm

**Mr. Case Clay**  
Three Chimneys Farm

**Mr. Tom Goncharoff**  
Crystal Springs Farm, New Mexico

**Ms. Ginny Grulke**  
Executive Director, Kentucky Horse Council

**Mrs. Lisa Lourie**  
Spy Coast Farm

**Dr. Jamie MacLeod**  
UK Veterinary Science Faculty

**Mrs. Debby Oxley**  
Fawn Leap Farm

**Mr. Dan Rosenberg**  
Rosenberg Thoroughbred Consulting

**Dr. Robert Stout**  
State Veterinarian

**Mr. David Switzer**  
Kentucky Thoroughbred Association  
Kentucky Thoroughbred Owners and Breeders

**Mr. Oliver Tait**  
Chief Operating Officer  
Darley America

**Mr. F.E. "Butch" Wise**  
Ranch Manager, Lazy E Ranch

**Dr. Naoya Yoshida**  
Winchester Farm

**Mr. Chris Young**  
Overbrook Farm

**Mr. Art Zubrod**  
Brittany Farm

**VETERINARIANS**

**Dr. Stephen Reed**  
Rood & Riddle Equine Hospital

**Dr. Walter W. Zent**  
Hagyard-Davidson-McGee

**UNIVERSITY OFFICIALS**

**Dr. Nancy Cox**  
Associate Dean for Research, College of  
Agriculture

**Mrs. Angela S. Martin**  
UK Office of the Treasurer

**Dr. Everett McCorvey**  
*UK BOARD OF TRUSTEES REPRESENTATIVE*

**Dr. M. Scott Smith**  
Dean, College of Agriculture

**Dr. Mats Troedsson**  
Director, Gluck Equine Research Center

**Dr. Lee T. Todd, Jr.**  
Office of the President

**Dr. Kumble R. Subbaswamy**  
Office of the Provost

**Department of Veterinary Science  
MS Students  
2003-2010**

Name	2003	2004	2005	2006	2007	2008	2009	2010
Godman, Lee <sup>3</sup>	X	12/17/04 <sup>+</sup>						
Hall, David	X	X	05/08/05					
Herman, Rebecca <sup>3</sup>	X	X	08/04/05					
Kennedy, Erin <sup>3</sup>	X	12/17/04						
Mains, Christine <sup>3</sup>	X	12/17/04						
Perumal, Chithra <sup>2</sup>	X	05/08/04						
Sessions, Dawn <sup>1</sup>	8/7/03							
Strong, Diane	X	X	X	05/07/06				
Coleman, Stephen		X	X	05/07/06				
Black, Kathleen			X	X	X	07/24/08		
Katepalli, Madhu			X	X	05/06/07			
Smith, Kathryn			X	X	12/14/07			
Detlefsen, Lauren					X	X	X	05/08/10
Eberth, John					X	X	X	X
Woodward, Elizabeth					X*			
McGee, Rose						X	X	X
Sarkar, Sanjay						X*		
Vanderman, Kadie						X	X	X
Hughes, Sydney							X	X
Toro Mayorga, Ana Gabriela							X	X
Campos, Juliana								X
Gaubatz, Breanna								X
Hennig, Jessica								X
Hestad, Daniel								X

1 Entered program in 2000

2Entered program in 2001

3Entered program in 2002

+Graduation date

\*Switched to PhD

**Department of Veterinary Science  
PhD Students  
2003-2010**

Name	2003	2004	2005	2006	2007	2008	2009	2010
Bosh, Karen	X	X	X	08/03/06 <sup>+</sup>				
Bosken, Jeffrey <sup>2</sup>	12/19/03							
Brooks, Samantha <sup>5</sup>	X	X	X	05/07/06				
Camargo, Fernanda <sup>5</sup>	X	X	X	X	05/06/07			
Fine, Joshua <sup>6</sup>	X							
Gaji, Rajshekhar <sup>5</sup>	X	X	X	08/03/06				
Hoane, Jessica <sup>5</sup>	X	X	X					
McCoy, Morgan <sup>3</sup>	X	08/05/04						
Mousel, Michelle <sup>2</sup>	X	05/08/04						
Murphy, Barbara <sup>5</sup>	X	X	X	X	12/17/07			
Muthupalani, Suresh <sup>3</sup>	X	X	X	12/15/06				
Myka, Jennifer <sup>1</sup>	8/7/03							
Sebastian, Manu <sup>3</sup>	X	12/17/04						
Sessions, Dawn	X	X	X	X	X	12/19/08		
Sturgill, Tracy	X	X	X	X	X	X	12/18/09	
Tiwari, Raksha <sup>6</sup>	X	X	X	X	05/06/07			
Verma, Ashutosh <sup>6</sup>	X	X	X	X	12/14/07			
Vick, Mandi <sup>5</sup>	X	X	X	X	05/06/07			
Wagner, Catherine <sup>3</sup>	X	08/05/04						
Zhang, Jianqiang <sup>3</sup>	X	X	12/16/05					
Zhang, Liang <sup>6</sup>	X	X	X	X	X	X	X	
Adams, Amanda		X	X	X	X	07/31/08		
Boliar, Saikat		X	X	X	X	X	12/18/09	
Gupta, Gagan Deep		X						
Meade, Barry		X	X	X	X	X	X	X
Mienaltowski, Michael		X	X	X	X	12/19/08		
Go, Yun Young			X	X	X	X	X	X
Zhu, Wenying			X	X	X	X	X	X
Coleman, Stephen				X	X	X	X	X
Cook, Deborah				X	X	X	X	X
Even, Deborah				X	X	X	X	X
Lu, Zhengchun				X	X	X	X	X
Cosden, Rebekah					X	X	X	X
Janes, Jennifer					X	X	X	X
Liu, Chong					X	X	X	X
Sun, Lingshuang					X	X	X	X
Tiwari, Ashish					X	X	X	X

Klein, Claudia						X	X	X
Miller, Lynda						X	X	X
Smith, Kathryn						X	X	X
Woodward, Elizabeth						X	X	X
DeNegri, Raphaela							X	X
Gautam, Ablesh							X	X
Page, Allen							X	X
Pfahl, Kristin							X	X
Sarkar, Sanjay							X	X
Cerny, Katheryn								X
Keith, Lauren								X

1 Entered program in 1993  
 2 Entered program in 1998  
 3 Entered program in 1999  
 4 Entered program in 2000  
 5 Entered program in 2001  
 6 Entered program in 2002  
 +Graduation date

---

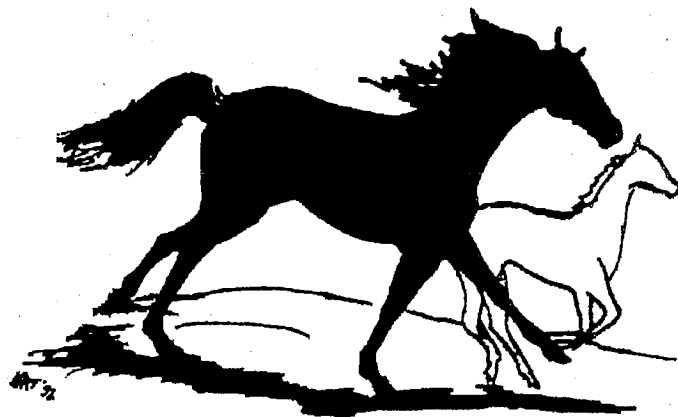
# **Graduate Program In Veterinary Science: Guidelines For Students And Faculty**

**A Compilation of Philosophical Statements,  
Lists of Requirements  
and Suggested Timetables  
for Current and Prospective Students**

*Produced by the Graduate Faculty of the Department of Veterinary Science*

*January, 1993*

*(Revised June, 2002; September, 2010)*



## DEPARTMENTAL AND PROGRAM GOALS

The overall goal of the research program in Veterinary Science has been to improve our understanding of the biology of Equidae. Emphasis has been placed on investigation of the causes and mechanisms which affect the production and performance of horses, regardless of breed. One goal of the program is to provide opportunities for graduate students to develop the skills necessary to become competent scientists who are creative and critical thinkers with the contemporary skills and knowledge to perform independent research and to effectively communicate their results. The Department offers the Master of Science and the Doctor of Philosophy degrees in Veterinary Science with specialization in pathology, virology, microbiology, parasitology, immunology, genetics, reproductive physiology, pharmacology, and musculoskeletal sciences with emphasis on the horse.

Students enrolled in the Master of Science program will gain comprehensive knowledge in the field of specialization through advanced course work and an introduction to research methods. The candidate is expected to demonstrate sufficient comprehension and mastery of the principles of scientific investigation to frame a question related to the field of interest and to design and execute an investigation which will provide a valid answer, presented in the form of a thesis. This program is generally completed in 2 years.

The Doctor of Philosophy program is research oriented, enabling the student to become a self-educating and creative scholar. This degree implies that the individual has demonstrated the capacity to frame an interrelated series of questions and to design and execute an appropriate series of investigations. Research projects are expected to either answer all of the questions or illuminate the area of inquiry in such a way that the resulting dissertation and publications will constitute a definitive contribution to science. This program is generally completed in 4-5 years.

### Admission

All applicants meeting the minimum requirements of The Graduate School will be considered for acceptance. Each applicant is considered individually and acceptance into the program depends a great deal on the background and interest of the applicant and our ability to provide a quality program in the area of interest.

Applicants need a strong academic background with undergraduate course preparation in biology, chemistry and mathematics. Students accepted into the program should have an appropriate degree from an accredited institution, a minimum grade point average (GPA) of 3.0 on a 4.0 scale and a combined score (verbal plus quantitative) on the Graduate Record Examination (GRE) of not less than 1100. Applicants with lesser qualifications will be accepted only on the recommendation of a graduate faculty member who is

willing to serve as the research advisor for the student and with the approval of our graduate faculty body.

Many of the requirements for students in our program are identical to the Graduate School requirements as stated in **The Graduate School BULLETIN**. Students are expected to obtain a copy of the Bulletin, review its contents and assume their responsibilities once accepted into the program. **The Graduate School BULLETIN** is available on line at

<http://www.research.uky.edu/gsbulletin/bullinfo.shtml>.

In the following document we will refer to The Graduate School requirements in **bold type**, but will not restate them in their entirety for the sake of brevity and clarity.

### Financial Assistance

A limited number of funded fellowships and research assistantships are available by competition through the Department and/or the University. These typically provide a stipend, tuition scholarship, and health insurance. Some students are supported through extramural grant funds awarded to individual faculty members. All students are encouraged to apply to extramural sources for fellowship monies to support their programs. Those students with superior academic qualifications and high GRE scores will be nominated for institutional fellowships.

### Course and Grade Requirements

Students enrolled in the MS program must meet the **Graduate School Requirements** of at least 24 units of coursework, 12 of which must be at the 600 or 700 level and 9 of these 12 in Veterinary Science Department courses. Both MS and PhD students must take two semesters of graduate level biochemistry/molecular/cell biology (CHE550 & 552 OR IBS 601-605) and one semester of statistics (STA 570 or STA 580) or demonstrate equivalent coursework completed elsewhere. Although students in the PhD program have no additional course load requirements other than those **required for residency credit (see the Graduate Bulletin)**, curriculum requirements for each student will be designed in concert with the needs of the individual after discussion with the major advisor and the advisory committee. Students in the MS program must enroll and give a presentation in at least 1 semester of Departmental Seminar (VS 770) and students in the PhD program must enroll and give presentations in 2 semesters of VS 770.

Students enrolled in MS and PhD programs must meet the standards of The Graduate School concerning grades to remain in good standing and to retain their stipends. After completing 12 credit hours, a student will be placed on scholastic probation if they have a cumulative GPA of less than 3.0. Students will have one full-time semester to remove the probation by attaining a 3.0 GPA. If probation is not removed, students will be dismissed from the Graduate School. **SEE THE BULLETIN for policy statements regarding probation, dismissal and retention.**

## LIST OF PROCEDURES and SUGGESTED TIMETABLES

### Master Of Science Degree Students

1. Schedule an orientation meeting with the Director of Graduate Studies. This person will serve as your advisor until a major professor has been selected, if you have not already aligned with one.
2. Identify a faculty member to serve as your major professor/research advisor. This should be accomplished during the first semester and must be done within the first year.
3. Work with the major professor to formulate your curriculum and help guide your research. If desired, an advisory committee may be formed to assist with course selection and the research plan. Ordinarily, MS coursework is completed in 3 semesters. Thereafter, see the Director of Graduate Studies about semesterly registrations.
4. Continue coursework and initiate research activities. Formulate your research plan for the thesis (a suggested format is appended).
5. Write a thesis based on the research conducted and submit it to the examining committee
6. Within 30 days after the beginning of the semester you intend to graduate, submit the online application for degree through myUK (<http://myuk.uky.edu/>).
7. Schedule a time for your final examination, which will be a defense of your thesis and a comprehensive examination of subject matter decided upon by the committee. Submit the Request for Final Master's Examination and Thesis Approval forms to the Director of Graduate Studies 2 weeks prior to the examination. **Additional timing and examination considerations are detailed in the BULLETIN.**
8. After you successfully pass the final examination, prepare a final copy of the thesis for submission to The Graduate School. Copies for the major advisor and the library of the Department will be bound at departmental expense. **The final copy must be filed within 60 days of the exam. See the BULLETIN.**

### Doctor Of Philosophy Degree Students

1. Schedule an orientation meeting with the Director of Graduate Studies. This person will serve as your advisor until a major professor has been selected, if you have not already aligned with one.
2. Identify a faculty member to serve as your major professor/research advisor. This should be accomplished during the first semester and must be done within the first year.
3. Work with the major professor to form an advisory committee to approve your curriculum and help guide your research. This should be done as soon as practical, as the committee is not obligated to accept coursework taken prior to its formation or to limit the student's curriculum to such courses. The composition of this committee must be consistent

with Graduate School guidelines. Submit the online request for formation of the advisory committee

([http://www.research.uky.edu/cfdocs/gs/DoctoralCommittee/Selection\\_Screen.cfm](http://www.research.uky.edu/cfdocs/gs/DoctoralCommittee/Selection_Screen.cfm))

4. Continue coursework and initiate research activities. Formulate your research plan for the dissertation (a suggested format is appended).
5. Schedule periodic meetings with the advisory committee to ensure continuity in the program. These meetings must be held at least once (preferably twice) a year at the request of the student. **As stipulated by the Graduate School, a record of the proceedings of each meeting must be filed by the major professor with the Director of Graduate Studies and will become part of the permanent file of the student.** You are encouraged to consult with members of the committee and the university-at-large for advice outside of the official meeting times.
6. When you have completed the majority of your scheduled courses and feel prepared, petition your committee to schedule the Qualifying Examination. **Requirements are listed in the BULLETIN.** Regardless of the format used for administering the examination, the purpose of the PhD Qualifying examination **"is to verify that students have sufficient understanding of and competence in their fields to become candidates for the degree."** If the advisory committee uses a grant proposal format for the qualifying examination, the following guidelines will apply:
  - a) You will select and present topics which interest you to the committee.
  - b) The committee chooses one of the above or presents an alternate topic for you to develop into an NIH or USDA style proposal. Examples of proposals will be available for your review through the Director of Graduate Studies.
  - c) The examination is based on: 1) the quality of the written proposal; 2) the oral presentation and defense of the proposal; and 3) demonstration of a comprehensive knowledge, ability and understanding of the scholarly subject matter in your area of concentration.

At least two weeks prior to the qualifying exam date, submit the online request to schedule the qualifying exam ([http://www.research.uky.edu/cfdocs/gs/DoctoralCommittee/Selection\\_Screen.cfm](http://www.research.uky.edu/cfdocs/gs/DoctoralCommittee/Selection_Screen.cfm)). Scheduling and reporting requirements are described in the **BULLETIN.**
7. After successful completion of the qualifying exam, you attain "candidate" status and continue your research. Post-qualifying students need to enroll in 2 credit hours of VS 767 each semester until the dissertation defense is completed. Maintain close contact with the advisory committee which will



monitor your progress. Committee meetings should be scheduled **at least once a year**.

8. When you and the major professor/committee agree that a point of conclusion has been reached in your research (i.e. the dissertation has been written) AND you have completed two semesters of post-qualifying residency, you are eligible to schedule the final examination. See the **BULLETIN** for details and timetables which must be met. Submit the online Notification of Intent to Schedule the Final Examination at least 8 weeks prior to the anticipated defense date. The online Request for Final Examination must be submitted 2 weeks prior to the defense date ([http://www.research.uky.edu/cfdocs/gs/DoctoralCommittee/Selection\\_Screen.cfm](http://www.research.uky.edu/cfdocs/gs/DoctoralCommittee/Selection_Screen.cfm)).
9. After you pass the final exam, turn in the final copy of the dissertation to The Graduate School with the **required forms and signatures in a timely fashion (within 60 days)**. Provide two copies to the department for binding (1 for the major advisor, 1 for the department library).

## RECOMMENDED COURSES

### Graduate Program In Veterinary Science

Curriculum - Each course described below may be taken as specifically directed by the student's Advisory Committee. Although students are not limited to these courses, total course requirement will be set forth by the Committee taking into account the background and special interests of the individual student.

	<u>CREDITS</u>
<u>ANIMAL SCIENCE (ASC)</u>	
601 Mammalian Endocrinology	3
660 Physiology of Reproduction	3
<u>BIOLOGY (BIO)</u>	
494G Immunobiology	3
510 Recombinant DNA Techniques Laboratory	4
529 Developmental Biology	3
542 Histology	5
550 Comparative Physiology	5
615 Molecular Biology	3
685 Advanced Immunology (MI 685)	3
595 Immunology Laboratory (MI 595)	2
782 Virology (xlist VS782)	3
601 Special Topics in Molecular and Cellular Genetics	1
<u>BIOCHEMISTRY (BCH)</u>	
607 General Biochemistry (same as IBS 601)	3
608 General Biochemistry (same as IBS 602)	3
610 Biochemistry of Lipids and Membranes	3
611 Biochem. Cell Biol. of Nucleic Acids	3
612 Structure function of proteins enzymes	3
<u>CHEMISTRY (CHE)</u>	
550/552 Biochemistry (2 Semesters)	3 + 3
520 Radiochemistry	3
521 Radiochemistry lab	1-2
<u>ENTOMOLOGY (ENT)</u>	
567 Applications of Genetics	4
<u>INTEGRATED BIOMEDICAL STUDIES (IBS)</u>	
601 Biomolecules and Metabolism	3
602 Biomolecules and Molecular Biology	3
603 Cell Biology	3
604 Cell Signalling	3
605 Experimental Genetics	3
<u>PHYSIOLOGY (PGY)</u>	
502 Principles of Physiology	5
630 Advanced Topics in Physiology	1-3
Experimental Design	
Biology of Aging	
Cell-Cell Communication	
<u>RADIATION MEDICINE (RM)</u>	
545 Radiation Hazards and Protection	3

740 Mammalian Radiation Biology 2

**STATISTICS (STA)**

570 Basic Statistical Analysis 4  
 580 Biostatistics I 3  
 671 Regression and Correlation 2  
 672 Design and Analysis I 2  
 679 Design and Analysis II 3

**VETERINARY SCIENCE (VS)**

(All listed courses except those in the 300 series)

600 Ethics in Research (X-listed as TOX 600) 1-2  
 748 Masters Dissertation Research\* 0  
 767 Dissertation Residency Credit 2  
 768 Residence Credit for the Master's Degree 1-6  
 770 Veterinary Science Seminar 1  
 781 Correlative Pathology 1-3  
 782 Virology (X-listed as BIO 782) 3  
 785 Advanced Veterinary Parasitology 3  
 786 Advanced Veterinary Pathology 3  
 791 Tech. in Veterinary Microbiology 1-9  
 792 Tech. in General Veterinary Pathology 1-9

\*Registration for zero-credit-hour courses is done by the Director of Graduate Studies, following the student's completion of all regular course requirements.

**SUGGESTED PROPOSAL OUTLINE**

**- Literature Review**

An up to date review that you can use to clearly document the rationale for the work you are proposing. This search and critical analysis of the literature will prepare you for writing your thesis or dissertation and the resulting document could well serve as the basis for its first chapter.

**- Hypotheses to be Tested**

List the questions to be addressed.

**- Approaches to Test the Hypotheses**

Experimental Design  
 Viable Approaches  
 Strengths and Weaknesses of Each  
 Technical Considerations  
 Methods of Data Analysis  
 Expected Results and their Significance  
 Alternate Suggestions if the Unexpected Occurs  
 Budget  
 Timetable for Completion  
 Expected Publications

**- References**

Use the style accepted by the graduate school for theses and dissertations to save you extra work.



# STRATEGIC PLANNING AND REPORTING SYSTEM

[UK Mission](#) | [Help](#) | [Log Off](#)

## Annual Review Report 2004-2005 APPROVED

**Area Provost**  
**Department** Veterinary Science  
**Data Entry** Debra Mollett  
**Mission Last Modified By** Peter Timoney

**College/Unit** College of Agriculture  
**Degree** MS  
**Approver** Peter Timoney

**Objective Last Modified By** Debra Mollett

**Unit Mission** We strive for excellence in equine-related research, public outreach, and education that integrates and applies the results of those activities to enhancing the health and welfare of the horse as well as the economic prosperity of the equine industry in Kentucky.

[Go To Select Page](#)

[Go To Select Historical Report Page](#)

[Go To View/Edit/Create Narrative Page](#)

### Unit Goals and Specific Strategies

Obj. #	Unit Goals and Specific Strategies	Assessment Methods, Criteria and Timelines	Results of Assessments	Use of Results to Improve	Relationship to UK Strategic Plan:		
					UK Mission	UK Goal	UK Measures of Progress
01	The department will continue to provide leadership, nationally and internationally, in devising solutions to problems that affect the viability of the horse industry.	Create new technologies and knowledge that will help to solve important health problems of horses and other domestic species. Increase the funding of the program by an average of 10% annually. Continue the success of the Morris Library as a resource for vets and the horse industry, continue and increase distribution of the Equine	The Gluck Center continued to be recognized as an OIE international reference center for equine rhinopneumonitis, influenza and equine viral arteritis and as one of the preeminent equine research institutions in the world. Funding of the program from federal agencies, through gifts and endowment income, has decreased by 1.3% due to a significant degree to termination of funding for the Equine Drug Research program and a decrease	Outcomes of different research programs into equine diseases will continue to be disseminated through publications, meetings, workshops for the benefit of the equine industry in Kentucky and elsewhere. A concerted effort will be made to increase the level of competitive and non-competitive extramural funding as well as gift support for the program over the coming year.	Overall	1. National Prominence	1.1 6.1 0 0

Disease Quarterly, continue leadership in organizing workshops and seminars that disseminate new info that will indicate the success of the program. Publish and present new info in international and national journals and conferences.

in endowment income. The Cen. through the Morris Library, continues to be a valuable resource for members of the horse industry. Highly successful international workshops on equine viral arteritis have been held and reports of this and research carried out at the Center published in leading scientific journals and presented at national/international conferences.

02 The department will recruit and graduate students who provide national leadership in industry and academia, participate knowledgably in public discussions on issues related to animal health, and make discoveries that benefit the health and welfare of horses.

Pursue increased resources and funding for high-quality research, instruction and outreach programs. Continue to recruit and train students, from Kentucky and worldwide, to use state-of-the-art technologies to address longstanding or emergent problems that threaten animal health and welfare. Create new technologies and knowledge that will help to solve important health problems of horses and other domestic species. Have former students in positions of responsibility in industry and academia.

Results of recruitment & training of students have shown that a significant # of those enrolled in pre-vet program are gaining admission & ultimately graduating from vet school. These grads are helping address a statewide need for more vets to enter mixed/large animal practice in rural KY. Grads from the MS/PhD programs are entering academia, industry or attending vet school w/growing # holding positions as research scientists, fac members in animal/human health related fields.

The Director of Undergraduate Studies and Director of Graduate Studies will review annually existing instructional and advising programs with a view to improve these programs if considered necessary. Additionally, efforts will be made to enhance career development opportunities for students and better prepare them for assuming leadership positions in industry/academia.

Instructional 1. National Prominence 2.5 2.6 4.3 4.4

03 The department will provide leadership in outreach and extension activities to horse owners, horse breeders and veterinarians, nationally and internationally.

Serve as a reference point and conduit for dissemination of info to vets and horse owners/breeders, in KY as well as nationally and internationally. Continue success of the Morris Library as a resource for vets and members of the horse industry, continue and increase distribution of the Equine Disease Quarterly, continued leadership in organizing workshops and seminars that disseminate new info that will indicate the success of the program. Publish and present new info in international and national journals and conferences.

Progress has been achieved on effective communication of research findings and other information for the financial betterment of the equine industry. The department's website has become a frequently sought source of information on specific disease problems of the horse. Also, the Equine Disease Quarterly has an increasing international list of subscribers and is freely acknowledged as an excellent resource for those wishing to keep current on disease and other issues confronting the equine industry in Kentucky, nationally and internationally. Workshops on the various disease topics have provided excellent opportunities to address these important issues for the benefit of the veterinary profession and equine industry.

The ease with which information can be disseminated locally, nationally and internationally has helped greatly in informing members of the horse industry of particular disease problems and how best to prevent and control them. Such information has increased awareness of improved methods of production/management of horses and enhanced the economic sustainability and profitability of the industry. The department's web page is currently undergoing major revamping to make it more informative and effective as an internet portal of entry.

Service 1. National Prominence 1.3 6.1 0 0

<p>04 Strengthen the undergraduate educational programs of the department.</p>	<p>Actively promote and support the undergraduate teaching program of the department. Increase efforts to attract a greater number of undergraduate students engaged in research to the dept. Increase the avg. annual number of Ag Biotech and other undergraduate students who participate in research programs in the department from 5 in 2003 to 8 by 2006. Maintain a high level of student achievement and satisfaction with the dept's undergraduate teaching program as evidenced by student performance evaluations of courses (3.5 and 3.6/4.0 respectively for 02/03 compared to a college avg. of 3.4/4.0).</p>	<p>Results of student assessment of the department's undergraduate teaching program (VS350 and VS351) reveals a high level of student achievement and satisfaction, with course ratings of 3.6 and 3.9 compared to the college average of 3.4 and 3.7/4.0 respectively. The quality of pre-vet advising continues to be favorably commented on. The number of Ag Biotech and other undergraduate students participating in research programs in the department already exceeds 8, the number targeted for 2006.</p>	<p>While there is currently no immediate need to promote an already very successful undergraduate teaching program (VS350 &amp; VS351), the program will be reviewed regularly to ensure the quality of instruction is maintained. Clearly, there is a need to increase the number of pre-vet advisors to deal with the large number of individuals applying to the program. Every effort will be made to attract more undergraduate students majoring in Ag Biotech or other field to engage in research in the department.</p>	<p>Instructional 2. 2.4 2.5 2.6 0 Outstanding Students</p>
<p>05 Improve the quality of the department's advising of pre-veterinary students enrolled at the University of Kentucky.</p>	<p>Increase the number of faculty pre-vet advisors to meet the demands of the expanding program. Participate in development of a procedure to evaluate student advising with the objective of obtaining quantitative info and improving this educational activity. Increase the avg. annual number of Ag Biotech and other undergraduate students who participate in research programs in the department from 5 in 2003 to 8 by 2006. Increase the number of faculty pre-vet advisors from 3 to 5.</p>	<p>Assessment of the pre-vet advising and teaching program continues to underscore the fact that it is the most successful program of its type among publicly funded universities in the state. It provides the largest number of academically qualified applicants that are accepted by the veterinary schools at Auburn and Tuskegee Universities. The program identifies individuals qualified to pursue a career in veterinary medicine who will hopefully return to the state after graduation and help to address the statewide shortage of veterinarians in mixed/large animal practice in rural Kentucky. The number of prevet advisors is currently 4 (33% increase).</p>	<p>In light of the sustained interest in the program, there is a need to increase the level of faculty participation by adding one or more pre-veterinary advisors. Aside from the need to continue to attract students of higher academic caliber to the program and as the number of pre-vet advisors increases, it is evident that some system should be developed to assess the level and thoroughness of student advising.</p>	<p>Instructional 2. 0 0 0 0 Outstanding Students</p>

16 objective(s) found.

<< < > >> Page: 1 of 4

Go To Select Page

Go To View/Edit/Create Narrative Page

**[View Printable Report](#)**



UNIVERSITY OF KENTUCKY

# STRATEGIC PLANNING AND REPORTING SYSTEM

[UK Mission](#) | [Help](#) | [Log Off](#)

## Annual Review Report 2004-2005 APPROVED

Area Provost  
 Department Veterinary Science  
 Data Entry Debra Mollett  
 Mission Last Modified By Peter Timoney  
 Unit Mission

College/Unit College of Agriculture  
 Degree PhD  
 Approver Peter Timoney

Objective Last Modified By Debra Mollett

We strive for excellence in equine-related research, public outreach, and education that integrates and applies the outcomes of those activities to enhancing the health and welfare of the horse as well as the economic prosperity of the equine industry in Kentucky.

[Go To Select Page](#)

[Go To Select Historical Report Page](#)

[Go To View/Edit/Create Narrative Page](#)

### Unit Goals and Specific Strategies

Obj. #	Unit Goals and Specific Strategies	Assessment Methods, Criteria and Timelines	Results of Assessments	Use of Results to Improve	Relationship to UK Strategic Plan:		
					UK Mission	UK Goal	UK Measures of Progress
01	The department will continue to provide leadership, nationally and internationally, in devising solutions to problems that affect the viability of the horse industry.	Create new technologies and knowledge that will help to solve important health problems of horses and other domestic species. Increase the funding of the program by an average of 10% annually. Continue the success of the Morris Library as a resource for vets and the horse industry, continue and increase distribution of the Equine	The Gluck Center continued to be recognized as an OIE international reference center for equine rhinopneumonitis, influenza and equine viral arteritis and as one of the preeminent equine research institutions in the world. Funding of the program from federal agencies, through gifts and endowment income, has decreased by 1.3% due to a significant degree, to termination of funding for the Equine Drug Research program and a decrease	Outcomes of different research programs into equine diseases will continue to be disseminated through publications, meetings, workshops for the benefit of the equine industry in Kentucky and elsewhere. A concerted effort will be made to increase the level of competitive and non-competitive extramural funding as well as gift support for the program over the coming year.	Overall	1. National Prominence	1.1 6.1 0 0

Disease Quarterly, continue leadership in organizing workshops and seminars that disseminate new info that will indicate the success of the program. Publish and present new info in international and national journals and conferences.

in endowment income. The Cen. through the Morris Library, continues to be a valuable resource for members of the horse industry. Highly successful international workshops on equine viral arteritis have been held and reports of this and research carried out at the Center published in leading scientific journals and presented at national/international conferences.

The Director of Undergraduate Studies and Director of Graduate Studies will review annually existing instructional and advising programs with a view to improve these programs if considered necessary. Additionally, efforts will be made to enhance career development opportunities for students and better prepare them for assuming leadership positions in industry/academia.

Instructional 1. National Prominence 2.5 2.6 4.3 4.4

02 The department will recruit and graduate students who provide national leadership in industry and academia, participate knowledgably in public discussions on issues related to animal health, and make discoveries that benefit the health and welfare of horses.

Pursue increased resources and funding for high-quality research, instruction and outreach programs. Continue to recruit and train students, from Kentucky and worldwide, to use state-of-the-art technologies to address longstanding or emergent problems that threaten animal health and welfare. Create new technologies and knowledge that will help to solve important health problems of horses and other domestic species. Have former students in positions of responsibility in industry and academia.

Results of recruitment & training of students have shown that a significant # of those enrolled in pre-vet program are gaining admission & ultimately graduating from vet school. These grads are helping address a statewide need for more vets to enter mixed/large animal practice in rural KY. Grads from the MS/PhD programs are entering academia, industry or attending vet school w/growing # holding positions as research scientists, fac members in animal/human health related fields.

03 The department will provide leadership in outreach and extension activities to horse owners, horse breeders and veterinarians, nationally and internationally.

Serve as a reference point and conduit for dissemination of info to vets and horse owners/breeders, in KY as well as nationally and internationally. Continue success of the Morris Library as a resource for vets and members of the horse industry, continue and increase distribution of the Equine Disease Quarterly, continued leadership in organizing workshops and seminars that disseminate new info that will indicate the success of the program. Publish and present new info in international and national journals and conferences.

Progress has been achieved on effective communication of research findings and other information for the financial betterment of the equine industry. The department's website has become a frequently sought source of information on specific disease problems of the horse. Also, the Equine Disease Quarterly has an increasing international list of subscribers and is freely acknowledged as an excellent resource for those wishing to keep current on disease and other issues confronting the equine industry in Kentucky, nationally and internationally. Workshops on various disease topics have provided excellent opportunities to address these important issues for the benefit of the veterinary profession and equine industry.

The ease with which information can be disseminated locally, nationally and internationally has helped greatly in informing members of the horse industry of particular disease problems and how best to prevent and control them. Such information has increased awareness of improved methods of production/management of horses and enhanced the economic sustainability and profitability of the industry. The department's web page is currently undergoing major revamping to make it more informative and effective as an internet portal of entry.

Service 1. National Prominence 1.3 6.1 0 0

04 Strengthen the undergraduate educational programs of the department.	Actively promote and support the undergraduate teaching program of the department. Increase efforts to attract a greater number of undergraduate students engaged in research to the dept. Increase the avg. annual number of Ag Biotech and other undergraduate students who participate in research programs in the department from 5 in 2003 to 8 by 2006. Maintain a high level of student achievement and satisfaction with the dept's undergraduate teaching program as evidenced by student performance evaluations of courses (3.5 and 3.6/4.0 respectively for 02/03 compared to a college avg. of 3.4/4.0).	Results of student assessment of the department's undergraduate teaching program (VS350 and VS351) reveals a high level of student achievement and satisfaction, with course ratings of 3.6 and 3.9 compared to the college average of 3.4 and 3.7/4.0 respectively. The quality of pre-vet advising continues to be favorably commented on. The number of Ag Biotech and other undergraduate students participating in research programs in the department already exceeds 8, the number targeted for 2006.	While there is currently no immediate need to promote an already very successful undergraduate teaching program (VS350 & VS351), the program will be reviewed regularly to ensure the quality of instruction is maintained. Clearly, there is a need to increase the number of pre-vet advisors to deal with the large number of individuals applying to the program. Every effort will be made to attract more undergraduate students majoring in Ag Biotech or other field to engage in research in the department.	Instructional 2. 2.4 2.5 2.6 0 Outstanding Students
05 Improve the quality of the department's advising of pre-veterinary students enrolled at the University of Kentucky. 8 by 2006. Increase the number of faculty pre-vet advisors from 3 to 5.	Increase the number of faculty pre-vet advisors to meet the demands of the expanding program. Participate in development of a procedure to evaluate student advising with the objective of obtaining quantitative info and improving this educational activity. Increase the avg. annual number of Ag Biotech and other undergraduate students who participate in research programs in the department from 5 in 2003 to 8 by 2006. Increase the number of faculty pre-vet advisors from 3 to 5.	Assessment of the pre-vet advising and teaching program continues to underscore the fact that it is the most successful program of its type among publicly funded universities in the state. It provides the largest number of academically qualified applicants that are accepted by the veterinary schools at Auburn and Tuskegee Universities. The program identifies individuals qualified to pursue a career in veterinary medicine who will hopefully return to the state after graduation and help to address the statewide shortage of veterinarians in mixed/large animal practice in rural Kentucky. The number of pre-vet advisors is currently 4 (33% increase).	In light of the sustained interest in the program, there is a need to increase the level of faculty participation by adding one or more pre-veterinary advisors. Aside from the need to continue to attract students of higher academic caliber to the program and as the number of pre-vet advisors increases, it is evident that some system should be developed to assess the level and thoroughness of student advising.	Instructional 2. 0 0 0 0 Outstanding Students

16 objective(s) found.





# STRATEGIC PLANNING AND REPORTING SYSTEM

[UK Mission](#) | [Help](#) | [Log Off](#)

## Annual Review Report 2005-2006 APPROVED

Area Provost  
 Department Veterinary Science  
 Data Entry Debra Mollett  
 Mission Last Modified By Peter Timoney  
 Unit Mission

College/Unit College of Agriculture  
 Degree MS  
 Approver Peter Timoney

Objective Last Modified By Debra Mollett

We strive for excellence in equine-related research, public outreach, and education that integrates and applies the results of those activities to enhancing the health and welfare of the horse as well as the economic prosperity of the equine industry in Kentucky.

[Go To Select Page](#)

[Go To Select Historical Report Page](#)

[Go To View/Edit/Create Narrative Page](#)

### Unit Goals and Specific Strategies

Obj. #	Unit Goals and Specific Strategies	Assessment Methods, Criteria and Timelines	Results of Assessments	Use of Results to Improve	Relationship to UK Strategic Plan:					
					UK Mission	UK Goal	UK Measures of Progress			
01	The department will continue to provide leadership, nationally and internationally, in devising solutions to problems that affect the viability of the horse industry.	Create new technologies and knowledge that will help to solve important health problems of horses and other domestic species. Increase the funding of the program by an average of 10% annually. Continue the success of the Morris Library as a resource for vets and the horse industry, continue and increase distribution of the	The Gluck Center continued to be recognized as an OIE international reference center for equine rhinopneumonitis, influenza and equine viral arteritis and as one of the preeminent equine research institutions in the world. The funding of the program from federal agencies, through grants/contracts, gifts/endowment income has increased by 8% over the total for the previous FY, despite a reduced rate of return on program endowments. The Center,	Outcomes of different research programs into equine diseases will continue to be disseminated through publications, meetings, workshops for the benefit of the equine industry in Kentucky and elsewhere. A concerted effort will be made to increase the level of competitive and non-competitive extramural funding as well as gift support for the program over the coming year.	Overall	1. National Prominence	1.1	6.1	0	0

Equine Disease Quarterly, continue leadership in organizing workshops and seminars that disseminate new info that will indicate the success of the program. Publish and present new info in international and national journals and conferences.

through the Morris Library, continue to be a valuable resource for members of the horse industry. Highly successful international workshops on equine genetics have been held and reports of these and research carried out at the Center published in leading scientific journals and presented at national/international conferences.

<p>02 The department will recruit and graduate students who provide national leadership in industry and academia, participate knowledgably in public discussions on issues related to animal health, and make discoveries that benefit the health and welfare of horses.</p>	<p>Pursue increased resources and funding for high-quality research, instruction and outreach programs. Continue to recruit and train students, from Kentucky and worldwide, to use state-of-the-art technologies to address longstanding or emergent problems that threaten animal health and welfare. Create new technologies and knowledge that will help to solve important health problems of horses and other domestic species. Have former students in positions of responsibility in industry and academia.</p>	<p>Students graduating from the MS program are pursuing a diversit of career opportunities. Some enter academia to focus on research careers in animal/health related fields. Others have gained employment in industry as research scientists or entered different federal agencies to pursue careers in diagnostic or regulatory veterinary medicine. Still others use their graduate training and degrees to enhance their candidacy for admission to veterinary school.</p>	<p>The Director of Graduate Studies reviews annually existing instructional and advising programs with a view to improve these programs if considered necessary. Additionally, efforts will be made to enhance career development opportunities for students and better prepare them for assuming leadership positions in industry/academia/other career paths.</p>	<p>Instructional</p>	<p>1. National Prominence</p>	<p>2.5 2.6 4.3 4.4</p>
<p>03 The department will provide leadership in outreach and extension activities to horse owners, horse breeders and veterinarians, nationally and internationally.</p>	<p>Serve as a reference point and conduit for dissemination of info to vets and horse owners/breeders, in KY as well as nationally and internationally. Continue success of the Morris Library as a resource for vets and members of the horse industry, continue and increase distribution of the Equine Disease Quarterly, continued leadership in organizing workshops and seminars that disseminate new info that will indicate the success of the program. Publish and present new info in international and national journals and conferences.</p>	<p>Progress has been achieved on effective communication of research findings and other information for the financial betterment of the equine industry. A totally revamped website has been developed that more effectively represents the mission and activities of the different research, education, service and outreach programs of the department. It also provides a source of the latest information on current equine health related issues of economic significance. It is freely acknowledged as an excellent resource for those wishing to keep current on disease and other issues confronting the equine industry in Kentucky, nationally and internationally. A monthly seminar series has been launched representing combined input from the Gluck Center and LDDC faculty which is proving highly popular as</p>	<p>The ease with which information can be disseminated locally, nationally and internationally has helped greatly in informing members of the horse industry of particular disease problems and how best to prevent and control them. Such information has increased awareness of improved methods of production/management of horses and enhanced the economic sustainability and profitability of the industry. The department's web page has been completely reworked. It has become a highly informative and effective internet portal for showcasing the diversity of programs that comprise the dept.</p>	<p>Service</p>	<p>1. National Prominence</p>	<p>1.3 6.1 0 0</p>

<p>04 Strengthen the undergraduate educational programs of the department.</p>	<p>Actively promote and support the undergraduate teaching program of the department. Increase efforts to attract a greater number of undergraduate students engaged in research to the dept. Increase the avg. annual number of Ag Biotech and other undergraduate students who participate in research programs in the department from 5 in 2003 to 8 by 2006. Maintain a high level of student achievement and satisfaction with the dept's undergraduate teaching program as evidenced by student performance evaluations of courses (3.5 and 3.6/4.0 respectively for 02/03 compared to a college avg. of 3.4/4.0).</p>	<p>a forum for vets, researchers and diagnosticians to share their knowledge and experience on various equine diseases of topical importance.</p> <p>Enrollment in the department's pre-vet program increased by over 10% from 2004/05 to 2005-06 with a current enrollment of 204. Student assessment of the department's undergraduate teaching program (VS350 and VS351) confirms a high level of student satisfaction with the courses. Respective course ratings of 3.9 and 3.7 exceeds or equals the college average of 3.7/4.0. The quality of pre-vet advising continues to be favorably commented on. The department is attracting an increasing number of Ag Biotech and other undergraduate students to its various research programs. The current combined total of 12 students significantly exceeds that targeted (8) for 2006.</p>	<p>While there is currently no immediate need to promote an already very successful undergraduate teaching program (VS350 &amp; VS351), the program will be reviewed regularly to ensure the quality of instruction is maintained. Clearly, there is a need to increase the number of pre-vet advisors to deal with the large number of individuals applying to the program. Every effort will be made to attract more undergraduate students majoring in Ag Biotech or other field to engage in research in the department.</p>	<p>Instructional 2. 2.4 2.5 2.6 0 Outstanding Students</p>
<p>05 Improve the quality of the department's advising of pre-veterinary students enrolled at the University of Kentucky. Increase the number of faculty pre-vet advisors from 3 to 5.</p>	<p>Increase the number of faculty pre-vet advisors to meet the demands of the expanding program. Participate in development of a procedure to evaluate student advising with the objective of obtaining quantitative info and improving this educational activity. Increase the number of faculty pre-vet advisors from 3 to 5.</p>	<p>Assessment of the pre-vet advising and teaching program continues to underscore the fact that it is the most successful program of its type among publicly funded universities in the state. It provides the largest number of academically qualified applicants that are accepted by the veterinary schools at Auburn and Tuskegee Universities. The program identifies individuals qualified to pursue a career in veterinary medicine who will hopefully return to the state after graduation and help to address the statewide shortage of veterinarians in mixed/large animal practice in rural Kentucky. The current number of pre-vet advisors stands at 5 which meets the figure to be achieved by 2006.</p>	<p>Increased enrollment in the department's pre-vet program has resulted in a greater demand for faculty advisors. This is currently being met through increased faculty participation in the program. Aside from the need to continue to attract students of higher academic caliber to the program and as the number of pre-vet advisors increases, it is evident that some system should be developed to assess the level and thoroughness of student advising.</p>	<p>Instructional 2. 0 0 0 0 Outstanding Students</p>

16 objective(s) found.



# STRATEGIC PLANNING AND REPORTING SYSTEM

[UK Mission](#) | [Help](#) | [Log Off](#)

## Annual Review Report 2005-2006 APPROVED

Area Provost  
 Department Veterinary Science  
 Data Entry Debra Mollett  
 Mission Last Modified By Peter Timoney

College/Unit College of Agriculture  
 Degree PhD  
 Approver Peter Timoney

Objective Last Modified By Debra Mollett

Unit Mission We strive for excellence in equine-related research, public outreach, and education that integrates and applies the outcomes of those activities to enhancing the health and welfare of the horse as well as the economic prosperity of the equine industry in Kentucky.

[Go To Select Page](#)

[Go To Select Historical Report Page](#)

[Go To View/Edit/Create Narrative Page](#)

## Unit Goals and Specific Strategies

Obj. #	Unit Goals and Specific Strategies	Assessment Methods, Criteria and Timelines	Results of Assessments	Use of Results to Improve	Relationship to UK Strategic Plan:					
					UK Mission	UK Goal	UK Measures of Progress			
01	The department will continue to provide leadership, nationally and internationally, in devising solutions to problems that affect the viability of the horse industry.	Create new technologies and knowledge that will help to solve important health problems of horses and other domestic species. Increase the funding of the program by an average of 10% annually. Continue the success of the Morris Library as a resource for vets and the horse industry, continue and increase distribution of the	The Gluck Center continued to be recognized as an OIE international reference center for equine rhinopneumonitis, influenza and equine viral arteritis and as one of the preeminent equine research institutions in the world. The funding of the program from federal agencies, through grants/contracts, gifts/endowment income has increased by 8% over the total for the previous FY, despite a reduced rate of return on program endowments. The Center,	Outcomes of different research programs into equine diseases will continue to be disseminated through publications, meetings, workshops for the benefit of the equine industry in Kentucky and elsewhere. A concerted effort will be made to increase the level of competitive and non-competitive extramural funding as well as gift support for the program over the coming year.	Overall	1. National Prominence	1.1	6.1	0	0

	Equine Disease Quarterly, continue leadership in organizing workshops and seminars that disseminate new info that will indicate the success of the program. Publish and present new info in international and national journals and conferences.	through the Morris Library, cont. to be a valuable resource for members of the horse industry. Highly successful international workshops on equine genetics have been held and reports of these and research carried out at the Center published in leading scientific journals and presented at national/international conferences.								
02	The department will recruit and graduate students who provide national leadership in industry and academia, participate knowledgably in public discussions on issues related to animal health, and make discoveries that benefit the health and welfare of horses.	Pursue increased resources and funding for high-quality research, instruction and outreach programs. Continue to recruit and train students, from Kentucky and worldwide, to use state-of-the-art technologies to address longstanding or emergent problems that threaten animal health and welfare. Create new technologies and knowledge that will help to solve important health problems of horses and other domestic species. Have former students in positions of responsibility in industry and academia.	Students graduating from the PhD program are pursuing a diversit of career opportunities. Some enter academia to focus on research careers in animal/health related fields. Others have gained employment in industry as research scientists or entered different federal agencies to pursue careers in diagnostic or regulatory veterinary medicine. Still others use their graduate training and degrees to enhance their candidacy for admission to veterinary school.	The Director of Graduate Studies reviews annually existing instructional and advising programs with a view to improve these programs if considered necessary. Additionally, efforts will be made to enhance career development opportunities for students and better prepare them for assuming leadership positions in industry/academia/other career paths.	Instructional	1. National Prominence	2.5	2.6	4.3	4.4
03	The department will provide leadership in outreach and extension activities to horse owners, horse breeders and veterinarians, nationally and internationally.	Serve as a reference point and conduit for dissemination of info to vets and horse owners/breeders, in KY as well as nationally and internationally. Continue success of the Morris Library as a resource for vets and members of the horse industry, continue and increase distribution of the Equine Disease Quarterly, continued leadership in organizing workshops and seminars that disseminate new info that will indicate the success of the program. Publish and present new info in international and national journals and conferences.	Progress has been achieved on effective communication of research findings and other information for the financial betterment of the equine industry. A totally revamped website has been developed that more effectively represents the mission and activities of the different research, education, service and outreach programs of the department. It also provides a source of the latest information on current equine health related issues of economic significance. It is freely acknowledged as an excellent resource for those wishing to keep current on disease and other issues confronting the equine industry in Kentucky, nationally and internationally. A monthly seminar series has been launched representing combined input from the Gluck Center and LDDC faculty which is proving highly popular as	The ease with which information can be disseminated locally, nationally and internationally has helped greatly in informing members of the horse industry of particular disease problems and how best to prevent and control them. Such information has increased awareness of improved methods of production/management of horses and enhanced the economic sustainability and profitability of the industry. The department's web page has been completely reworked. It has become a highly informative and effective internet portal for showcasing the diversity of programs that comprise the dept.	Service	1. National Prominence	1.3	6.1	0	0

<p>04 Strengthen the undergraduate educational programs of the department.</p>	<p>Actively promote and support the undergraduate teaching program of the department. Increase efforts to attract a greater number of undergraduate students engaged in research to the dept. Increase the avg. annual number of Ag Biotech and other undergraduate students who participate in research programs in the department from 5 in 2003 to 8 by 2006. Maintain a high level of student achievement and satisfaction with the dept's undergraduate teaching program as evidenced by student performance evaluations of courses (3.5 and 3.6/4.0 respectively for 02/03 compared to a college avg. of 3.4/4.0).</p>	<p>a forum for vets, researchers and diagnosticians to share their knowledge and experience on various equine diseases of topical importance.</p> <p>Enrollment in the department's pre-vet program increased by over 10% from 2004/05 to 2005-06 with a current enrollment of 204. Student assessment of the department's undergraduate teaching program (VS350 and VS351) confirms a high level of student satisfaction with the courses. Respective course ratings of 3.9 and 3.7 exceeds or equals the college average of 3.7/4.0. The quality of pre-vet advising continues to be favorably commented on. The department is attracting an increasing number of Ag Biotech and other undergraduate students to its various research programs. The current combined total of 12 students significantly exceeds that targeted (8) for 2006.</p>	<p>While there is currently no immediate need to promote an already very successful undergraduate teaching program (VS350 &amp; VS351), the program will be reviewed regularly to ensure the quality of instruction is maintained. Clearly, there is a need to increase the number of pre-vet advisors to deal with the large number of individuals applying to the program. Every effort will be made to attract more undergraduate students majoring in Ag Biotech or other field to engage in research in the department.</p>	<p>Instructional 2. 2.4 2.5 2.6 0 Outstanding Students</p>
<p>05 Improve the quality of the department's advising of pre-veterinary students enrolled at the University of Kentucky. Increase the number of faculty pre-vet advisors from 3 to 5.</p>	<p>Increase the number of faculty pre-vet advisors to meet the demands of the expanding program. Participate in development of a procedure to evaluate student advising with the objective of obtaining quantitative info and improving this educational activity. Increase the number of faculty pre-vet advisors from 3 to 5.</p>	<p>Assessment of the pre-vet advising and teaching program continues to underscore the fact that it is the most successful program of its type among publicly funded universities in the state. It provides the largest number of academically qualified applicants that are accepted by the veterinary schools at Auburn and Tuskegee Universities. The program identifies individuals qualified to pursue a career in veterinary medicine who will hopefully return to the state after graduation and help to address the statewide shortage of veterinarians in mixed/large animal practice in rural Kentucky. The current number of pre-vet advisors stands at 5 which meets the figure to be achieved by 2006.</p>	<p>Increased enrollment in the department's pre-vet program has resulted in a greater demand for faculty advisors. This is currently being met through increased faculty participation in the program. Aside from the need to continue to attract students of higher academic caliber to the program and as the number of pre-vet advisors increases, it is evident that some system should be developed to assess the level and thoroughness of student advising.</p>	<p>Instructional 2. 0 0 0 0 Outstanding Students</p>

16 objective(s) found.



UNIVERSITY OF KENTUCKY

# STRATEGIC PLANNING AND REPORTING SYSTEM

[UK Mission](#) | [Help](#) | [Log Off](#)

## Annual Review Report 2006-2007 APPROVED

**Area Provost**  
**Department** Veterinary Science  
**Data Entry** Debra Mollett  
**Mission Last Modified By** Peter Timoney

**College/Unit** College of Agriculture  
**Degree** MS  
**Approver** Peter Timoney

**Objective Last Modified By** Debra Mollett

**Unit Mission** We strive for excellence in equine-related research, public outreach, and education that integrates and applies the results of those activities to enhancing the health and welfare of the horse as well as the economic prosperity of the equine industry in Kentucky.

[Go To Select Page](#)

[Go To Select Historical Report Page](#)

[Go To View/Edit/Create Narrative Page](#)

## Unit Goals and Specific Strategies

Obj. #	Unit Goals and Specific Strategies	Assessment Methods, Criteria and Timelines	Results of Assessments	Use of Results to Improve	Relationship to UK Strategic Plan:	
					UK Mission	UK Goal of Progress
01	The department will continue to provide leadership, nationally and internationally, in devising solutions to problems that affect the viability of the horse industry.	Create new technologies and knowledge that will help to solve important health problems of horses and other domestic species. Increase the funding of the program by an average of 10% annually. Continue the success of the Morris Library as a resource for vets and the horse industry, continue and increase distribution of the Equine Disease Quarterly, continue	The Gluck Center continued to be recognized as an OIE international reference center for equine rhinopneumonitis, influenza and equine viral arteritis and as one of the preeminent equine research institutions in the world. Funding of the program from federal agencies, foundations, private industry, gifts/endowment income increased by 8% over total for 05/06 despite a decrease in direct awards total. The Center, through the Morris Library, continues to be a valuable resource for members of the horse	Outcomes of different research programs into equine diseases will continue to be disseminated through publications, meetings, workshops for the benefit of the equine industry in Kentucky and elsewhere. A concerted effort will be made to increase the level of competitive and non-competitive extramural funding as well as gift support for the program over the coming year.	Overall	1. Enhance Stature 12 6 0 0

	leadership in organizing workshops and seminars that disseminate new info that will indicate the success of the program. Publish and present new info in international and national journals and conferences.	industry. Faculty have helped o. ze an increasing number of national/international conferences and workshops and reports of these and research carried out at the Center are published in leading scientific journals and presented at national/international conferences.								
02	The department will recruit and graduate students who provide national leadership in industry and academia, participate knowledgably in public discussions on issues related to animal health, and make discoveries that benefit the health and welfare of horses.	Pursue increased resources and funding for high-quality research, instruction and outreach programs. Continue to recruit and train students, from Kentucky and worldwide, to use state-of-the-art technologies to address longstanding or emergent problems that threaten animal health and welfare. Create new technologies and knowledge that will help to solve important health problems of horses and other domestic species. Have former students in positions of responsibility in industry and academia.	Students graduating from the MS program are pursuing a diversit of career opportunities. Some enter academia to focus on research careers in animal/health related fields. Others have gained employment in industry as research scientists or entered different federal agencies to pursue careers in diagnostic or regulatory veterinary medicine. Still others use their graduate training and degrees to enhance their candidacy for admission to veterinary school.	The Director of Graduate Studies reviews annually existing instructional and advising programs with a view to improve these programs if considered necessary. Additionally, efforts will be made to enhance career development opportunities for students and better prepare them for assuming leadership positions in industry/academia/other career paths.	Instructional	1.	6	13	0	0
						Enhance Stature				
03	The department will provide leadership in outreach and extension activities to horse owners, horse breeders and veterinarians, nationally and internationally.	Serve as a reference point and conduit for dissemination of info to vets and horse owners/breeders, in KY as well as nationally and internationally. Continue success of the Morris Library as a resource for vets and members of the horse industry, continue and increase distribution of the Equine Disease Quarterly, continued leadership in organizing workshops and seminars that disseminate new info of benefit to the horse idustry. Publish and present new info in international and national journals and at conferences.	Progress has been achieved on effective communication of research findings and other information for the financial betterment of the equine industry. A totally revamped website has been developed that very effectively provides the mission and activities of the different research, education, service and outreach programs of the department. It also provides a source of the latest information on current equine health related issues of economic significance. It is freely acknowledged as an excellent resource for those wishing to keep current on disease and other issues confronting the equine industry in Kentucky, nationally and internationally. A monthly seminar series has been launched representing combined input from the Gluck Center and LDDC faculty; this is proving highly popular as a forum for vets, researchers and diagnosticians to share their knowledge and experience on various equine diseases of topical importance.	The ease with which information can be disseminated locally, nationally and internationally has helped greatly in informing members of the horse industry of particular disease problems and how best to prevent and control them. Such information has increased awareness of improved methods of production/management of horses and enhanced the economic sustainability and profitability of the industry. The department's web page has been completely reworked. It has become a highly informative and effective internet portal for showcasing the diversity of programs that comprise the dept.	Service	1.	0	5	13	15
						Enhance Stature				



<p>04 Strengthen the undergraduate educational programs of the department.</p>	<p>Actively promote and support the undergraduate teaching program of the department. Increase efforts to attract a greater number of undergraduate students engaged in research to the dept. Increase the avg. annual number of Ag Biotech and other undergraduate students who participate in research programs in the department from 5 in 2003 to 8 by 2006. Maintain a high level of student achievement and satisfaction with the dept's undergraduate teaching program as evidenced by student performance evaluations of courses (3.5 and 3.6/4.0 respectively for 02/03 compared to a college avg. of 3.4/4.0).</p>	<p>Enrollment in the department's pre-vet program increased by nearly over 20% from 2005/06 to 2006/07 with a current enrollment of 244. Student assessment of the department's undergraduate teaching program (VS350 and VS351) confirms a high level of student satisfaction with the courses. Course rating of 3.7 exceeds the college and university average of 4.0. The quality of pre-vet advising continues to be favorably commented on. The department is attracting a significant increase in the number of Ag Biotech and other undergraduate students to its various research programs. The current combined total of 15 students significantly exceeds that targeted (8) for 2006.</p>	<p>While there is currently no immediate need to promote an already very successful undergraduate teaching program (VS350 &amp; VS351), the program will be reviewed regularly to ensure the quality of instruction is maintained. Clearly, there is a need to increase the number of pre-vet advisors to deal with the large number of individuals applying to the program. Every effort will be made to attract more undergraduate students majoring in Ag Biotech or other field to engage in research in the department.</p>	<p>Instructional 2. 0 1 3 4 Prepare Students</p>
<p>05 Improve the quality of the department's advising of pre-veterinary students enrolled at the University of Kentucky. Increase the number of faculty pre-vet advisors from 3 to 5.</p>	<p>Increase the number of faculty pre-vet advisors to meet the demands of the expanding program. Participate in development of a procedure to evaluate student advising with the objective of obtaining quantitative info and improving this educational activity. Increase the number of faculty pre-vet advisors from 3 to 5.</p>	<p>Assessment of the pre-vet advising and teaching program continues to underscore the fact that it is the most successful program of its type among publicly funded universities in the state. It provides the largest number of academically qualified applicants that are accepted by the veterinary schools at Auburn and Tuskegee Universities. The program identifies individuals qualified to pursue a career in veterinary medicine who will hopefully return to the state after graduation and help to address the statewide shortage of veterinarians in large food animal practice in rural Kentucky. The current number of pre-vet advisors stands at 5 which meets the figure to be achieved by 2006.</p>	<p>Increased enrollment in the department's pre-vet program has resulted in a greater demand for faculty advisors. This is currently being met through increased faculty participation in the program. Aside from the need to continue to attract students of higher academic caliber to the program and as the number of pre-vet advisors increases, it is evident that some system should be developed to assess the level and thoroughness of student advising.</p>	<p>Instructional 2. 0 0 3 4 Prepare Students</p>

16 objective(s) found.

**View Printable Report**



# STRATEGIC PLANNING AND REPORTING SYSTEM

[UK Mission](#) | [Help](#) | [Log Off](#)

## Annual Review Report 2006-2007 APPROVED

**Area Provost**  
**Department** Veterinary Science  
**Data Entry** Debra Mollett  
**Mission Last Modified By** Peter Timoney

**College/Unit** College of Agriculture  
**Degree** PhD  
**Approver** Peter Timoney

**Objective Last Modified By** Debra Mollett

**Unit Mission** We strive for excellence in equine-related research, public outreach, and education that integrates and applies the outcomes of those activities to enhancing the health and welfare of the horse as well as the economic prosperity of the equine industry in Kentucky.

[Go To Select Page](#)

[Go To Select Historical Report Page](#)

[Go To View/Edit/Create Narrative Page](#)

## Unit Goals and Specific Strategies

Obj. #	Unit Goals and Specific Strategies	Assessment Methods, Criteria and Timelines	Results of Assessments	Use of Results to Improve	Relationship to UK Strategic Plan:					
					UK Mission	UK Goal	UK Measures of Progress			
01	The department will continue to provide leadership, nationally and internationally, in devising solutions to problems that affect the viability of the horse industry.	Create new technologies and knowledge that will help to solve important health problems of horses and other domestic species. Increase the funding of the program by an average of 10% annually. Continue the success of the Morris Library as a resource for vets and the horse industry, continue and increase distribution of the Equine Disease Quarterly, continue	The Gluck Center continued to be recognized as an OIE international reference center for equine rhinopneumonitis, influenza and equine viral arteritis and as one of the preeminent equine research institutions in the world. Funding of the program from federal agencies, foundations, private industry, gifts/endowment income increased by 8% over total for 05/06 despite a decrease in direct awards total. The Center, through the Morris Library, continues to be a valuable resource for members of the horse	Outcomes of different research programs into equine diseases will continue to be disseminated through publications, meetings, workshops for the benefit of the equine industry in Kentucky and elsewhere. A concerted effort will be made to increase the level of competitive and non-competitive extramural funding as well as gift support for the program over the coming year.	Overall	1.	12	6	0	0
						Enhance Stature				

	leadership in organizing workshops and seminars that disseminate new info that will indicate the success of the program. Publish and present new info in international and national journals and conferences.	industry. Faculty have helped c. ze an increasing number of national/international conferences and workshops and reports of these and research carried out at the Center are published in leading scientific journals and presented at national/international conferences.								
02	The department will recruit and graduate students who provide national leadership in industry and academia, participate knowledgably in public discussions on issues related to animal health, and make discoveries that benefit the health and welfare of horses.	Pursue increased resources and funding for high-quality research, instruction and outreach programs. Continue to recruit and train students, from Kentucky and worldwide, to use state-of-the-art technologies to address longstanding or emergent problems that threaten animal health and welfare. Create new technologies and knowledge that will help to solve important health problems of horses and other domestic species. Have former students in positions of responsibility in industry and academia.	Students graduating from the PhD program are pursuing a diversit of career opportunities. Some enter academia to focus on research careers in animal/health related fields. Others have gained employment in industry as research scientists or entered different federal agencies to pursue careers in diagnostic or regulatory veterinary medicine. Still others use their graduate training and degrees to enhance their candidacy for admission to veterinary school.	The Director of Graduate Studies reviews annually existing instructional and advising programs with a view to improve these programs if considered necessary. Additionally, efforts will be made to enhance career development opportunities for students and better prepare them for assuming leadership positions in industry/academia/other career paths.	Instructional	1.	6	13	0	0
						Enhance Stature				
03	The department will provide leadership in outreach and extension activities to horse owners, horse breeders and veterinarians, nationally and internationally.	Serve as a reference point and conduit for dissemination of info to vets and horse owners/breeders, in KY as well as nationally and internationally. Continue success of the Morris Library as a resource for vets and members of the horse industry, continue and increase distribution of the Equine Disease Quarterly, continued leadership in organizing workshops and seminars that disseminate new info of benefit to the horse industry. Publish and present new info in international and national journals and at conferences.	Progress has been achieved on effective communication of research findings and other information for the financial betterment of the equine industry. A totally revamped website has been developed that very effectively provides the mission and activities of the different research, education, service and outreach programs of the department. It also provides a source of the latest information on current equine health related issues of economic significance. It is freely acknowledged as an excellent resource for those wishing to keep current on disease and other issues confronting the equine industry in Kentucky, nationally and internationally. A monthly seminar series has been launched representing combined input from the Gluck Center and LDDC faculty; this is proving highly popular as a forum for vets, researchers and diagnosticians to share their knowledge and experience on various equine diseases of topical importance.	The ease with which information can be disseminated locally, nationally and internationally has helped greatly in informing members of the horse industry of particular disease problems and how best to prevent and control them. Such information has increased awareness of improved methods of production/management of horses and enhanced the economic sustainability and profitability of the industry. The department's web page has been completely reworked. It has become a highly informative and effective internet portal for showcasing the diversity of programs that comprise the dept.	Service	1.	0	5	13	15
						Enhance Stature				

04 Strengthen the undergraduate educational programs of the department.

Actively promote and support the undergraduate teaching program of the department. Increase efforts to attract a greater number of undergraduate students engaged in research to the dept. Increase the avg. annual number of Ag Biotech and other undergraduate students who participate in research programs in the department from 5 in 2003 to 8 by 2006. Maintain a high level of student achievement and satisfaction with the dept's undergraduate teaching program as evidenced by student performance evaluations of courses (3.5 and 3.6/4.0 respectively for 02/03 compared to a college avg. of 3.4/4.0).

Enrollment in the department's pre-vet program increased by nearly over 20% from 2005/06 to 2006/07 with a current enrollment of 244. Student assessment of the department's undergraduate teaching program (VS350 and VS351) confirms a high level of student satisfaction with the courses. Course rating for VS 351 (only course taught in 06/07) of 3.7 exceeds the college and university average of 3.4/4.0. The quality of pre-vet advising continues to be favorably commented on. The department is attracting a significant increase in the number of Ag Biotech and other undergraduate students to its various research programs. The current combined total of 15 students significantly exceeds that targeted (8) for 2006.

While there is currently no immediate need to promote an already very successful undergraduate teaching program (VS350 & VS351), the program will be reviewed regularly to ensure the quality of instruction is maintained. Clearly, there is a need to increase the number of pre-vet advisors to deal with the large number of individuals applying to the program. Every effort will be made to attract more undergraduate students majoring in Ag Biotech or other field to engage in research in the department.

Instructional 2. 0 1 3 4  
Prepare Students

05 Improve the quality of the department's advising of pre-veterinary students enrolled at the University of Kentucky. Increase the number of faculty pre-vet advisors from 3 to 5.

Increase the number of faculty pre-vet advisors to meet the demands of the expanding program. Participate in development of a procedure to evaluate student advising with the objective of obtaining quantitative info and improving this educational activity. Increase the number of faculty pre-vet advisors from 3 to 5.

Assessment of the pre-vet advising and teaching program continues to underscore the fact that it is the most successful program of its type among publicly funded universities in the state. It provides the largest number of academically qualified applicants that are accepted by the veterinary schools at Auburn and Tuskegee Universities. The program identifies individuals qualified to pursue a career in veterinary medicine who will hopefully return to the state after graduation and help to address the statewide shortage of veterinarians in large food animal practice in rural Kentucky. The current number of pre-vet advisors stands at 5 which meets the figure to be achieved by 2006.

Increased enrollment in the department's pre-vet program has resulted in a greater demand for faculty advisors. This is currently being met through increased faculty participation in the program. Aside from the need to continue to attract students of higher academic caliber to the program and as the number of pre-vet advisors increases, it is evident that some system should be developed to assess the level and thoroughness of student advising.

Instructional 2. 0 0 3 4  
Prepare Students

16 objective(s) found.

<< < > >> Page: 1 of 4

Go To Select Page

Go To View/Edit/Create Narrative Page

**View Printable Report**



# STRATEGIC PLANNING AND REPORTING SYSTEM

[UK Mission](#) | [Help](#) | [Log Off](#)

## Annual Review Report 2007-2008 APPROVED

Area Provost  
 Department Veterinary Science  
 Data Entry Debra Mollett  
 Mission Last Modified By Mat Treodsson  
 Unit Mission

College/Unit College of Agriculture  
 Degree MS  
 Approver Mat Treodsson

Objective Last Modified By Debra Mollett

We strive for excellence in equine-related research, public outreach, and education that integrates and applies the results of those activities to enhancing the health and welfare of the horse as well as the economic prosperity of the equine industry in Kentucky.

[Go To Select Page](#)

[Go To Select Historical Report Page](#)

[Go To View/Edit/Create Narrative Page](#)

### Unit Goals and Specific Strategies

Obj. #	Unit Goals and Specific Strategies	Assessment Methods, Criteria and Timelines	Results of Assessments	Use of Results to Improve	Relationship to UK Strategic Plan:					
					UK Mission	UK Goal	Measures of Progress			
01	Continue to provide leadership, nationally and internationally in devising solutions to problems that affect animal health industries in Kentucky, with a special emphasis on the horse. The strategy to reach this goal is basic and applied research for animal health and performance.	Publish and present new information through journals, books, lay literature, scientific meetings, and animal health conferences. Metrics for evaluation will be based on the number of publications and presentations, where the material is presented,	Faculty members in Veterinary Science have been active in disseminating new information by 106 presentations at national and international scientific meetings and animal conferences, 168 publications in journals (96 in refereed, scientific journals), books, and lay literature. An effort will be made to further improve the dissemination of new research to the scientific community.	The Gluck Center continued to be recognized as an OIE international reference center for equine rhinopneumonitis, influenza and equine viral arteritis and as one of the preeminent equine research institutions in the world. Faculty have helped organize an increasing number of national/international conferences and workshops and reports of these. Research carried out at the Center are	Overall	Enhance Stature	6	12	15	0

	and impact analyses. Assess and review on an annual basis.		published in leading scientific journals and presented at national/international conferences.							
02	Recruit and train graduate students and post-doctoral students who will in the future provide national animal health leadership in academia and industry, participate knowledgably in public discussions on animal health issues, and make discoveries that benefit animal health and welfare. The strategy to reach this goal is an active recruitment program and high quality student mentoring.	Document student recruitment, productivity, and degree completion rates. Document productivity and career advancement of current and former students. Assess and review on an annual basis.	We have 24 graduate students funded through department, extramural grants and the equine industry, 4 are MS students. In 2007, we were able to recruit 8 graduate students (3 MS) to our program. Graduate students have contributed with a total of 28 peer-reviewed articles and presented their research at 14 international and 13 national scientific meetings. One student graduated with an MS degree this past year, with no students dropping out. Students graduating from the MS program are pursuing a diversity of career opportunities. Some enter academia to focus on research careers in animal/health related fields. Others have gained employment in industry as research scientists or entered different federal agencies to pursue careers in diagnostic or regulatory veterinary medicine. Still others use their graduate training and degrees to enhance their candidacy for admission to veterinary school.	The Director of Graduate Studies reviews annually existing instructional and advising programs with a view to improve these programs. Efforts will be made to use web-based advertising to recruit the best graduate students to our program. Efforts will be made to encourage presentations at national/international meetings in addition to publications. An effort will be made to engage graduate faculty that are currently not involved in the graduate program.	Instructional	Prepare Students	0	6	13	0
03	Provide leadership in outreach and extension activities to horse owners, horse breeders and veterinarians, nationally and internationally. The strategy to reach this goal is the publication of extension literature, reports in industry publications, reports in the popular press, and public presentations.	Monitor publications, workshops, presentations, and consultations of faculty, staff and students. Monitor distribution of the Equine Disease Quarterly, Morris Library use, and website visits. Assess and review on an annual basis.	Faculty actively participate in publications, workshops and presentations in industry-based forums. The Equine Disease Quarterly is distributed to more than 90 countries. The Gluck website has recently been updated. A monthly seminar series is offered with combined input from the Gluck and LDDC faculty. This is a very popular forum for scientists and local practicing veterinarians to discuss topics on equine health and performance.	Disseminated information locally, nationally and internationally has helped in informing members of the equine industry of disease problems and how to prevent and control them. The seminar series has provided an exceptional opportunity for discussions on timely topics between practitioners and researchers. A director of advancement and industry relations has been hired to further improve outreach and extension efforts.	Service	Enhance Stature	0	5	13	15
04	Strengthen the undergraduate educational programs of the department. The strategy to reach this goal is to encourage faculty participation in undergraduate teaching and mentoring.	Monitor undergraduate teaching participation of faculty. Monitor the number and productivity of undergraduate students working in departmental laboratories. Assess undergraduate student evaluations as they relate to department	Only 1 faculty member has a teaching assignment. In spite of a low formal assignment in teaching, faculty members participate well in undergraduate courses. Vet Science faculty have taught in 13 courses with 18 undergraduate students working in research labs in the dept. Over 200 undergraduate students participate in the pre-vet program with an exceptional acceptance of 35 students into Veterinary School in 2007.	There is need to include number of pre-vet advisors to deal with the large number of students participating in the program. Efforts will be made to attract undergraduate students participating in the Ag Biotech program.	Instructional	Prepare Students	0	3	0	0

05 Maintain the quality of the department's advising of pre-veterinary students enrolled at the University of Kentucky. Increase the number of faculty pre-veterinary advisors to meet the demands of the expanding program. The strategy to reach this goal is to encourage faculty participation in pre-veterinary advising.	undergraduate teaching activities. Assess and review on an annual basis. Monitor the number of advisees, the number of advisees participating that participate in advising sessions per year, the advisor to advisee ratio, the number that apply to veterinary school, and the success rate of veterinary school admissions. Assess and review on an annual basis.	Currently, there is only one faculty advisor for over 200 pre-vet students. Over 200 undergraduate students participate in the pre-vet program with an exceptional acceptance of 35 students into Veterinary School in 2007.	One additional faculty member has agreed to participate in the pre-vet advising program. There is need to increase number of pre-vet advisors to deal with the large number of students participating in the program.	Instructional Prepare 0 3 4 0 Students
--	--	--	---	---

10 objective(s) found.

<< < > >> Page: 1 of 2

Go To Select Page

Go To View/Edit/Create Narrative Page

## View Printable Report

Send comments to: SPRS Comments

All contents copyright © 2001, University Of Kentucky

All rights reserved.

Last Modified - 4/09/2004



# STRATEGIC PLANNING AND REPORTING SYSTEM

[UK Mission](#) | [Help](#) | [Log Off](#)

## Annual Review Report 2007-2008 APPROVED

**Area Provost**  
**Department** Veterinary Science  
**Data Entry** Debra Mollett  
**Mission Last Modified By** Mat Treodsson  
**Unit Mission**

**College/Unit** College of Agriculture  
**Degree** PhD  
**Approver** Mat Treodsson

**Objective Last Modified By** Mat Treodsson

We strive for excellence in equine-related research, public outreach, and education that integrates and applies the outcomes of those activities to enhancing the health and welfare of the horse as well as the economic prosperity of the equine industry in Kentucky.

[Go To Select Page](#)

[Go To Select Historical Report Page](#)

[Go To View/Edit/Create Narrative Page](#)

### Unit Goals and Specific Strategies

Obj. #	Unit Goals and Specific Strategies	Assessment Methods, Criteria and Timelines	Results of Assessments	Use of Results to Improve	Relationship to UK Strategic Plan:					
					UK Mission	UK Goal	Measures of Progress			
01	Continue to provide leadership, nationally and internationally in devising solutions to problems that affect animal health industries in Kentucky, with a special emphasis on the horse. The strategy to reach this goal is basic and applied research for animal health and performance.	Publish and present new information through journals, books, lay literature, scientific meetings, and animal health conferences. Metrics for evaluation will be based on the number of publications and presentations, where the material is presented,	Faculty members in Veterinary Science have been active in disseminating new information by 106 presentations at national and international scientific meetings and animal conferences, 168 publications in journals (96 in refereed, scientific journals), books, and lay literature. An effort will be made to further improve the dissemination of new research to the scientific community.	The Gluck Center continued to be recognized as an OIE international reference center for equine rhinopneumonitis, influenza and equine viral arteritis and as one of the preeminent equine research institutions in the world. Faculty have helped organize an increasing number of national/international conferences and workshops and reports of these. Research carried out at the Center are	Overall	Enhance	6	12	15	0
						Stature				



	and impact analyses. Assess and review on an annual basis.		published in leading scientific journals and presented at national/international conferences.							
02	Recruit and train graduate students and post-doctoral students who will in the future provide national animal health leadership in academia and industry, participate knowledgeably in public discussions on animal health issues, and make discoveries that benefit animal health and welfare. The strategy to reach this goal is an active recruitment program and high quality student mentoring.	Document student recruitment, productivity, and degree completion rates. Document productivity and career advancement of current and former students. Assess and review on an annual basis.	We have 24 graduate students funded through department, extramural grants and the equine industry, 20 are PhD students. In 2007, we were able to recruit 8 graduate students (5 PhD) to our program. Graduate students have contributed with a total of 28 peer-reviewed articles and presented their research at 14 international and 13 national scientific meetings. Three students graduated with a PhD degree this past year, with no students dropping out. Students graduating from the PhD program are pursuing a diversity of career opportunities. Some enter academia to focus on research careers in animal/health related fields. Others have gained employment in industry as research scientists or entered different federal agencies to pursue careers in diagnostic or regulatory veterinary medicine. Still others use their graduate training and degrees to enhance their candidacy for admission to veterinary school.	The Director of Graduate Studies reviews annually existing instructional and advising programs with a view to improve these programs. Efforts will be made to use web-based advertising to recruit the best graduate students to our program. Efforts will be made to encourage presentations at national/international meetings in addition to publications. An effort will be made to engage graduate faculty that are currently not involved in the graduate program.	Instructional	Prepare Students	0	6	13	0
03	Provide leadership in outreach and extension activities to horse owners, horse breeders and veterinarians, nationally and internationally. The strategy to reach this goal is the publication of extension literature, reports in industry publications, reports in the popular press, and public presentations.	Monitor publications, workshops, presentations, and consultations of faculty, staff and students. Monitor distribution of the Equine Disease Quarterly, Morris Library use, and website visits. Assess and review on an annual basis.	Faculty actively participate in publications, workshops and presentations in industry-based forums. The Equine Disease Quarterly is distributed to more than 90 countries. The Gluck website has recently been updated. A monthly seminar series is offered with combined input from the Gluck and LDDC faculty. This is a very popular forum for scientists and local practicing veterinarians to discuss topics on equine health and performance.	Disseminated information locally, nationally and internationally has helped in informing members of the equine industry of disease problems and how to prevent and control them. The seminar series has provided an exceptional opportunity for discussions on timely topics between practitioners and researchers. A director of advancement and industry relations has been hired to further improve outreach and extension efforts.	Service	Enhance Stature	0	5	13	15
04	Strengthen the undergraduate educational programs of the department. The strategy to reach this goal is to encourage faculty participation in undergraduate teaching and mentoring.	Monitor undergraduate teaching participation of faculty. Monitor the number and productivity of undergraduate students working in departmental laboratories. Assess undergraduate student evaluations as they relate to department	Only 1 faculty member has a teaching assignment. In spite of a low formal assignment in teaching, faculty members participate well in undergraduate courses. Vet Science faculty have taught in 13 courses with 18 undergraduate students working in research labs in the dept. Over 200 undergraduate students participate in the pre-vet program with an exceptional acceptance of 35 students into Veterinary School in 2007.	There is need to include number of pre-vet advisors to deal with the large number of students participating in the program. Efforts will be made to attract undergraduate students participating in the Ag Biotech program.	Instructional	Prepare Students	0	3	0	0

undergraduate teaching activities. Assess and review on an annual basis.

05 Maintain the quality of the department's advising of pre-veterinary students enrolled at the University of Kentucky. Increase the number of faculty pre-veterinary advisors to meet the demands of the expanding program. The strategy to reach this goal is to encourage faculty participation in pre-veterinary advising.

Monitor the number of advisees, the number of advisees participating that participate in advising sessions per year, the advisor to advisee ratio, the number that apply to veterinary school, and the success rate of veterinary school admissions. Assess and review on an annual basis.

Currently, there is only one faculty advisor for over 200 pre-vet students. Over 200 undergraduate students participate in the pre-vet program with an exceptional acceptance of 35 students into Veterinary School in 2007.

One additional faculty member has agreed to participate in the pre-vet advising program. There is need to increase number of pre-vet advisors to deal with the large number of students participating in the program.

Instructional Prepare 0 3 4 0 Students

10 objective(s) found.

<< < > >> Page: 1 of 2

Go To Select Page

Go To View/Edit/Create Narrative Page

### View Printable Report

*Send comments to: SPRS Comments*

*All contents copyright © 2001, University Of Kentucky*

*All rights reserved.*

*Last Modified - 4/09/2004*



# STRATEGIC PLANNING AND REPORTING SYSTEM

[UK Mission](#) | [Help](#) | [Log Off](#)

## Annual Review Report 2008-2009 APPROVED

**Area Provost**  
**Department** Veterinary Science  
**Data Entry** Debra Mollett  
**Mission Last Modified By** Mat Treodsson

**College/Unit** College of Agriculture  
**Degree** MS  
**Approver** Mat Treodsson

**Objective Last Modified By** Debra Mollett

**Unit Mission** The Department of Veterinary Science is committed to excellence in equine-related research, public outreach, and education to enhance the health and welfare of the horse as well as the economic prosperity of the equine industry in Kentucky.

[Go To Select Page](#)

[Go To Select Historical Report Page](#)

[Go To View/Edit/Create Narrative Page](#)

### Unit Goals and Specific Strategies

Obj. #	Unit Goals and Specific Strategies	Assessment Methods, Criteria and Timelines	Results of Assessments	Use of Results to Improve	Relationship to UK Strategic Plan:					
					UK Mission	UK Goal	Measures of Progress			
01	Continue to provide leadership, nationally and internationally in devising solutions to problems that affect animal health industries in Kentucky, with a special emphasis on the horse. The strategy to reach this goal is basic and applied research for animal health and performance.	Publish and present new information through journals, books, lay literature, scientific meetings, and animal health conferences. Metrics for evaluation will be based on the number of publications and presentations, where the material is	Faculty members in Veterinary Science have been active in disseminating new information by 81 presentations at national and international scientific meetings and animal conferences, 133 publications in journals (85 in refereed, scientific journals, books, and lay literature. An effort will be made to further improve the dissemination of new research to the scientific community.	The Gluck Center continued to be recognized as an OIE international reference center for equine rhinopneumonitis, influenza and equine viral arteritis and as one of the preeminent equine research institutions in the world. Faculty have helped organize an increasing number of national/international conferences and workshops and reports at these. Research carried out at the center are	Overall	Enhance	6	12	15	0
						Stature				

	presented, and impact analyses. Assess and review on an annual basis.		published in leading scientific journals and presented at national/international conferences. Based on assessments, standards for productivity within the department are currently established.							
02	Recruit and train graduate students and post-doctoral students who will in the future provide national animal health leadership in academia and industry, participate knowledgably in public discussions on animal health issues, and make discoveries that benefit animal health and welfare. The strategy to reach this goal is an active recruitment program and high quality student mentoring.	Document student recruitment, productivity, and degree completion rates. Document productivity and career advancement of current and former students. Assess and review on an annual basis.	We have 28 graduate students funded through department, extramural grants and the equine industry, 7 are MS students. In 2008, we were able to recruit 7 graduate students (4 MS) to our program. Graduate students have contributed with a total of 5 peer-reviewed articles and presented their research at 5 international and 4 national scientific meetings. No students graduated with a MS degree this past year, and no students dropped out. Students graduating from the MS program are pursuing a diversity of career opportunities. Some enter academic to focus on research careers in animal/health related fields. Others have gained employment in industry as research scientists or entered different federal agencies to pursue careers in diagnostic or regulatory veterinary medicine. Still others use their graduate training and degrees to enhance their candidacy for admission to veterinary school.	The Director of Graduate Studies reviews annually existing instructional and advising programs with a view to improve these programs. Efforts will be made to use web-based advertising to recruit the best graduate students to our program. Efforts will be made to further encourage presentations at national/international meetings in addition to publications. An effort will be made to engage graduate faculty that are currently not involved in the graduate program.	Instructional	Prepare	0	6	13	0
03	Provide leadership in outreach and extension activities to horse owners, horse breeders and veterinarians, nationally and internationally. The strategy to reach this goal is the publication of extension literature, reports in industry publications, reports in the popular press, and public presentations.	Monitor publications, workshops, presentations and consultations of faculty, staff and students. Monitor distribution of the Equine Disease Quarterly, Morris Library use, and website visits. Assess and review on an annual basis.	Faculty actively participate in publications, workshops and presentations in industry-based forums. The Equine Disease Quarterly is distributed to more than 90 countries. The Gluck website has been revised and is being kept current. A monthly seminar series is offered with combined input from the Gluck and LDDC faculty. This is a very popular forum for scientists and local practicing veterinarians to discuss topics on equine health and performance. An annual farm managers' short course in equine reproduction is planned for 2010.	Disseminated information locally, nationally and internationally has helped in informing members of the equine industry of disease problems and how to prevent and control them. The monthly Gluck/LDDC seminar series has provided an exceptional opportunity for discussions on timely topics between practitioners and researchers. A director of advancement and industry relations has been hired to further improve outreach and extension efforts.	Service	Enhance	0	5	13	15
04	Strengthen the undergraduate educational programs of the department. The strategy to reach this goal is to encourage faculty participation in undergraduate teaching and mentoring.	Monitor undergraduate teaching participation of faculty. Monitor the number and productivity of undergraduate students working in departmental laboratories. Assess	The Department of Veterinary Science consists of the Gluck Equine Research Center, with a strong emphasis on research by endowed research chairs and faculty with 100% research DOE, the Livestock Disease Diagnostic Center, with an emphasis on clinical service, and the Genetic Testing and Research Laboratory, with an emphasis on	There is need to increase the number of pre-vet advisors to deal with the large number of students participating in the program. Efforts will be made to attract undergraduate students participating in the Ag Biotech program.	Instructional	Prepare	0	3	0	0

05 Maintain the quality of the department's advising of pre-veterinary students enrolled at the University of Kentucky. Increase the number of faculty pre-veterinary advisors to meet the demands of the expanding program. The strategy to reach this goal is to encourage faculty participation in pre-veterinary advising.	undergraduate student evaluations as they relate to department undergraduate teaching activities. Assess and review on an annual basis.  Monitor the number of advisees, the number of advisees that participate in advising sessions per year, the advisor to advisee ration, the number that apply to veterinary school, and the success rate of veterinary school admissions. Assess and review on an annual basis.	service. Only 2 faculty members have formal teaching assignments. In spite of a low formal assignment in teaching, faculty members participate well in undergraduate courses. Vet Science faculty have taught in 6 courses with 22 undergraduate students working in research labs in the department.  Currently, there is only one faculty advisor for over 200 pre-vet students. Over 200 undergraduate students participate in the pre-vet program with an exceptional acceptance rate of 35 students into Veterinary School in 2008.	One additional faculty member has agreed to participate in the pre-vet advising program. There is need to increase number of pre-vet advisors to deal with the large number of students participating in the program.	Instructional Prepare 0 3 4 0 Students
--	--	--	---	---

10 objective(s) found.

<< < > >> Page: 1 of 2

Go To Select Page

Go To View/Edit/Create Narrative Page

## [View Printable Report](#)

*Send comments to: [SPRS Comments](#)*

*All contents copyright © 2001, University Of Kentucky*

*All rights reserved.*

*Last Modified - 4/09/2004*



# STRATEGIC PLANNING AND REPORTING SYSTEM

[UK Mission](#) | [Help](#) | [Log Off](#)

## Annual Review Report 2008-2009 APPROVED

**Area Provost**  
**Department** Veterinary Science  
**Data Entry** Mat Treodsson  
**Mission Last Modified By** Mat Treodsson

**College/Unit** College of Agriculture  
**Degree** PhD  
**Approver** Mat Treodsson

**Objective Last Modified By** Debra Mollett

**Unit Mission** The Department of Veterinary Science is committed to excellence in equine-related research, public outreach, and education to enhance the health and welfare of the horse as well as the economic prosperity of the equine industry in Kentucky.

[Go To Select Page](#)

[Go To Select Historical Report Page](#)

[Go To View/Edit/Create Narrative Page](#)

### Unit Goals and Specific Strategies

Obj. #	Unit Goals and Specific Strategies	Assessment Methods, Criteria and Timelines	Results of Assessments	Use of Results to Improve	Relationship to UK Strategic Plan:					
					UK Mission	UK Goal	Measures of Progress			
01	Continue to provide leadership, nationally and internationally, in devising solutions to problems that affect animal health industries in Kentucky, with a special emphasis on the horse. The strategy to reach this goal is basic and applied research for animal health and performance.	Publish and present new information through journals, books, lay literature, scientific meetings, and animal health conferences. Metrics for evaluation will be based on the number of publications and presentations, where the material is	Faculty members in Veterinary Science have been active in disseminating new information by 81 presentations at national and international scientific meetings and animal conferences, 133 publications (85 in refereed, scientific journals, chapters and books). An effort will be made to further improve the dissemination of new research to the scientific community.	The Gluck Center continued to be recognized as an OIE international reference center for equine rhinopneumonitis, influenza and equine viral arteritis and as one of the preeminent equine research institutions in the world. Faculty have helped organize an increasing number of national/international conferences and workshops and reports at these. Research carried out at the center are	Overall	Enhance	6	12	15	0

presented, and impact analyses. Assess and review on an annual basis.

published in leading scientific journals and presented at national/international conferences. Based on assessments, standards for productivity within the department are currently established.

<p>02 Recruit and train graduate students and post-doctoral students who will in the future provide national animal health leadership in academia and industry, participate knowledgably in public discussions on animal health issues, and make discoveries that benefit animal health and welfare. The strategy to reach this goal is an active recruitment program and high quality student mentoring.</p>	<p>Document student recruitment, productivity, and degree completion rates. Document productivity and career advancement of current and former students. Assess and review on an annual basis.</p>	<p>We have 28 graduate students funded through department, extramural grants and the equine industry, 21 are PhD students. In 2008, we were able to recruit 7 graduate students (3 PhD) to our program. Graduate students have contributed with a total of 5 peer-reviewed articles and presented their research at 5 international and 4 national scientific meetings. Three students graduated with a PhD degree this past year, with no students dropping out. Students graduating from the PhD program are pursuing a diversity of career opportunities. Some enter academic to focus on research careers in animal/health related fields. Others have gained employment in industry as research scientists or entered different federal agencies to pursue careers in diagnostic or regulatory veterinary medicine. Still others use their graduate training and degrees to enhance their candidacy for admission to veterinary school.</p>	<p>The Director of Graduate Studies reviews annually existing instructional and advising programs with a view to improve these programs. Efforts will be made to use web-based advertising to recruit the best graduate students to our program. Efforts will be made to further encourage presentations at national/international meetings in addition to publications. An effort will be made to engage graduate faculty that are currently not involved in the graduate program.</p>	<p>Instructional Prepare Students</p>	<p>0 6 13 0</p>
<p>03 Provide leadership in outreach and extension activities to horse owners, horse breeders and veterinarians, nationally and internationally. The strategy to reach this goal is the publication of extension literature, reports in industry publications, reports in the popular press, and public presentations.</p>	<p>Monitor publications, workshops, presentations and consultations of faculty, staff and students. Monitor distribution of the Equine Disease Quarterly, Morris Library use, and website visits. Assess and review on an annual basis.</p>	<p>Faculty actively participate in publications, workshops and presentations in industry-based forums. The Equine Disease Quarterly is distributed to more than 90 countries. The Gluck website has been revised and is being kept current. A monthly seminar series is offered with combined input from the Gluck and LDDC faculty. This is a very popular forum for scientists and local practicing veterinarians to discuss topics on equine health and performance. An annual farm managers' short course series in equine reproduction is planned for 2010.</p>	<p>Disseminated information locally, nationally and internationally has helped in informing members of the equine industry of disease problems and how to prevent and control them. The monthly Gluck/LDDC seminar series has provided an exceptional opportunity for discussions on timely topics between practitioners and researchers. A director of advancement and industry relations has been hired to further improve outreach and extension efforts.</p>	<p>Service Enhance Stature</p>	<p>0 5 13 15</p>
<p>04 Strengthen the undergraduate educational programs of the department. The strategy to reach this goal is to encourage faculty participation in undergraduate teaching and mentoring.</p>	<p>Monitor undergraduate teaching participation of faculty. Monitor the number and productivity of undergraduate students working in departmental laboratories. Assess</p>	<p>The Department of Veterinary Science consists of the Gluck Equine Research Center, with a strong emphasis on research by endowed research chairs and faculty with 100% research DOE, the Livestock Disease Diagnostic Center, with an emphasis on clinical service, and the Genetic Testing and Research Laboratory, with an emphasis on</p>	<p>There is need to increase the number of pre-vet advisors to deal with the large number of students participating in the program. Efforts will be made to attract undergraduate students participating in the Ag Biotech program.</p>	<p>Instructional Prepare Students</p>	<p>0 3 0 0</p>

05 Maintain the quality of the department's advising of pre-veterinary students enrolled at the University of Kentucky. Increase the number of faculty pre-veterinary advisors to meet the demands of the expanding program. The strategy to reach this goal is to encourage faculty participation in pre-veterinary advising.	undergraduate student evaluations as they relate to department undergraduate teaching activities. Assess and review on an annual basis.  Monitor the number of advisees, the number of advisees that participate in advising sessions per year, the advisor to advisee ration, the number that apply to veterinary school, and the success rate of veterinary school admissions. Assess and review on an annual basis.	service. Only 2 faculty members have formal teaching assignments. In spite of a low formal assignment in teaching, faculty members participate well in undergraduate courses. Vet Science faculty have taught in 6 courses with 22 undergraduate students working in research labs in the department.  Currently, there is only one faculty advisor for over 200 pre-vet students. Over 200 undergraduate students participate in the pre-vet program with an exceptional acceptance rate of 35 students into Veterinary School in 2008.	One additional faculty member has agreed to participate in the pre-vet advising program. There is need to increase number of pre-vet advisors to deal with the large number of students participating in the program.	Instructional Prepare 0 3 4 0 Students
--	--	--	---	---

10 objective(s) found.

<< < > >> Page: 1 of 2

Go To Select Page

Go To View/Edit/Create Narrative Page

## [View Printable Report](#)

*Send comments to: [SPRS Comments](#)*

All contents copyright © 2001, University Of Kentucky

All rights reserved.

Last Modified - 4/09/2004



Veterinary Science Department  
 Research Support  
 Annual Funding Levels  
 Five year summary

(Data as of 9/17/2010)

	FY 2010-11		FY 2009-10		FY 2008-09		FY 2007-08		FY 2006-07		FY 2005-06	
	Income	Percent of Total	Income	Percent of Total	Income	Percent of Total	Income	Percent of Total	Income	Percent of Total	Income	Percent of Total
<b>Competitive Grant / Gift Income:</b>												
Grants, state funded	\$79,998	1.27%	\$94,206	1.33%	\$128,850	1.89%	\$62,323	0.97%	\$109,337	1.96%	\$49,835	0.95%
Grants, federally funded												
Awarded directly	\$126,976	2.01%	\$465,383	6.56%	(\$4,394)	-0.06%	\$731	0.01%	\$288,170	5.17%	\$418,844	7.99%
Awarded intranurally	\$96,859	1.53%	\$167,288	2.36%	\$132,696	1.95%	\$45,424	0.70%	\$0	0.00%	\$0	0.00%
Grants, private & foundation	\$512,748	8.11%	\$336,618	4.74%	\$497,698	7.30%	\$539,264	8.35%	\$224,647	4.03%	\$554,197	10.57%
Restricted project gift support	\$465,300	7.36%	\$441,900	6.23%	\$423,200	6.21%	\$423,200	6.56%	\$340,300	6.10%	\$418,950	7.99%
<b>Total Competitive Grants:</b>	<b>\$1,281,880</b>	<b>20.28%</b>	<b>\$1,505,395</b>	<b>21.22%</b>	<b>\$1,178,050</b>	<b>17.29%</b>	<b>\$1,070,942</b>	<b>16.59%</b>	<b>\$962,454</b>	<b>17.26%</b>	<b>\$1,441,826</b>	<b>27.51%</b>
<b>Endowed Gift Income:</b>												
UKGERF Support for research	\$400,000	6.33%	\$400,000	5.64%	\$400,000	5.87%	\$400,000	6.20%	\$360,000	6.45%	\$360,000	6.87%
Income from dept. endowments	\$2,348,312	37.14%	\$2,901,133	40.89%	\$2,835,946	41.62%	\$2,440,918	37.81%	\$2,011,367	36.06%	\$1,366,300	26.07%
<b>Total Gift Income for research:</b>	<b>\$2,748,312</b>	<b>43.47%</b>	<b>\$3,301,133</b>	<b>46.52%</b>	<b>\$3,235,946</b>	<b>47.49%</b>	<b>\$2,840,918</b>	<b>44.01%</b>	<b>\$2,371,367</b>	<b>42.51%</b>	<b>\$1,726,300</b>	<b>32.93%</b>
<b>Experiment Station Support:</b>												
State Research	\$1,643,175	25.99%	\$1,755,592	24.74%	\$1,743,651	25.59%	\$1,597,879	24.75%	\$1,547,172	27.74%	\$1,477,089	28.18%
State Center of Excellence	\$118,840	1.88%	\$118,840	1.67%	\$167,661	2.46%	\$167,436	2.59%	\$161,522	2.90%	\$155,885	2.97%
Federal Hatch Research	\$414,677	6.56%	\$302,653	4.27%	\$376,489	5.53%	\$647,842	10.04%	\$398,562	7.15%	\$304,063	5.80%
Federal Regional Research	\$70,000	1.11%	\$70,000	0.99%	\$70,000	1.03%	\$70,000	1.08%	\$70,000	1.25%	\$70,000	1.34%
Federal Animal Health Research	\$45,308	0.72%	\$42,107	0.59%	\$42,107	0.62%	\$60,744	0.94%	\$66,708	1.20%	\$66,708	1.27%
<b>Total Experiment Station Support:</b>	<b>\$2,291,999</b>	<b>36.25%</b>	<b>\$2,289,191</b>	<b>32.26%</b>	<b>\$2,399,908</b>	<b>35.22%</b>	<b>\$2,543,900</b>	<b>39.41%</b>	<b>\$2,243,964</b>	<b>40.23%</b>	<b>\$2,073,745</b>	<b>39.56%</b>
<b>Total Research Support</b>	<b>\$6,322,191</b>	<b>100.00%</b>	<b>\$7,095,720</b>	<b>100.00%</b>	<b>\$6,813,904</b>	<b>100.00%</b>	<b>\$6,455,761</b>	<b>100.00%</b>	<b>\$5,577,785</b>	<b>100.00%</b>	<b>\$5,241,871</b>	<b>100.00%</b>

Sergey C. Artiushin, Ph.D.

Research Assistant Professor

Gluck Equine Research Center, University of Kentucky, Lexington, KY

(859) 257-4757 ext. 81111

scartil@email.uky.edu

## EDUCATION

Moscow Veterinary Academy, Moscow, Russia; M.S. in Biophysics; 1973

Moscow State University, Moscow, Russia; PhD (Microbiology); 1981

Training Course, Molecular biology and genetic engineering, Puschino, Russia; 1983

## RESEARCH INTERESTS:

- Comparative genomics of *Leptospira interrogans*, *Streptococcus equi* and *zooepidemicus*
- Surface and secreted proteins of *Leptospira*, *Streptococcus* and other bacteria as antigens for vaccines and diagnostics
- PCR and other DNA amplification techniques for detection and identification of pathogenic microorganisms
- Bacteriophage of *S. equi*

## EMPLOYMENT AND PROFESSIONAL EXPERIENCE

1975-1978: Research Associate, Department of Microbiology, Research and Technological Institute of Biological Industry, Moscow region, Russia.

1978-1981: PhD-student, Department of Microbiology, Moscow State University, Moscow, Russia.

1981-1982: Research Associate, Laboratory of Bacteriophage Genetics, Institute of Microbiology, Moscow, Russia.

1982-1992: Senior Research Scientist, Laboratory of Biochemistry and Molecular Biology, Research Institute of Experimental Veterinary Medicine, Moscow, Russia.

1992-1994: Postdoctoral Research Associate, Department of Microbiology, Immunology and Preventive Medicine, Veterinary Medical Research Institute, College of Veterinary Medicine, Iowa State University, Ames, IA.

1994-2003: Research Specialist, Laboratory of Microbiology, Gluck Equine Research Center, Veterinary Science, University of Kentucky, Lexington, KY.

2004-present: Research Assistant Professor, Laboratory of Microbiology, Gluck Equine Research Center, Veterinary Science, University of Kentucky, Lexington, KY.

#### TEACHING EXPERIENCE:

People Friendship University (Moscow, Russia)

General microbiology. This undergraduate level course was provided to medical and agricultural department's students as supplementation to theoretical course of "General microbiology". It included seminars and laboratories, which dealt with basic microbiology techniques.

Infectious Diseases. This 20 weeks undergraduate level supplemented course included seminars and laboratories emphasized recognition and isolation of bacterial pathogens in clinical specimens and cultures.

Russian Ministry of Agriculture, Moscow

Spring school for managers and analysts of analytical laboratories of biological factories

Genetic engineering. There were 3 lectures in this course, which provided survey of genetic engineering principals and methods and their potential application for developing vaccines and diagnostic tools.

#### GRADUATE STUDENTS:

Sergey V. Balahonov, Ph.D., 1987. Genetic criteria in Yersinia systematic.

Vladimir I. Melnichenko, Ph.D., 1989. Rapid methods of identification of Brucella and verification of their virulency and immunogenicity.

Iaroslav A. Bortuk, Ph.D., 1991. Differentiation of *Mycobacteria bovis* from atypical mycobacterias by DNA-DNA hybridization.

Igor A. Morozov, Ph.D., 1992. Restriction analysis and molecular cloning of BHV-I DNA.

Consulting and technical assistance were provided to T. Hsu, S. Ambalakkat (Iowa State University), S. S. D. Jusuf and J. Nally, A. Verma and R. Tiwari (University of Kentucky) in performing genetic engineering experiments for their Ph. D. dissertations.

#### PROFESSIONAL ORGANIZATIONS:

Russian Biochemical Society

Russian Microbiological Society

International organization of Mycoplasmaology

American Society for Microbiology (currently).

International Leptospirosis Society (currently).

CRWAD (currently)

#### PUBLICATIONS:

Artiushin SK, Lideman RR, Zlobina GP. 1975 A microfluorometric study of cell nucleus DNP-complex renaturation. Bull Eksp Biol Med. (Russia) Mar;79(3):44-6

Ezhov GI, Artiushin SK, Lysenko AM. 1982 Nucleotide composition and homology of the DNA of parasitic *Leptospira*. Zh Mikrobiol Epidemiol Immunobiol. (Russia) Oct;(10):47-8.

Artiushin SK, Kiktenko VS, Ezhov GI, Lysenko AM. 1982 Nucleotide composition, genome size and homologies in the DNA of *Leptospira biflexa* serogroup armenica. Nauchnye Doki Vyss Shkoly Biol Nauki. (Russia);(10):19-21.

Lysenko A. M., Savel'eva N. D. and Artiushin S. C. (1983) Analysis of DNA sequences of hydrogen bacteria. Microbiology (Russia) 52: 890-895.

Balakhonov S., Donskoy D. Koromylov G. Pinigin A. and S. Artiushin. 1986 Nucleotide Composition and Hybridization of *Brucella* DNA isolated from Reindeers. Mol. Genetic, Microbiology, Virology. (Russia) 2, 43-46

Koromyslov G. F., Zaberezhny A. D., Artiushin S. and A. Sorokin. 1986 Molecular cloning of the Porcine Parvovirus genome fragments. Proceedings of Agricultural Academy of Sciences. (Russia). 5:28-29

Koromyslov G. F., Artiushin S., Orliankin B., Zaberezhny A. and A. Konorova. 1986 Molecular characteristics of Porcine Parvovirus genome. Agricultural biology. (Russia) 7:60-61

Artiushin S. and V. Melnichenco. 1986 Nucleotide composition, genome size and sequence homology of DNA of virulent and vaccine strains of Brucella. Agricultural biology. (Russia) 10: 98-99

Koromyslov G. F., V. N. Grachuk, V. Zakhar'ev, Artiushin S. C., and K. Skryabin. 1987 Synthesis and molecular cloning of swine rotavirus cDNA in *E. coli*. Soviet agricultural biology. 4: 53-55

Sergeev V. A., Rukhadze G., S. Artiushin and V. Haustov. 1987 Ultrastructure and molecular organization of the Swine Rotavirus. Proceedings of Agricultural Academy of Sciences. (Russia). 6:38-40

Koromyslov G. F., Fomin B. Andreeva Z. Khramova N., Barkhudaryan B. Ershova E. and S. Artiushin. 1988 Classification of corynemorphic bacteria isolated from healthy and leucotic cows, using molecular characteristics of their DNA. Agricultural biology. (Russia) 1: 27-30

Koromyslov G. F., Zaberezhny A., Artiushin S., and B. Orliankin. 1988 Detection of Swine Parvovirus by DNA-DNA hybridization. Proceedings of Agricultural Academy of Sciences. (Russia). 11 :29-32

Melnichenco V. I., Tolmacheva T. A., S. K. Artiushin. 1988. Using DNA-DNA hybridization for identification of brucella L-form. Zh Mikrobiol Epidemiol Immunobiol. (Russia) 10: 110

Artiushin I., Artiushin S. and S. Panasuk. 1988 Development of gene library of *Bacteroides nodosus*. Proceeding of VIEV (Russia) 66: 21-23

Rukhadze G., Aliper T., Sergeev V., Schegiova E., S. Artiushin and Feoktistova. 1988 Development of enzyme immunoassay test systems for the detection of swine transmissible gastroenteritis virus antigen. Voprosi virusologii (Russia) 88: 315-319

Koromyslov G. F., Artiushin S. C., Zaberezhny A D. and V. N. Grachuk. 1990. Development of Hybridization Probes on the Basis of Recombinant DNA to Identify Porcine Parvoviruses and Rotaviruses. Arch. Exper. Vet. Med., Leipzig. 44:897-900

- Artiushin S. C., Kulikov I. L., Diaknov L. P. and G. F. Koromyslov. 1990. Detection of Mycoplasmas in cell cultures using DNA-DNA hybridization. Proceedings of Agricultural Academy of Sciences. (Russia). 2:44-47
- Artiushin I., Karovaev U., and S. Artiushin. 1990. DNA homology of *Bacteroides nodosus* strains. Proceeding of VIEV (Russia) 70: 95-97
- Morozov I. D., Shuliak A F., Artiushin S. C. and G. F. Koromyslov. 1991. Differentiation of BHV -I strains by restriction analysis technique. Mol. Genetic, Microbiology, Virology. (Russia) 4:29-32
- Fomin B. A., Koromyslov G. F., Artiushin S. C., Skorodumov D. I., Sidorov M. A. 1992. – DNA homologies of *H.pleuropneumoniae* and other species of Pasteurellaceae . Veterinary (Russia), N 6,28-30.
- Malkov I. G., Artiushin S. C., Fomin B. and G. F. Koromyslov. 1993 Development of a method for identifying bovine and human types of mycobacteria using the polymerase chain reaction. Mol. Genetic, Microbiology, Virology. (Russia) 2: 27-30
- Artiushin S., Stipkovits L., and F. C. Minion. 1993. Development of PCR primers to detect *Mycoplasma hyopneumoniae*. Molecular and Cellular Probes. 7:383-385
- Artiushin S. C., Minion F. C. and M. Duval. 1995 Phylogenetic analysis of *Mycoplasma* strain ISM1499 and its assignment to the *Acholeplasma oculi* strain cluster. Int. J. of Systematic Bacteriology. 45: 104-109
- Artiushin S. C. and F. C. Minion. 1996 Arbitrarily primed PCR analysis of *Mycoplasma hyopneumoniae* field isolates demonstrates genetic heterogeneity. Int. J. of Systematic Bacteriology. 46: 324-328
- Hsu T., Artiushin S. C., and F. C. Minion. 1997 Cloning and functional analysis of the P97 swine cilia adhesin gene of *Mycoplasma hyopneumoniae*. J. Bacteriology 1997 1317-1323
- Artiushin S, Timoney JF. 1997 PCR for detection of *Streptococcus equi*. Adv Exp Med Biol.; 418:359-61
- John F. Timoney, Sergey C. Artiushin, and Jeffrey S Boschwitz 1997 Comparison of the Sequences and Functions of *Streptococcus equi* M-like Proteins SeM and SzPSe. Infection and Immunity. 65; 3600-3605

- J. F. Timoney, S. C. Artiushin 1997 Detection of *Streptococcus equi* in equine nasal swabs and washes by DNA amplification. The Veterinary Record. 25; 446-447
- Timoney JF, Sheoran A, Artiushin S. 1998 Detection of strangles carriers. Vet Rec. Jun 6;142(23):648
- J. F. Timoney, S. C. Artiushin, and J. Wang 1998 Regions of the protective M-like protein of *Streptococcus equi* recognized by serum and mucosal antibodies of convalescent horses. Equine Infectious Diseases. VIII; 88-94
- S. C. Artiushin, J. F. Timoney and J. Nally 1998 Detection of *Leptospira interrogans* serovar pomona type kennewicki by PCR. Equine Infectious Diseases. VIII; 518
- Artiushin S., Sheoran A., Timoney J. F. 2000 Comparison of cholera toxin chimera and attenuated *Salmonella typhimurium* as vectors for mucosal delivery of an antigenic peptide of *Streptococcus equi*. in "Streptococci and streptococcal diseases – entering the new millennium" 621-623
- Timoney J. F., Wang J., Artiushin S., Sheoran A., and Nally J. 2000 Virulence and immunogenicity of a clone of *Streptococcus equi* in which expression of SeM is blocked by Tn 916 mutagenesis. in "Streptococci and streptococcal diseases – entering the new millennium" 699-702
- Nally J., Artiushin S., Sheoran A., Burns P. J., Simon B., Gilley R. M., Gibson J., Sullivan S., Timoney J. F. 2000 Induction of mucosal and systemic antibody specific for SeMF3 of *Streptococcus equi* by intranasal vaccination using a sucrose acetate isobutyrate based system. Vaccine. 19; 492-7
- Nally JE, Artiushin S, Timoney JF. 2001 Molecular characterization of thermoinduced immunogenic proteins Q1p42 and Hsp15 of *Leptospira interrogans*. Infect Immun. Dec;69(12):7616-24.
- Sheoran AS, Artiushin S, Timoney JF. 2002 Nasal mucosal immunogenicity for the horse of a SeM peptide of *Streptococcus equi* genetically coupled to cholera toxin. Vaccine. Feb 22;20(11-12):1653-9.
- Artiushin SC, Timoney JF, Sheoran AS, Muthupalani SK. 2002 Characterization and immunogenicity of pyrogenic mitogens SePE-H and SePE-I of *Streptococcus equi*. Microb Pathog. Feb;32(2):71-85.

Palaniappan RU, Chang YF, Jusuf SD, Artiushin SC, Timoney JF, McDonough SP, Barr SC, Divers TJ, Simpson KW, McDonough PL, Mohammed HO. 2002 Cloning and molecular characterization of an immunogenic LigA protein of *Leptospira interrogans*. *Infect Immun.* Nov;70(11):5924-30

Artiushin S., J. F. Timoney, J. Nally, and A. Verma. 2004. Host-Inducible Immunogenic Sphingomyelinase-Like Protein, Lk73.5, of *Leptospira interrogans*. *Infect. Immun.* 72(2):742-749.

Verma, A., S. Artiushin, J. Matsunaga, D. A. Haake, and J. F. Timoney. 2005. LruA and LruB, Novel Lipoproteins of Pathogenic *Leptospira interrogans* Associated with Equine Recurrent Uveitis., *Infect. Immun.* 73(11):7259-7266.

Verma A, Hellwage J, Artiushin S, Zipfel PF, Kraiczy P, Timoney JF, Stevenson B. 2006. LfhA, a novel factor H binding protein of *Leptospira interrogans*. *Infect. Immun.* May;74 (5):2659-66.

Tiwari, R., Artiushin, S. and Timoney J. F. 2006. P9, a temperate bacteriophage of *Streptococcus equi*. In *Streptococci-New Insights into an Old Enemy*, Ed. K. S. Sriprakash. Int. Congress Series 1289, Elsevier, The Netherlands. pp 267-70

Tiwari R, Qin A, Artiushin S, Timoney JF. 2007 Se18.9, an anti-phagocytic factor H binding protein of *Streptococcus equi*. *Vet Microbiol.* Mar 31;121(1-2):105-15.

Timoney JF, Qin A, Muthupalani S, Artiushin S. 2007 Vaccine potential of novel surface exposed and secreted proteins of *Streptococcus equi*. *Vaccine.* Jul 26;25(30):5583-90.

Patricia A. Pesavento, Kate F. Hurley, Mike Bannasch, Sergey Artiushin, and John F. Timoney. 2008. An outbreak of acute fatal hemorrhagic pneumonia in intensively housed (shelter) dogs caused by *Streptococcus equi* subsp. *zooepidemicus*. *Veterinary Pathology* Jan;45(1):51-3

Causey RC, Artiushin SC, Crowley IF, Weber JA, Homola AD, Kelley A, Stephenson LA, Opitz HM, Guilmain S, Timoney JF. 2009. Immunisation of the equine uterus against *Streptococcus equi* subspecies *zooepidemicus* using an intranasal attenuated *Salmonella* vector. *Vet J.* May 30. (Epub ahead of print)

## PRESENTATION ON SCIENTIFIC MEETINGS

"Non- Radioactive Hybridizations Probes for Detection of Herpes and Rotaviruses". Third Riems Symposium "Genetic Engineering in Virological Research", Greifswald, Germany, Nov. 1990 (with I. D. Morozov, V. N. Grashuk).



"Development of DNA-hybridization probe for identification of *Liptospira interrogans* serovar pomona". VII European and II USSR Leptospirosis research conference, Moscow, Russia, February 20-22, 1991 (with Belousov V., Bikova N. and I. Turina).

"Using DNA-hybridization Kit for detection Brucella strains". All-Union epizootology conference Novosibirsk, September 24-26, 1991 (with Brovik E. and B. Fomin).

"Species-Specific DNA Probe for *M. hyopneumoniae*." 9<sup>th</sup> International Congress of the IOM, August 1992, Ames, Iowa USA (with L. Stipkovits, G. F. Koromislov, B. A Fomin).

"Polymerase Chain Reaction for Detection of *M. hyopneumoniae*". 93rd General Meeting of ASM, May 1993 Atlanta, Georgia USA (with F. C. Minion, L. Stipkovits).

"PCR for detection and differentiation of *Mycoplasma hyopneumoniae*" Virulence mechanism of Bacterial Pathogens. International Symposium. Ames, Iowa, June 6-8, 1994. (with C. F. Minion).

"Arbitrarily-primed PCR Analysis of *Mycoplasma hyopneumoniae*". 94th General Meeting of ASM. May 1994 Las Vegas, Nevada USA (with F. C. Minion).

"Phylogenetic Analysis of *Acholeplasma oculi* ISM1499". 10<sup>th</sup> International Congress of IOM, July 1994, Bordeaux, France (with F. C. Minion).

"Use of A Novel opal suppressor strain of *E. coli* to screen *M. hyopneumoniae* Gene Libraries" 10<sup>th</sup> International Congress of IOM, July 1994, Bordeaux, France (with F. C. Minion, Van Dyk C., Smiley B. K.).

" Alternate methods of transforming Mycoplasmas" 10<sup>th</sup> International Congress of IOM, July 1994, Bordeaux, France ( with Kapke P. and C. F. Minion).

"New member of the M-like protein family of *Streptococcus equi*". 96<sup>th</sup> General Meeting of ASM, May 1996, New Orleans, Louisiana USA. (with J. F. Timoney).

"The M-like protein of *Streptococcus equi*". 13<sup>th</sup> Lancefield International Symposium on Streptococci and Streptococcal Diseases, September 1996, Paris, France. (with J. F. Timoney).

"PCR for detection of *Streptococcus equi*". 13<sup>th</sup> Lancefield International Symposium on Streptococci and Streptococcal Diseases, September 1996, Paris, France. (with J. F. Timoney)

"Phylogenetic Analysis of *Streptococcus equi* and *Streptococcus zooepidemicus*" 99<sup>th</sup> General Meeting of ASM, May 1999, Chicago, USA (with J. F. Timoney).

"Comparison of cholera toxin chimera and attenuated *Salmonella typhimurium* as vectors for mucosal delivery of an antigenic peptide of *Streptococcus equi*." 14<sup>th</sup> Lancefield International

Symposium on Streptococci and Streptococcal Diseases, October 1999, Auckland, New Zealand (with J. F. Timoney, Sheoran A.).

“Virulence and immunogenicity of a clone of *Streptococcus equi* in which expression of SeM is blocked by Tn 916 mutagenesis”. 14<sup>th</sup> Lancefield International Symposium on Streptococci and Streptococcal Diseases, October 1999, Auckland, New Zealand (with J. F. Timoney, Wang J, Nally J)

“Induction of Mucosal IgA specific for SeMF3 of *Streptococcus equi* using Sucrose Acetate Isobutyrate as a Vehicle.” 100<sup>th</sup> General Meeting of ASM, May 1999, Chicago, USA (with J. F. Timoney, P. J. Burns, J. Gibson, R. Gilley, J. E. Nally, A. Sheoran, B. W. Simon, S. Sullivan)

“Isolation and Molecular Analysis of a Host-Inducible Lipoprotein from *Leptospira interrogans* Serovar Pomona Type Kennewicki.” 101<sup>th</sup> General Meeting of ASM, May 2001, Orlando, USA (with J. F. Timoney, Jarlath E. Nally).

“Molecular Cloning and Characterization of a 90 kDa Membrane Protein of *Leptospira interrogans* Serovar Pomona Type Kennewicki.” 101<sup>th</sup> General Meeting of ASM, May 2001, Orlando, USA (with J. F. Timoney, S. C. Barr, Y-. F. Chang, T. Divers, S. S. D. Jusuf, P. McDonough, S. McDonough, P. U. M. Raghavan).

“Characterization of Two Temperature Regulated Proteins of *Leptospira interrogans*.” 101<sup>th</sup> General Meeting of ASM, May 1999, Orlando, USA (with J. F. Timoney, Jarlath E. Nally).

“Identification of “Potential Protective Antigens of *Streptococcus equi*.” 101<sup>th</sup> General Meeting of ASM, May 2001, Orlando, USA (with J. F. Timoney, Aiping Qin).

“Variable Distribution and Sequences of Genes for Surface Proteins in *Streptococcus equi* and *S. zooepidemicus*.” 102<sup>d</sup> General Meeting of ASM, May 2002, Salt Lake City, USA (with J. F. Timoney, Grant Burcham, Aiping Qin).

“Leptospirosis: Evaluation of the Leptospiral Recombinant Antigens in a Hamster Model.” 102<sup>d</sup> General Meeting of ASM, May 2002, Salt Lake City, USA (with J. F. Timoney, S. Barr, Y. Chang, T. Divers, S. McDonough, R. Palaniappan).

S. Muthupalani, A. Qin, S. Artiushin, J. F. Timoney (2003). Novel Immunogenic Proteins of *Streptococcus equi* Active in Equine Platelet Aggregation and Adhesion. 103 ASM General Meeting, Washington, DC.

A. Verma, S. C. Artiushin, K. M. Shuck, J. F. Timoney (2003); Cytotoxic Effects of the

Sphingomyelinase-Like Lk 73.5 on Equine Pulmonary Endothelial Cells.103 ASM General Meeting, Washington, DC.

S. C. Artiushin, J. F. Timoney, C. A. Wagner, S. K. Muthupalani, J. A. Walker (2003) Identification of Two New Superantigen-Like Mitogens of *Streptococcus equi*. 103 ASM General Meeting, Washington, DC.

Sergey C. Artiushin and John F. Timoney (2003) Reactivity of recombinant proteins of *Streptococcus equi* with mucosal IgA. 84 CRAWD Annual Meeting, Chicago, IL.

Ashutosh Verma, Sergey Artiushin and John F. Timoney (2003). Intraocular expression of proteins of *Leptospira interrogans* in uveitic horses. 84 CRAWD Annual Meeting, Chicago, IL

S. Muthupalani, A. Qin, P. Kumar, S. C. Artiushin, J. F. Timoney (2003). Functional studies on surface proteins of *Streptococcus equi* encoded by genes of linkage Group1. 84 CRAWD Annual Meeting, Chicago, IL

R. Tiwary, A. Qin, S. C. Artiushin, P. Kumar, J. F. Timoney (2003). Se18.7, a novel secreted protein of *Streptococcus equi* which binds to striated muscle and inhibits phagocytosis. 84 CRAWD Annual Meeting, Chicago, IL

P. Kumar, S. Muthupalani, A. Qin, , S. C. Artiushin, J. F. Timoney (2003). Interaction of surface exposed proteins of *Streptococcus equi* with equine tonsillar tissues. 84 CRAWD Annual Meeting, Chicago, IL

S. C. Artiushin, A. Verma, J. F. Timoney (2004). Evaluation of Recombinant Proteins in ELISA for Serodiagnosis of Leptospirosis in the Dog. 104 ASM General Meeting, New Orleans, LA

R. Tiwari, A. Qin, S. Artiushin, J. F. Timoney (2004) *Se18.7*, a Novel Antiphagocytic Protein of *Streptococcus equi*. 104 ASM General Meeting, New Orleans, LA

Verma, S. Artiushin, J. F. Timoney (2004) Intra-Ocular Expression of *Leptospira* Proteins in Uveitic Horses. 104 ASM General Meeting, New Orleans, LA

S. Muthupalani, A. Qin, S. C. Artiushin, J. F. Timoney (2004) Evaluation of Vaccine Targets Identified in a Genomic Library of *Streptococcus equi*. 104 ASM General Meeting, New Orleans, LA

S. C. Artiushin, J. F. Timoney (2004). Variability of Se18.7, SeM and Se46.8 proteins in strains of *Streptococcus equi* and *Streptococcus zooepidemicus*. 85 CRAWD Annual Meeting, Chicago, IL.

Raksha Tiwari, Sergey Artiushin and John Timoney (2004). P9, a temperate bacteriophage of *Streptococcus equi*. . 85 CRAWD Annual Meeting, Chicago, IL.

Ashutosh Verma, Sergey Artiushin and John F. Timoney. (2004) Antigenic relationship between *Leptospira interrogans* and equine ocular tissue. 85 CRAWD Annual Meeting, Chicago, IL.

Ashutosh Verma, Jens Hellwage, Sergey Artiushin, , Brian Stevenson, John Timoney, LfhA, a Novel Factor H Binding Protein of *Leptospira interrogans* (2005) ASM General Meeting, Atlanta

Raksha Tiwari, Sergey Artiushin, John Timoney (2005) Characterization of P9, a temperate bacteriophage of *Streptococcus equi* ASM General Meeting, Atlanta

S. C. Artiushin, J. F. Timoney (2005) Difference in sequence and expression of immunoreactive proteins Se18.7, SeM and Se46.8 in *Streptococcus equi* and *Streptococcus zooepidemicus*. Functional Genomics of Gram-positive microorganisms (13<sup>th</sup> International Conference). San Diego

Raksha Tiwari, Sergey Artiushin, John F. Timoney (2005) P9, a Temperate Bacteriophage of *Streptococcus equi*. XVI<sup>th</sup> Lancefield International Symposium, Australia.

S. C. Artiushin, J. F. Timoney (2005) PCR and ELISA for detection of leptospira in horses. CRWAD Annual Meeting, St. Louis.

Sergey Artiushin, John Walker and John Timoney.(2006) Mobile Genetic Elements in Genomes of *S. equi* and *S. zooepidemicus*. The 7<sup>th</sup> ASM Conference on Streptococcal Genetics. Saint-Malo, France.

John Timoney, Aiping Qin, Suresh Muthupalani and Sergey Artiushin. (2006) Equine immune response to proteins of *S. equi* and *S. zooepidemicus*. 4<sup>th</sup> International Vet. Vaccines and Diagnostic Conference. Oslo, Norway.

Sergey Artiushin, John Timoney, Yanhong Tong and Anne Schlegel. (2007) Evaluation of the isothermal helicase dependent amplification (HDA) assay for detection of *Streptococcus equi*. CRWAD Annual Meeting, Chicago.

John F. Timoney, Catherine Merant Sergey Artiushin, Cynthia Crawford, Patricia Pesavento, William Fortney, and Su-Ann Murdock. (2007)Characteristic of *Strptococcus zooepidemicus* from outbreaks of hemorrhagic pneumonia in canines. CRWAD Annual Meeting, Chicago

S. Artiushin and J. F. Timoney (2008) Presence of prophages in *Streptococcus equi* and *Streptococcus zooepidemicus*. 16th International Meeting on Microbial Genomics, Arrowhead, California.

Sergey Artiushin, S. Gorecki, John F. Timoney and Rafaela De Negri (2008) Streptokinases of *Streptococcus equi* and *zooepidemicus*. CRWAD Annual Meeting, Chicago

Rafaela De Negri, John F. Timoney and Sergey Artiushin. (2008) Immunologic significance of N-terminal amino acid variation in SeM of *Streptococcus equi*. CRWAD Annual Meeting, Chicago

Sergey Artiushin, Rafaela De Negri and John F. Timoney (2009) Streptokinases of *Streptococcus equi* and *zooepidemicus*. ASM General Meeting, Philadelphia

K Natarajaseenivasan, K Vedhagiri, S Artiushin, J F Timoney. (2009) Characterization of *Leptospira* isolates from field rats in a farming community. ASM General Meeting, Philadelphia

John F. Timoney, K. Natarajaseenivasan, Mike Fettinger, Mike Donahue and Sergey C. Artiushin. (2009) Identification of *Leptospira interrogans* serovar Pomona type kennewicki in specimens from horses and wild animals. CRWAD Annual Meeting, Chicago

Sergey C. Artiushin and John F. Timoney. (2009) Development of isothermal helicase dependent DNA amplification (tHDA) assay for detection of pathogenic leptospira. CRWAD Annual Meeting, Chicago

## PATENTS

Patent SU662579 (Russia) – Method of automatic control of microorganism growth.

Patent SU1648089 AI (Russia) - Recombinant plasmid pB7C as hybridization probe for identification of brucella.

Patent SU1679797 AI (Russia/Hungary) - Recombinant plasmid pMHP05 as hybridization probe for identification of *Mycoplasma hyopneumoniae*.

Patent SU1664831 A1 (Russia) - The method of identification of the Porcine Parvoviruses by using DNA-DNA hybridization with recombinant plasmids pPV4 and MI3/PPV.

Patent SU1621509 A1 (Russia) - *Corynebacterium parvum* KT-26 (GISK 189) as unspecific stimulant of host resistance.

Patent SU1687605 A1 (Russia) - Method of species specific identification of L-form of mycobacteria.

U.S. Patent 5,712,090 - PCR-Based assay for *Mycoplasma hyopneumoniae*.

U.S. Patent 6,458,358 - Compounds encoding the protective M-like protein of *Streptococcus equi* and assays therefor.

**Ernest Bailey**

M.H. Gluck Equine Research Center  
Department of Veterinary Science  
University of Kentucky  
Lexington, KY 40546-0099  
voice: 1-859-257-4757, x1105  
facsimile: 1-859-257-8542  
email: ebailey@uky.edu

**University Education**

PhD, 1980, Genetics, University of California, Davis  
MS, 1975, Comparative Pathology, University of California, Davis  
BS, 1973, Genetics, University of California, Davis

**Research and Professional Experience**

November 1979 to present:

Department of Veterinary Science, University of Kentucky  
Assist. Prof. 1979; Assoc. Prof. 1984; Prof. 1990.  
Sabbatical at University of Bern, Switzerland, Aug 1990 to Aug 1991

**Membership in Scientific Societies**

International Society of Animal Genetics  
American Association for Advancement of Science  
American Genetics Association  
Equine Science Society

**Service in National and International Organizations**Editorial Boards

Editorial Board, *Mammalian Genome* (12/2006-11/2011)  
Editorial Board: *BMC Genetics* (July 2005- present)  
Associate Editor, *Journal of Heredity* (2004-present)  
Editorial Board Member, *Animal Biotechnology* (1989-2001; 2001- present).  
Editorial Board Member, *Animal Genetics* (elected 1988-2000; 2000-2004; 2004-2010).  
Guest Editor, *Animal Genetics*, Stormont Festschrift issue (1994)

Site Reviews

External Review Committee for NSF Peromyscus Stock Center, Columbia, SC 2007-2009..  
Site visit/panel review for studies by Emmeline Hill on Genetics of Performance in Race Horses: Science Foundation Ireland; Dublin, Ireland April 25-27, 2007.  
Site visit/panel review for studies by David MacHugh on Analysis of mammalian physiological and genetic regulatory networks using cDNA microarrays: Science Foundation Ireland; Dublin, Ireland March 26-29, 2008

Research Service

Morris Animal Foundation's Large Animal Scientific Advisory Board: 2009-2012.  
American Society for Animal Science (ASAS) reviewer for Horse Image Collection (2007-2009).  
International Society of Animal Genetics: Executive Committee Member of the International Society of Animal Blood Group Research (ISABR); July 1982 - July 1988. Chair of ISAG Horse Gene Mapping Committee (1996-2000) Horse genomics standing committee member (elected 2004-2006, Deputy Auditor (elected 2006-2010), Horse Parentage subcommittee on SNPs (appointed 2006-2008); Executive Committee (elected 2008-2012).  
Technical Committee for National Research Sponsored Project 8 (NRSP-8) of the USDA on Animal Genome Research; Species coordinator for the horse, 1996-1998/1998-2003; 2003-2008; 2008-1013; Chairperson of the horse committee, 1996. Co-Chair for the USDA Bioinformatics Electronic Workshop, October 2002.  
Coordinator for the *International Equine Gene Mapping Workshop* (1995-present).  
Curator of Horse Genome Database; Roslin, Edinburgh (1997- 2002)

Research Panels

Panel member: USDA-NRICGP (Functional Genomics of Biologically Important Organisms/Animals panel) October 2004.  
Panel member: USDA-NRICGP (Functional Genomics of Biologically Important Organisms/Animals panel) March 2004.

Panel member: USDA-NRICGP sec. 43.0 (Genetic mechanisms and gene mapping) June 1995.

Panel member: USDA-NRICGP sec. 43.0 (Genetic mechanisms and gene mapping) June 1994.

Panel member, FY2001 IFAFS- USDA, section 10.2, Animal Genome; June 5-8, 2001.

### Meeting Organization

Equine Science Society; Chair of Genetics Section for 2009 meeting.

Member, Scientific Organizing Committee for 30<sup>th</sup> Conference of the International Society of Animal Genetics (Salvador, Brazil; 2006)

Co-Organizer, 14<sup>th</sup> North American Colloquium on Animal Cytogenetics and Gene Mapping. (Guadalupe, Mexico; July 2005)

Scientific Organizer for 5<sup>th</sup> International Workshop on Horse Genomics conducted by the Dorothy Russell Havemeyer Foundation, August 11-15, 2003; Kruger Park, South Africa.

Co-Organizer, 13<sup>th</sup> North American Colloquium on Animal Cytogenetics and Gene Mapping; Louisville, KY July 13-17, 2003.

Organizing Committee for *Genomic Approaches to Equine Immunology*, Cornell University, June, 2003.

Organizing Committee Member; 2001 Brisbane Conference of the International Equine Gene Mapping Workshop held July 3-7, 2001.

Co-Organizer of *Banbury Conference on Genetics of Performance for the Horse*; March 1998.

Member, Scientific Program Committee for 22<sup>nd</sup> Conference of the International Society of Animal Genetics (1988-1990).

Organizer of the 1985 ISABR Horse Blood Typing Comparison Test.

Organizer and host of 1985 Workshop on Equine Lymphocyte Alloantigens.

Co-Chairman of the International Workshops on Lymphocyte Alloantigens of the Horse; October 1981 - October 1982; October 1982 - May 1984 (chair); May 1984-October 1985.

### **Graduate Student Committees**

#### In Progress

\* John Eberth, (MS) advisor; begun Summer 2007.

\*Deborah Cook, (PhD), advisor; begun Fall 2006.

\*Rose McGee, (MS) co-advisor; begun Fall 2008.

Stephen Coleman, (PhD) committee; begun Fall 2008.

Claudia Klein (PhD) committee, begun Fall 2008.

#### Completed

Mike Mienaltowski (PhD) committee; completed Fall 2008.

Barbara Murphy, (PhD), committee; completed Summer 2007.

Mandy Vick (PhD), committee; Completed December, 2006.

Rajshekhhar Gaji, (Phd), committee; completed July 2006

\*Samantha Brooks, (PhD), major advisor; completed May 2006

Stephen Coleman (MS), committee; completed May 2006

Rashada Alexander, (PhD in Chemistry) committee; Completed December 2004.

Christine Mains (MS), committee, completed August, 2004.

\*Catherine Wagner (PhD), major advisor; completed Aug 2004.

Kimberly Meek (PhD in Animal Science), committee; completed July 2004.

\*Michelle Mousel (PhD), major advisor, completed December 2003.

\*Jennifer Myka (PhD), co-advisor, completed August 2003.

Levant Dirikolu; committee (PhD); completed August 2001.

Rebecca Terry/Bellone; committee (PhD); completed August 2001.

Cormac Breathnach; committee (PhD) completed August 2001.

\*Patrick Gallagher (PhD); major advisor, completed April 2001.

\*Louis Lieto; committee (PhD); co-advisor, completed January 2001.

Christine McManus; committee (PhD); completed January 2001.

Kimberly Proffitt Smith; committee (MS); completed August 2000.

Andrew Flannery; committee (MS); completed August 1999.

Heather Bair; committee (MS); completed July 1999.

Nancy Raney; committee (MS); completed May 1999.

Doreen Lang; committee (MS); completed March 1999.

Gene Ferguson; committee (MS); completed Dec. 1998.



Byung Chul Ahn; committee (MS); completed Dec. 1998.  
 \*Darrilyn G. Fraser; major advisor (PhD); completed May 1998.  
 Bin Yu; committee (MS); committee; completed May 1998.  
 Steve Schneider; committee (MS); completed May 1998.  
 Liang Fangting (PhD); committee; completed May 1998.  
 Nicole Sullivan; committee (MS); completed September 1997.  
 \*Teri Lear; major advisor (PhD); completed April 1997.  
 Christine McManus; committee (MS); completed December 1996.  
 Clara Fenger; committee (PhD); completed March 1996.  
 Melissa Schmidt; committee (MS); completed, June 1993  
 Reed Holyoak; committee (PhD); completed July 1992.  
 Neil Williams; committee (PhD); completed July 1992.  
 \*John Langemeier; major advisor (MS); completed December 1991.  
 Karen Affleck; committee (PhD); completed December 1991.  
 \*Darrilyn G. Albright; major advisor (MS); completed August 1989.  
 Alex Alexander;(MI Department) committee (PhD); completed May 1989.  
 Joan Combie; committee (PhD); completed 1982.

#### Other Institutions

Jingjing Gu; University College Dublin; Outside examiner (PhD); June 2009.  
 Aisling Heffernan; University College Dublin; Outside Examiner (MS); May 2007  
 Rebecca Tallmadge; Cornell University; Outside examiner (PhD); August 17, 2005.  
 Stephan Reider; ETH Zurich; Co-referee/examiner (Doctorate), March 5, 1999.  
 Rosemary C. Morrin-O'Donnell; University College Dublin; outside reviewer (MS), 1999.  
 Frank Vari; University of Brisbane; outside reviewer (PhD), 1993.  
 Carol Park; Ohio State University; co-advisor (PhD) 1988-1990.  
 Rick Symons; University of Brisbane; outside reviewer (PhD), 1988.

#### U. K. Graduate School Representative for Dissertation Examination

Susana Portocarrero; August 2004; Animal Science  
 Jamie Horn; April 18, 2001; Pharmacology  
 Gabriel Bikah; May 20, 1997; Microbiology and Immunology  
 Liwang Cui; April 12, 1996; Entomology  
 David Pflug; March 1995; Microbiology and Immunology  
 Yi Halvorsan; June, 1990; Biochemistry  
 Robert John Guttendorf; December 16, 1988, Pharmacology

#### **Undergraduate Teaching**

Instructor for Discovery 130 (3 units): Hoofbeats means Horses Fall 2005, Fall 2006, Fall 2007, Fall 2008.  
 Research Advisor to undergraduate students in Agricultural Biotechnology 1989-present.

Jamie Cottrell 2010-2012  
 Beth Gehlbach 2002-2005  
 Stephen Coleman 2002-2003  
 Samantha Currens, 2000-2001  
 Tanya Thacker 1998-1999  
 Rollie Reid 1995-1996  
 Amanda Vales 1989-1990,  
 Linda Snyder 1989-1990

Instructor for UK101: Fall 96, Fall 97, Fall 98, Fall 99, Fall 00, Fall 06, Fall 07, Fall 08  
 Instructor AGR/ENT460 Introduction Molecular Genetics; 2 units Spring 1993, 1994, 1995.  
 Pre-Veterinary student advisor 1991-1995; 2001-2005.  
 Co-instructor for Genetics (ASC/AGR 360); 15 lectures in Fall 1989.

#### **Mentoring High School Students**

Dunbar Math and Science Program:  
 Sarah Minor 2005-2007  
 Greg Artiushin 2005-2007  
 George Zhang 2005-2007  
 Katie Mroz-Barrett 2003-2005  
 Megan Cullar; 2001-2004  
 Erik Weber; 2001-2003  
 Karen Hancock; 2000-2002

Lucy Martin; 1999-2000.  
 Beth Gehlbach: 1998-1999.  
 Christine Hansen: 1997-1998.  
 Mihira Jayasekera: 1995-1996.

#### **University/College/Department Service**

Medical Center Clinical Sciences Area Advisory Committee (Sept 2009- August 2011)  
 University Committee on Intellectual Properties (Sept 1998-Aug 2001; Sept 2001-Aug 2004; Sept 2004- Aug 2007; Sept 2007-Aug 2010)  
 Veterinary Science Committee to advisory on experiment station proposals (2002-2008, chair, 2005-2010)  
 Veterinary Science Committee advisory on appointments and promotions (2008-2010)  
 Veterinary Science Committee advisory on communications (2008-2010)  
 Veterinary Science Committee advisory on Mellon Postdoctoral Fellowship (2008-2010)  
 Senate Advisory Committee on Privilege and Tenure (2006-2007)  
 Interim Director, MH Gluck Equine Research Center (May 2006-July 2007)  
 Veterinary Science Committee on Faculty Performance (2005-2007)  
 University Search Committee for Provost (2005-2006)  
 Gamma Sigma Delta: Graduate Students Awards Committee (2004-2005)  
 Oswald Undergraduate Creativity Project (Biological Sciences) Judge: 2004, 2005.  
 College of Agriculture Strategic Planning Committee (Fall 2003)  
 University Research Area Committee (2003-2008)  
 Medical Center Clinical Sciences Area Advisory Committee (Sept 1999-Aug 2001; Sept 2001-Aug 2003; Sept 2003-Aug 2005)  
 University Senate; Fall 2000-Fall 2002; Fall 2003-Fall 2006(Secretary 2004- 2005); Senate Council, Jan 2002 –June 2005 (vice-chair, 2004- 2005); Senate committee on rules 2001- 2003; Graduate Council 2002-2003; Academic Organization and Structure 2002-2006 (chair 2004-2006).  
 Graduate School Dissertation Year Fellowship Committee (2003-2004)  
 Veterinary Science Committee on Appointments, Promotion and Tenure (2002-2005)  
 Veterinary Science Committee to review experiment station proposals (2002-2005, chair 2005-2007)  
 College of Agriculture Faculty Council (August 2002- August 2004)  
 Graduate Council Committee on Fellowships and Traineeships (2001-2004).  
 Search/Advisory Committee for Associate Provost for Academic Affairs (Spring 2003)  
 Review Committee for RGS Research Committee Grants (Fall 2002).  
 Graduate School Multi-Year Fellowship Committee (Spring 2002, 2003)  
 College of Agric. Search for Veterinary Sciences Department Chair (Fall 2001)  
 Gamma Sigma Delta unit coordinator (1998, 1999, 2000, 2001, 2002, 2003)  
 University Search Committee, Dean of Agriculture; Summer/Fall 2000.  
 College Symposium on Promotion and Tenure, Panel member; April 24, 2000.  
 Agricultural Genomics *ad hoc* Committee, 2000-2001.  
 Faculty's Genetics Center Steering Committee, (elected Ag sector rep. & secretary, 1999-2000)  
 -Co-organizer of Symposium on Genomics and Bioinformatics, October 12, 2000.  
 University of Kentucky Life Sciences Day Committee, member (1999).  
 Review Committee for RGS Research Committee Grants (Spring 1999).  
 College of Agriculture Faculty Performance Review Appeals Committee (March 1999)  
 Dean's advisory committee, Appointment of Assoc. Dean of Research (Sept-Dec, 1998)  
 College of Agriculture Dept. Review committee for Plant Pathology (Nov97-Feb98).  
 United Way representative for Veterinary Science (Fall 1997).  
 University of Kentucky Life Sciences Day Committee member (1997).  
 College of Agr. Advisory Committee on Appointment, Promotion and Tenure (1996- 1998).  
 UK Agriculture Alumni Board of Directors, 1996-1998 faculty representative.  
 Director of Graduate Studies, Dept. Veterinary Science (January 1995-July 1999).  
 Agriculture Faculty Council subcommittee on parking (1995).  
 Review Committee for Research Committee Grants (Vice Chancellor for Research and Graduate Studies) Spring 1994; Fall 1994; Spring 1995.  
 College of Agriculture Review Committee of the Veterinary Science Department; 1993.  
 Department Strategic Planning and Advisory Committee (1992-1999)(chairman 1994-1997).  
 Department Review for Experiment Station Proposals (1992-1997).  
 Department Farm Management Committee (1991-1993).  
 Library Fund Raising Campaign, vice-chair for Vet. Sci. (1991).

Selection Committee Barnhart Graduate Student Scholarship for Excellence, 1990.

Search committees for the Veterinary Science Department:

Wright-Markey Chair (chair); 1988-1989.

Morris Information Center Librarian, 1988.

Assistant Professor of Biomechanics; 1987.

Assistant Professor of Reproductive Physiology; 1986.

College of Agriculture Review committee of the Veterinary Science Department for the College of Agriculture: 1986-1987.

College of Agriculture Review committee for Agricultural Experiment Station Projects for the College of Agriculture: September 1987-August 1989.

Director of the Horse Blood Typing Laboratory; 1984-1987.

### Refereed Publications

- Bellone, RB, Forsyth, G., Leeb, T, Archer, S, Sigurdsson, S, Mauceli, E., Enquensteiner, M., Bailey, E., Sandmeyer, L, Grahn, B (2010) Fine mapping and mutation analysis of *TRPM1*, a candidate gene for *Leopard Complex (LP)* spotting and congenital stationary Night Blindness (CNSB) in horses. and Fine Mapping the Leopard Complex (LP) Spotting Gene and Congenital Stationary Night Blindness (CSNB) in Horses *Briefings in Functional Genomics and Proteomics* (in press)
- Wade CM, Giulotto E, Sigurdsson S, Zoli M, Gnerre S, Inslan F, Lear TL, Adelson DL, Bailey E, Bellone RR, Blöcker H, Distl O, Edgar RC, Garber M, Leeb T, Mauceli E, MacLeod JN, Penedo MCT, Raison JM, Sharpe T, Vogel J, Andersson L, Antczak DF, Biagi T, Binns MM, Chowdhary BP, Coleman SJ, Della Valle G, Fryc S, Guérin G, Hasegawa T, Hill EW, Jurka J, Kiialainen A, Lindgren G, Liu J, Magnani E, Mickelson JR, Murray J, Nergadze SG, Onofrio R, Pedroni S, Piras MF, Raudsepp T, Rocchi M, Røed KH, Ryder OA, Searle S, Skow L, Swinburne JE, Syvänen AC, Tozaki T, Valberg SJ, Vaudin M, White JR, Zody MC (2009) Genome sequence, comparative analysis and population genetics of the domestic horse (*Equus caballus*). *Science* 326: 865-867.
- Cook, D, Brooks SA, Bellone R, Bailey E (2008) Missense Mutation in Exon 2 of SLC36A1 Responsible for Champagne Dilution in Horses. *PLoS Genetics* 4(9): e1000195. doi:10.1371/journal.pgen.1000195
- Bellone, RR, Brooks SA, Sandmeyer L, Murphy BA, Forsyth G, Archer S, Bailey E, Grahn B (2008) Differential gene expression of TRPM1, the likely cause of congenital stationary night blindness (CSNB) and coat spotting pattern (LP) in Appaloosa horses (*Equus caballus*). *Genetics* 179:1861-70. (doi: 10.1534/genetics.108.088807)
- Brooks SA, Lear TL, Adelson DA, Bailey E (2008) A chromosome inversion near the KIT gene and the tobiano spotting pattern in horses. *Cytogenetics and Genome Research* 119: 225-230.
- Coleman SJ, Gong G, Faile DP, Chowdhary BP, Bailey E, Liu L, MacLeod JN (2007) Evaluation of COMPASS as a comparative mapping tool for ESTs using horse radiation hybrid maps. *Animal Genetics* 38:294-302.
- Haase B, Brooks SA, Schlumbaum A, Azor PJ, Bailey E, Alaeddine F, Mevissen M, Burger D, Poncet P-A, Rieder S, Leeb T (2007) Allelic Heterogeneity at the Equine *KIT* Locus in Dominant White (*W*) Horses. *PLoS Genet* 3(11): e195 doi:10.1371/journal.pgen.0030195
- Bellone, R., Lawson S, Creeley N, Archer S and Bailey E. (2006) Analysis of a SNP found in exon 7 of equine *OCA2* and its exclusion as a cause of appaloosa spotting. *Animal Genetics* 37: 525.
- Bellone R., Lear T., Adelson D.L., Bailey E. (2006) Comparative mapping of oculocutaneous albinism type II (*OCA2*), transient receptor potential cation channel, subfamily M member 1 (*TRPM1*) and two equine microsatellites, *ASB08* and *ICA43*, among four equid species by fluorescence in situ hybridization. *Cytogenetics and Genome Research* 114: 93A.
- Brooks, SA & Bailey E (2005) Exon skipping in the *KIT* gene causes the Sabino spotting pattern in horses. *Mammalian Genome*, 16: 893-902.
- Penedo M.C.T., L.V. Millon, D. Bernoco, E. Bailey, M. Binns, G. Cholewinski, N. Ellis, J. Flynn, B. Gralak, A. Guthrie, G. Lindgren, L.A. Lyons, T. Tozaki, K. Røed & J. Swinburne (2005) International Equine Gene Mapping Workshop Report: A comprehensive linkage map constructed with data from new markers and by merging four mapping resources. *Cytogenetics and Genome Research* 111:5-15.

- Luís C., E. G. Cothran, M.M. Oom & E. Bailey (2005) Major Histocompatibility Complex locus DRA polymorphism in the endangered Sorraia Horse and related breeds. *Journal of Animal Breeding and Genetics* 122: 69-72.
- Terry, RB, S Archer, S.Brooks, D Bernoco & E Bailey (2004) Assignment of the appaloosa coat colour gene (LP) to equine chromosome 1. *Animal Genetics* 35: 134-137.
- Myka, J., T.L. Lear, M.L. Houck, O.A. Ryder & E. Bailey (2003) FISH analysis comparing genome organization in the domestic horse (*Equus caballus*) to that of the Mongolian Wild horse (*E. przewalskii*). *Cytogenetics and Genome Research* 102: 222-225.
- Myka, J., T.L. Lear, M.L. Houck, O.A. Ryder & E. Bailey (2003) Homologous fission event(s) implicated for chromosomal polymorphisms among 5 species in the genus *Equus*. *Cytogenetics and Genome Research* 102: 217-221.
- Guérin G., E. Bailey, D. Bernoco, I. Anderson, D. F. Antczak, K. Bell, I. Biro, A.T. Bowling, R. Brandon, G. Cholewinski, D. Colling, M. Eggleston, J. Flynn, B. Gralak, T. Hasegawa, M. Ketchum, G. Lindgren, L. Lyons, L.V. Millon, D. Mariat, J. Murray, A. Neau, K. Røed, K. Sandberg, L.C. Skow, I. Tammen, T. Tozaki, E. Van Dyk, B. Weiss, J. Ziegler. (2003) The Second Generation of the International Equine Gene Mapping Workshop Half-sibling Linkage Map. *Animal Genetics* 34: 161-168.
- Mousel M.R., L. Harrison, M. Donahue and E. Bailey (2003) Molecular typing of transferrin from paraffin embedded tissues of thoroughbred foals that succumbed to *Rhodococcus equi*. *Journal of Veterinary Diagnostic Investigation* 15:470-472.
- Gallagher PC, Morrison S, Bernoco D & Bailey E. (2003) Measurement of back curvature in American Saddlebred horses: structural and genetic basis for early-onset lordosis. *The Journal of Equine Veterinary Science* 23: 71-76.
- Hanzawa, K., T.L. Lear, F. Piumi and E. Bailey (2002) Mapping of equine potassium chloride cotransporter (*SLC12A4*) and amino acid transporters (*SLC7A10* and *SLC7A9*) and analysis for effect of polymorphism on osmotic fragility of red blood cells. *Animal Genetics* 33: 455-459.
- Brooks, S.A., R.B. Terry and E. Bailey (2002) Association of PCR-RFLP for KIT with Tobiano coat colour in horses. *Animal Genetics* 33: 301-303.
- Terry, R.B., E. Bailey, T.L. Lear and E. G. Cothran (2002) Rejection of *MITF* and *MGF* as the genes responsible for appaloosa coat colour spotting patterns in horses. *Animal Genetics* 33: 82-84.
- Lear, TL, Brandon, R., Piumi, F., Terry, R.R., Guérin, G., Thomas, S. & Bailey, E. (2001) Mapping 31 Horse Genes in BACs By FISH; Identification of Chromosomal Rearrangements and Conserved Synteny Relative to the Human Gene Map. *Chromosome Research* 9: 261-262.
- Terry, R.R., Bailey, E., Bernoco, D. & Cothran, E.G. (2001) Rejection of Kit as the gene responsible for appaloosa and coat color spotting patterns in horses. *Animal Genetics* 32: 98-101.
- Bailey, E, Skow, L., Bernoco, D., DelValle, A, Scavone MDP, Bowling, AT and Murray, J.D. (2000) Equine dinucleotide repeat loci LEX071 through LEX078. *Animal Genetics* 31; 286-287.
- Swinburne, J., C Gerstenberg, M Breen, V Aldridge, L Lockhart, E Marti, D Antczak, M Egglestone-Stott, E Bailey, J Mickelson, K Røed, G Lindgren, W von Haeringen, G Guérin, J Bjornasson, W.R.Allen and M Binns (2000) First comprehensive low-density horse linkage map based on two, three-generation, full-sibling, cross-bred horse reference families. *Genomics* 66: 123-134.
- Lear, TL, Piumi, F, Terry, R., Guérin, G., Bailey, E (2000) Physical mapping of horse v-fes feline sarcoma viral oncogene homologue: pyruvate kinase, muscle type; plasminogen; beta spectrin, nonerythrocytic 1; thymidilate synthetase, and microsatellite LEX078 to 1q14-q15, 1q21, 31q12-q14, 15q22, 8q12-q14, 14qter, respectively. *Chromosome Research* 8:361.
- Lear TL, Brandon R, Masel A, Bell K, Bailey E (1999) Horse alpha-1-antitrypsin (AAT), beta-lactoglobulin 1 and 2 (BLG1, BLG2) and transferrin (TF) map to positions 24q15-q16, 28q18-qter, 28q18-qter and 16q23. *Chromosome Research* 7, 667.
- Guérin G., Bailey E., Bernoco D., Anderson I., Antczak D.F., Bell K., Binns M.M., Bowling A.T., Brandon R., Cholewinski G., Cothran E.G., Ellegren H., Förster M., Godard S., Horin P., Ketchum M., Lindgren G., McPartlan H., Mériaux J-C., Mickelson J.R., Millon L.V., Murray J., Neau A., Røed K., Sandberg K., Shiue Y-L., Skow L.C., Stott M., Swinburne J., Valberg S.J., Van Haeringen H., Van Haeringen W.A., Zeigle J. (1999) Report of the International Equine Gene Mapping Workshop: Male Linkage Map. *Animal Genetics* 30: 341-354.
- Gallagher, PC, TL Lear, LD Coogle, E Bailey (1999) Two SINE families associated with equine microsatellite loci. *Mammalian Genome* 10: 140-144.
- Coogle, L. & E. Bailey. (1999) Equine dinucleotide repeat polymorphisms loci LEX064-LEX070. *Animal Genetics* 30: 71-72.

- Shiue Y-L, Bickel LA, Caetano AR, Millon LV, Clark RS, Eggleston ML, Michelmore R, Bailey E, Guerin G, Godard S, Mickelson JR, Valberg SJ, Murray JD, Bowling AT (1999) A synteny map of the horse genome comprised of 240 microsatellite and RAPD markers. *Animal Genetics*, 30: 1-9.
- Lear TL, Coogle LD, Bailey E (1998) Assignment of the horse mitochondrial glutamate oxaloacetate transaminase 2 (GOT2) and v-Kit Hardy Zuckerman 4 feline sarcoma viral oncogene homolog (KIT) to horse chromosome 3 by in situ hybridization. *Cytogenetics and Cell Genetics* 82: 112-113.
- Lear TL, Adams MH, Sullivan ND, McDowell KJ, Bailey E (1998) Assignment of the horse progesterone receptor (PR) and estrogen receptor (ER) to horse chromosomes 7 and 31, respectively, by in situ hybridization. *Cytogenetics and Cell Genetics* 82:110-111.
- Obreque, V., L Coogle, PJ Henney, E Bailey, R Mancilla, J Garcia-Huidobro, P Hinrichen, EG Cothran (1998) Characterization of ten polymorphic alpaca dinucleotide microsatellites. *Animal Genetics* 29: 461.
- Lear, TL, M Breen, FA Ponce de Leon, L Coogle, EM Ferguson, TM Chambers, E Bailey. (1998) Cloning and localization of the MX1 and ETS2 to chromosome 26 of the horse (*Equus caballus*). *Chromosome Research* 6: 333-336.
- Fraser, D. & E. Bailey (1998) Polymorphism and multiple loci for the horse DQA loci. *Immunogenetics* 47: 487-490.
- Bernoco, D. & E. Bailey (1998) Frequency of the gene for SCID in Arabian horses in the United States. *Animal Genetics* 29: 41-42.
- Coogle, L. & E. Bailey. (1997) Equine dinucleotide repeat polymorphisms loci LEX049-LEX063. *Animal Genetics* 28: 378.
- Bailey E, Reid RC, Skow L C, Mathiason K, Lear TL & McGuire TC (1997) Linkage of the gene for equine combined immunodeficiency disease to microsatellite markers HTG8 and HTG4; Synteny and FISH mapping to ECA9. *Animal Genetics* 28: 268-273.
- Coogle L., R. Reid, E. Bailey. (1997) Equine dinucleotide repeat polymorphisms loci LEX034-LEX048. *Animal Genetics* 28:309.
- Lear, T.L. & E. Bailey (1997) Localization of the U2 linkage group of horses to ECA3 using chromosome painting. *Journal of Heredity* 88: 162-164.
- Fraser, D.G. & E. Bailey (1996) Demonstration of three DRB loci in a domestic horse family. *Immunogenetics* 44:441-445.
- Coogle, L., R. Reid, E. Bailey. (1996) Equine dinucleotide repeat polymorphisms at loci LEX025-LEX033. *Animal Genetics* 27:289-290.
- Coogle, L., R. Reid, E. Bailey. (1996) Equine dinucleotide repeat polymorphisms at loci LEX015-LEX024. *Animal Genetics* 27: 217-218.
- Albright-Fraser, D.G., R. Reid, V. Gerber, E. Bailey (1996) Polymorphism of *DRA* among equids. *Immunogenetics* 43: 315-317. (erratum *Immunogenetics* 44: 487, 1996)
- Coogle, L., E. Bailey, R. Reid and M. Russ (1996) Equine dinucleotide repeat polymorphisms at loci LEX002, -003, -004, -005, -007, -008, -009, -010, -011, -013 and -014. *Animal Genetics* 27: 126-127.
- Bailey, E, KT Graves, EG Cothran, R Reid, TL Lear, RB Ennis (1995) Synteny mapping horse microsatellite markers using a heterohybridoma panel. *Animal Genetics* 26:177-180.
- Bailey, E (1994) Variation within the antigen binding site of the major histocompatibility complex *DRA* gene of domestic horses. In: (H.Nakajima and W. Plowright, editors)*Equine Infectious Diseases VII*. R&W Publications, Newmarket, UK p.123-126.
- Bailey, E, TL Lear (1994) Comparison of Thoroughbred and Arabian Horses using RAPD markers. *Animal Genetics* 25,supplement 1: 105-108.
- Szalai, G, E Bailey, H Gerber, S Lazary (1993) DNA sequence analysis of serologically detected ELA class II haplotypes at the equine *DQB* locus. *Animal Genetics* 24:187-190.
- Langemeier JL,E Bailey, PJ Henney (1993) Linkage studies for the Tcp-1, Tcp-10b and MHC-EqcaA loci in the horse. *Immunogenetics* 38:359-362.
- Weitkamp, LR, RM Kenney, E Bailey, JW MacCluer, JS Brown, TL Blanchard, PL Sertich, CC Love and PR Hunt (1991) Pathologic changes of the mare endometrium and genotypes for transferrin and ELA. *J. Reprod. Fert. Suppl.* 44: 275-282.
- Albright, DL, E Bailey, JG Woodward (1991) Nucleotide sequence of a cDNA clone of the horse (*Equus caballus*) *DRA* gene. *Immunogenetics* 34:136-138.
- Bailey, E, TL Lear and EG Cothran (1991) Association of MspI RFLP with transferrin in horses. *Animal Genetics* 22:436.
- Lear, TL and E Bailey (1991) Southern blot studies of the MET locus in horses and cattle. *Animal Genetics* 22:307.
- Bailey, E, AMK Rossi (1990) Restriction fragment length polymorphisms of the immunoglobulin gamma chain constant region genes of the horse. *Animal Biotechnology* 1:11-19.

- Lazary, S, DF Antczak, E Bailey, TK Bell, D Bernoco, G Byrns, JJ McClure (1988) Joint report of the Fifth International Workshop on Lymphocyte Alloantigens of the Horse, Baton Rouge, Louisiana, October 31-November 1, 1987. *Animal Genetics* 19:447-456.
- MacCluer, JW, E Bailey, LR Weitkamp, J Blangero (1988) ELA and fertility in American Standardbred horses. *Animal Genetics* 19:359-372.
- Bailey, E, D Albright, PJ Henney (1988) Equine neonatal isoerythrolysis; evidence for prevention by maternal anti-Ca antibodies. *American Journal of Veterinary Research* 49:1218-1222.
- Cothran, EG, JW MacCluer, LR Weitkamp, E Bailey (1987) Genetic differentiation associated with gait within the American standardbred horse. *Animal Genetics* 18:285-296.
- Bernoco, D, DF Antczak, E Bailey, K Bell, RW Bull, G Byrns, G Guerin, S Lazary, J McClure, J Templeton, H Varewyck (1987) Joint Report of the Fourth International Workshop on Lymphocyte Alloantigens of the Horse, held 19-22 October, 1985. *Animal Genetics* 18:81-94.
- Bernoco, D, G Byrns, E Bailey, AM Lew (1987) Evidence of a second polymorphic ELA class I (ELA-B) locus and gene order for three loci of the equine MHC. *Animal Genetics* 18:103-118.
- Alexander, AJ, E Bailey, JG Woodward (1987) Analysis of the equine lymphocyte antigen system by Southern blot hybridization. *Immunogenetics* 25:47-54.
- Bailey, E (1986) Segregation distortion within the equine MHC; analogy to a murine T/t complex trait. *Immunogenetics* 24:225-229.
- Lew, AM, E Bailey, RB Valas, RE Coligan (1986) The gene for Equine Soluble Class I Substance is linked to the ELA system. *Immunogenetics* 24:128-130.
- Antczak, DF, E Bailey, B Barger, K Bell, D Bernoco, RW Bull, G Byrns, G Guerin, S Lazary, J McClure, V Mottironi, J Templeton, H Varewyck (1986) Joint Report of the Third International Workshop on Lymphocyte Alloantigens of the Horse, held April 1984 *Animal Genetics* 17:363-373.
- Weitkamp, LR and E Bailey (1985) Genetic linkage relationships of equine plasminogen (PLG) with 23 loci. *Animal Blood Groups and Biochemical Genetics* 16:61-64.
- Bailey, E and PJ Henney (1984) Comparison of ELY-2.1 with blood group and ELY-1 markers in the horse. *Animal Blood Groups and Biochemical Genetics* 15:117-122.
- Bailey, E (1984) Usefulness of equine lymphocyte typing to exclude incorrectly assigned paternity. *American Journal of Veterinary Research* 45:1976-1978.
- Bailey, E, DF Antczak, D Bernoco, RW Bull, G Byrns, R Fister, G Guerin, S Lazary, J McClure, V Mottironi, J Templeton, H Varewyck (1983) Joint Report of the Second International Workshop on Lymphocyte Alloantigens of the Horse, held 3-8 October 1982. *Animal Blood Groups and Biochemical Genetics* 15:123-132.
- Bailey, E (1983) Population studies on the ELA system in American Standardbred and Thoroughbred horses. *Animal Blood Groups and Biochemical Genetics* 14:201-211.
- Bailey, E (1983) Linkage disequilibrium between the ELA and A blood group systems in Standardbred horses. *Animal Blood Groups and Biochemical Genetics* 14:37-43.
- Bailey, E (1982) The prevalence of anti-red blood cell antibodies in the serum and colostrum of mares and its relationship to neonatal isoerythrolysis. *American Journal of Veterinary Research* 43:1917-1921.
- Bailey, E (1980) Identification and genetics of lymphocyte antigens in the horse. *Immunogenetics* 11:499-506.
- Spooner, RL, RA Oliver, DI Sales, CM McCoubrey, P Millar, AG Morgan, B Amorena, E Bailey, et al (1979) Analysis of alloantisera against bovine lymphocytes; Joint Report of the First International Bovine Lymphocyte Antigen (BoLA) Workshop. *Animal Blood Groups and Biochemical Genetics* 10:63-86.
- Bailey, E, C Stormont, Y Suzuki, A Trommershausen-Smith (1979) Linkage of loci controlling alloantigens of red blood cells and lymphocytes in the horse. *Science* 204:1317-1319.

#### Peer Reviewed Book Chapters and Reviews

- Bailey E (2010) Relevance of Genomics to Equine Reproduction. In: (AO McKinnon, editor) *Equine Reproduction*. Blackwell Publishing. *In press*.
- Bailey E (2010) Equine Parentage. In: (AO McKinnon, editor) *Equine Reproduction*. Blackwell Publishing. *In press*.
- Lear T, Bailey E (2008) Equine Clinical Cytogenetics: Past and Future. *Cytogenetics and Genome Research* 120:42-49.
- Bailey E (2007) Applications of Horse Genomics. *CAB Reviews: Perspectives in Agriculture, Veterinary Science, Nutrition and Natural Resources*. (2007, 2, No. 055, 8 pp. September 2007).
- Bailey E. (2007) Genomics and Equine Respiratory Disease. *Proceedings of the 25<sup>th</sup> Symposium of the Veterinary Comparative Respiratory Society*. October 11-13, 2007 Lafayette, IN.

- Steiner J, Antczak DF, Wolfsdorf K, Saville K, Brooks S, Miller D, Bailey E & Zent W (2006) Persistent Endometrial Cups. In: *Equine Reproduction IX* (Margaret Evans, Editor) special edition of *Animal Reproduction Science* 94: 274-275.
- Bailey E (2006) Moving Horse Genomics Across Disciplinary Lines. In: *Nutritional Biotechnology in the Feed and Food Industry*. (Eds. TP Lyons, KA Jaques and JM Hower) pp293-300. Nottingham University Press, Nottingham, UK.
- Chowdhary BP and Bailey, E (2003) Equine Genomics: Galloping to New Frontiers *Cytogenetics and Genome Research* 102: 184-188.
- Bailey, E., Marti, E., Fraser, D.G, Antczak, D.F. and Lazary, S. (2000) Immunogenetics of the Horse. In: Bowling, A.T. and Ruvinsky, A., *Genetics of the Horse*. CAB press. 123-156.
- Bailey, E. (2000) Horse Genomics. *AgBiotech Net*. Volume 2: 1-4
- Bailey, E. (1998) Searching for the FAST gene. *Genome Research* 8: 569-571.
- O'Brien, SJ, M Raymond, W Murphy, R Stanyon, J Weinberg, J. Gellin, M Yerle, L. Andersson, J Womack, T. Broad, J Postlethwait, N. Copeland, O Serov, E Bailey, MR James, JM Graves (1999) Comparative Genomics (Wall Chart-Genome Maps, 10). *Science* 268, October 15, 1999.
- Bailey, E (1999) Approaches to investigating genes for resistance and susceptibility to infectious diseases among horses. In: (U. Wernery, J.F. Wade, J.A. Mumford, O.-R. Kaaden, eds.) *Equine Infectious Diseases VIII*, R&W Publications, Newmarket, UK., pp479-480
- Bailey E. and Binns M.M. (1998) The Horse Gene Map. *International Laboratory Animal Review* 39: 171-176.
- Marti, E., G. Szalai, D.F. Antczak, E. Bailey, H. Gerber, S. Lazary (1996) The equine major histocompatibility complex. In: (L. Shook and SJ Lamont, editors) *The Major Histocompatibility Complex of Domestic Animals*. CRC Press, Inc, Florida p. 245-267.
- Gerber, V and E. Bailey (1995) Genetics and disease in the horse. *Equine Veterinary Journal* 27: 400-401.
- Bailey, E, EG Cothran, KA Trembicki (1992) Paternity testing. In:(AO McKinnon, JL Voss, editors) *Equine Reproduction*. Lea and Febiger, Philadelphia. p. 626-630.
- Bailey, E, JG Woodward, DG Albright, AJ Alexander (1988) Use of RFLP marker genes to study serological and physiological traits of the horse. In: (C Warner, S Lamont and M Rothschilds, editors) *Molecular Biology of the Major Histocompatibility Complex of Domestic Animal Species*. Iowa State University Press, Ames p 135-153.
- Bailey, E, HS Conboy, P McCarthy (1988) Neonatal isoerythrolysis of foals: an update on testing. In: (FJ Milne, editor) *Proceedings of the Twenty-third Annual convention of the American Association of Equine Practitioners* p.341-353.

### Meeting Abstracts

- Cook, D.G., Bailey E. (2010) Genetics of Extreme Lordosis in American Saddlebred Horses. *Plant and Animal Genome Conference XVIII (P621)*, p 222.
- McGee, R., Lear, TL, Graves, KT, Bailey E (2010) XY sex reversal in mares. *Plant and Animal Genome Conference XVIII (P629)*, p 223.
- Eberth J, T. Swerczak, E. Bailey (2009) Investigation of Dwarfism Among Miniature Horses using the Illumina Horse SNP50 Bead Chip. *Journal of Equine Veterinary Science* 29: 315.
- Cook D, Patrick Gallagher, Ernest Bailey (2009) Illumina Equine SNP50 Bead Chip Investigation of Adolescent idiopathic lordosis among American Saddlebred Horses. *Journal of Equine Veterinary Science* 29: 315-316.
- Cook, D and Bailey E. (2009) Whole genome association study of extreme lordosis in the American Saddlebred Horses. *Plant and Animal Genome Conference XVII*.
- Bellone R, C. Wade, K. Lindblad-Toh, T. Biagi, S. Archer, T. Leeb, G. Forsyth, E. Bailey, L. Sandmeyer, and B. Grahn.. (2009) Fine Mapping the *Leopard Complex Spotting (LP)* gene and Congenital Stationary Night Blindness (CSNB) in horses. *Plant and Animal Genome Conference XVII*.
- Haase B, Brooks SA, Schlumbaum A, Axor PJ, Bailey E, Alaeddine F, Mevissen M, Burger D, Poncet P-A, Rieder S, Leeb T (2008) Allelic heterogeneity at the equine KIT locus in dominant white horses from several populations. *Plant and Animal Genome Conference XVI*, W148.
- Brooks SA, Bailey E (2008) Use of qRT-PCR to compare mast cell populations in the blood of horses with laminitis to those of healthy horses. *Plant and Animal Genome Conference XVI*, P589.
- Bellone, RR, Brooks SA, Murphy, BA, Forsyth F, Archeer S, Bailey E, Sandmeyer L, Grahn B. (2008) Differential Expression of TRPM1, the likely cause for both Coat Spotting (LP) and Congenital Stationary Night Blindness in Appaloosa horses. *Plant and Animal Genome Conference XVI*, P588.
- Bailey E. (2007) Genomics and Equine Respiratory Disease. *Proceedings of the 25<sup>th</sup> Symposium of the Veterinary Comparative Respiratory Society*. October 11-13, 2007 Lafayette, IN.
- Brooks, SA, Murphy BA, Bailey E (2007) Changes in expression of mast cell related genes in response to IV LPS: Preliminary data. *Proceedings of 7<sup>th</sup> Dorothy Russell Havemeyer International Equine Genome Mapping Workshop*; Tahoe City, California.

- Lear TL, Houck ML, Lundquist J, Fronzsek JA, Ryder OA, Bailey E (2007) Comparative mapping: Genome organization of horse, rhinoceros and tapir. *Plant and Animal Genome Conference XV*, P585.
- Myka JL, Boeshart TW, Malloy JN, Lundquist JM, Houck ML, Fronczek JA, Ryder OA, Bailey EF, Lear TL (2007) FISH analysis of the chromosome organization of the onager, *Equus hemionus onager*. *Plant and Animal Genome Conference XV*, P592.
- Bellone, RR, Archeer S, Murphy BA, Bailey E (2007) Evidence for TRPM1 as the genetic cause of appaloosa spotting (LP). *Plant and Animal Genome Conference XV*, P597.
- Archer, S, Brown K, Bellone R Bernoco D, Bailey E (2007) Investigation of ECA3 as the location of the gene for white patterning (PATN1) in leopard spotted appaloosas. *Plant and Animal Genome Conference XV*, P598.
- Brooks SA, Lear TL, Adelson DL, Bailey E. (2007) Characterization of the breakpoints of a chromosome inversion associated with the tobiano white spotting pattern in horses. *Plant and Animal Genome Conference XV*, P599.
- Steiner J, Antczak DF, Wolfsdorf K, Saville K, Brooks S, Miller D, Bailey E & Zent W (2006) Persistent Endometrial Cups. *Animal Reproduction Science* 94: 274-275.
- Bellone, R, Lawson S, CReeley N, Archer S & Bailey E (2006) Discovery of a SNP in exon 7 of OCA2 and its exclusion as a cause for appaloosa spotting. *Proceedings of the 30<sup>th</sup> International Conference on Animal Genetics*, Porto Seguro, Brazil. A191, p 26.
- Cavaco-silva J, Luis C, Cothran EG, Bailey E & Do Mar Oom M (2006) Comparison of microsatellite variation in Portugueses and South American horse breeds for ECA20. *Proceedings of the 30<sup>th</sup> International Conference on Animal Genetics*, Porto Seguro, Brazil. A462, p 39.
- Bailey E and Horse Genome Workshop (2006) Horse Genome Workshop: Update and Whole Genome Sequencing. *Proceedings of the 30<sup>th</sup> International Conference on Animal Genetics*, Porto Seguro, Brazil. B551, p 60
- Coleman SJ, George Gong , Lei Liu , Ernie Bailey , Bhanu P Chowdhary , James N MacLeod (2006) Comparative Mapping Of Equine Cartilage ESTs On Horse Chromosomes 17 And X. *Plant and Animal Genome Conference XIII*, P598
- van Dyk E & E Bailey (2005) Sarcoid in the Cape Mountain Zebra (*Equus zebra zebra*):- developing a typing system for genetic variants by means of single strand conformational polymorphism (SSCP). *Proceedings of the 6<sup>th</sup> International Havemeyer Horse Genome Workshop*. Newbridge, Ireland.
- Brooks S, Teri Lear, David Adelson, Barabara Murphy, Ernest Bailey (2005) Inversion on ECA3 Associated with Tobiano Spotting Pattern. *Proceedings of the 6<sup>th</sup> International Havemeyer Horse Genome Workshop*. Newbridge, Ireland.
- Bernoco D, B.P. Chowdhary, L.V. Millon and E. Bailey (2005) First Integration of Equine Linkage and Radiation Hybrid Autosomal Mapping Data. *Proceedings of the 6<sup>th</sup> International Havemeyer Horse Genome Workshop*. Newbridge, Ireland.
- Bellone R, T. Lear, K Durkin, D. Adelson, & E. Bailey (2005) Fish Mapping Appaloosa candidate genes in the Horse. *Proceedings of the 6<sup>th</sup> International Havemeyer Horse Genome Workshop*. Newbridge, Ireland.
- Lear TL, Marlys L. Houck, Judy Lundquist, Julie Fronczek, Ernie Bailey (2005) Chromosome Evolution in Perissodactyls: Horse Chromosome 1 (*Cytogenetics and Genome Research*)
- Bailey E (2005) Reaping the Benefits of an Equine Genome Map. (Proceedings of the British Society of Animal Science, April 2005)
- Penedo, MC, Millon LV, Bernoco D, Bailey E, Binns M, Cholewinski G, Ellis N, Flynn J, Gralak B, Guthrie A, Hasegawa T, Lindgren G, Lyons LA, Roed KH, Swinburne JE, Tozaki T (2005) International Equine Gene Mapping Workshop Report: The Phase III Linkage Map. (Plant and Animal Genome Conference XIII)
- Coleman SJ, Gong G, Lie L, Bailey E, Chowdhary B, MacLeod JN (2005) Predicted Mapping of Equine Cartilage ESTs on Horse Chromosomes 17 and X by COMPASS. (Plant and Animal Genome Conference XIII)
- Brooks, SA & Bailey E (2005) Exon skipping in the *KIT* gene causes the Sabino spotting pattern in some horses. (Plant and Animal Genome Conference XIII)
- Lear TL, Marlys L. Houck, Judy Lundquist, Julie Fronczek, Ernie Bailey (2005) Chromosome Evolution in Perissodactyls: Horse Chromosome 1 (*Cytogenetics and Genome Research*)
- Bailey E (2005) Reaping the Benefits of an Equine Genome Map. (Proceedings of the British Society of Animal Science, April 2005)
- Penedo MC, Bernoco D, Millon LV, Binns M, Cholewinski G, Flynn J, Gralak B, Hasegawa T, Lindgren G, Lyons L, Roed K, Tammen I, Tozaki T, Van Dyk E, & Bailey E (2004) International Equine Gene Mapping Workshop Linkage Map. *Animal Genetics* supplement.
- Myka JL, TL Lear, ML Houck, OA Ryder, E. Bailey (2004) A comparative gene map for the Onager, *Equus hemionus onager*. *Proceedings of Plant, Animal and Microbe Genomes XII*, page 247, P704.
- Terry RB, E Flaherty, S Archer, S Brooks, D Bernoco, E Bailey (2004) Linkage mapping the appaloosa coat color gene of the horse. *Proceedings of Plant, Animal and Microbe Genomes XII*, page 244, P693.



- Wagner CR, VG Puram, JF Timoney, E Bailey (2003) Characterization of expressed equine T cell receptor beta chain genes. *Proceedings of Conference of Research Workers in Animal Diseases*, Chicago, 11/10/03.
- Wagner CR, JF Timoney, E Bailey (2003) Equine T-cell receptor beta chain cDNA sequences determined by 5'RACE. Proceedings of Havemeyer Workshop Cornell Immunology Symposium, June 2003.
- Lear TL, Myka JL, Piumi F, Antczak DF, Bailey E. (2003) Addition of FISH mapped markers to the Horse Gene Map and comparative mapping of a chromosome number polymorphism in the Equidae. *Fifth International Equine Gene Mapping Workshop*, Kruger Park, South Africa, August 11-14, 2003.
- Bernoco D., L.V.Millon, G. Lindgren, M. Binns, and E. Bailey (2003) First Report on a Combined Equine Male-based Linkage Map. *Fifth International Equine Gene Mapping Workshop*, Kruger Park, South Africa, August 11-14, 2003.
- Terry, RB, S Archer, S.Brooks, D Bernoco & E Bailey (2003) Linkage mapping the appaloosa coat color gene (*LP*) of the horse. *Fifth International Equine Gene Mapping Workshop*, Kruger Park, South Africa, August 11-14, 2003.
- Myka JL, Lear TL, Houck ML, Ryder OA and Bailey E (2003) Conservation of a Robertsonian chromosome polymorphism in the Equidae. *13<sup>th</sup> North American Colloquium on Animal Cytogenetics and Gene Mapping*. Louisville, KY July 13-17, 2003.
- Myka JL, Lear TL, Houck ML, Ryder OA and Bailey E (2003) A comparative gene map for the onager, *Equus hemionus onager* *13<sup>th</sup> North American Colloquium on Animal Cytogenetics and Gene Mapping*. Louisville, KY July 13-17, 2003.
- Bailey, E (2003) Update on Horse Genome Mapping. *13<sup>th</sup> North American Colloquium on Animal Cytogenetics and Gene Mapping*. Louisville, KY July 13-17, 2003.
- Wagner CR, V. G. Puram VG, J.F. Timoney JF, Bailey E (2003) Equine T Cell Receptor Beta Chain cDNA Sequences Determined by 5'RACE. *Havemeyer Workshop on Genomics approaches to Equine Immunology*. June 19-22, 2003. Cornell University.
- Bailey E, Lear TL (2003) The genomics shortcut for equine immunology. *Havemeyer Workshop on Genomics approaches to Equine Immunology*. June 19-22, 2003. Cornell University.
- Luis, C, Cothran EG, Oom MM, Bailey E (2003) Major Histocompatibility complex variation in the Sorraia horse and related breeds. *European Congress of Mammalogy* (Brno, Czech Republic)
- Mousel, MR, D Moody, E Bailey (2002) Gene Expression of the horse detected by human microarrays. *Proceedings of Plant, Animal and Microbe Genomes X*, page 232, poster P616.
- Guerin, G, D. Bernoco and E. Bailey (2001) A Consensus map for the horse. *Proceedings of Havemeyer 4<sup>th</sup> International Equine Gene Mapping Workshop*.
- Lear TLI, F. Piumi, RR Terry, G. Guerin, S. Thomas, I. Biro and E. Bailey (2001) The Horse Physical Map: An update and the report of additional markers. *Proceedings of Havemeyer 4<sup>th</sup> International Equine Gene Mapping Workshop*.
- Terry, R.R., Bailey, E. Bernoco, D., Lear, T., and Cothran E.G. (2001) Investigation of *MITF* as the Candidate gene for Appaloosa spotting in horses. *Proceedings of Havemeyer 4<sup>th</sup> International Equine Gene Mapping Workshop*.
- Gallagher, P.C., T.L. Lear & E. Bailey (2000) Discovery of a genomic clone with homology to centromeric and telomeric regions of chromosomes among species of *Equus*. *Animal Genetics*, supplement.
- Lear, T.L., R. Brandon, F. Piumi, R.R. Terry, G. Guerin, K. Bell and E. Bailey (2000) Cloning and physical mapping of Horse (*Equus caballus*) EST Markers. *Animal Genetics*, supplement.
- Terry, R.R, Bernoco, D., Bailey, E., Lear, T.L. & Cothran, E.G. (2000) Rejection of *KIT* as the gene responsible for appaloosa coat color spotting patterns in horses. *Animal Genetics*, supplement.
- Lear, TL, Piumi, F, Skow, L, Terry, RR, Guerin, G, Bailey, E (2000) Physical mapping of 33 horse BAC clones containing type I and type II loci. *Plant and AnimalGenome VIII Abstract Guide*. P415, p 155.
- Bailey, E (2000) Status of the Horse Genome Effort. *Plant and AnimalGenome VIII Abstract Guide*. W57, p 15.
- Gallagher, P, TL Lear, LD Coogle, E Bailey (1999) Two Sine families associated with equine microsatellite loci. *Plant and AnimalGenome VII Abstract Guide*. P214, p132.
- Terry, RR, NE Raney, KT Graves, LT Lieto, PJ Venta, SI Ewart, EG Cothran, E Bailey, L Coogle (1999) Synteny mapping of the horse using universal mammalian sequence tagged sites of coding genes and a heterohybridoma panel. *Plant and AnimalGenome VII Abstract Guide*. P219, p 133.
- Fraser DG, Bailey E, Swinburne J, Binns MM, Lear TL & Skow LC (1998) Two MHC class II DQA loci for the horse. *Animal Genetics* 29, supplement 1, 29.
- Lear TL, Brandon R, Masel A, Bell K, Bailey E(1998) Molecular cloning and chromosomal localization of horse alpha-1-antitrypsin (AAT), betalactoglobulin 1 and 2 (BLG1, BLG2), lactotransferrin (LTF) and transferrin (TF). *Animal Genetics* 29 supplement 1, 43.
- Obreque V, Hinrichsen P, Cothran EG, Bailey E, Coogle L, Mancilla R, Jorge García-Huidobro J.(1998) Advances in the development of a panel of microsatellites in alpaca. *Animal Genetics* 29 supplement 1, 14.

- Skow LC, Lear T, Bailey E (1998) Localization of BAC clones to horse chromosomes. *Animal Genetics* 29 supplement 1, 43.
- Guérin, G., E. Bailey, I. Anderson, D. F. Antczak, K. Bell, D. Bernoco, M.M. Binns, A.T. Bowling, R. Brandon, G. Chowlewinski, E.G. Cothran, H. Ellegren, M. Förster, S. Godard, P. Horin, M. Ketchum, G. Lindgren, H. Mcpartlan, J.-C. Mériaux, J. Mickelson, L.V. Millon, A. Neau, K. Röed, K. Sandberg, L. Skow, M. Stott, J. Swinburne, H. Van Haeringen, W. A. Van Haeringen, J. Zeigle. (1998) Report Of The International Equine Gene Mapping Workshop: First Linkage Map. *Animal Genetics* 29 supplement 1, 42.
- Bernoco D, Bailey E (1998) Occurrence of SCID gene among the 1997 Arabian horse foal crop in the United States. *Plant and Animal Genome VI Abstracts*. P337.
- Raney NE, Graves KT, Cothran EG, Bailey E, Coogle L (1998) Synteny mapping of the horse using a heterohybridoma panel. *Plant and Animal Genome VI Abstracts*. P325.
- Obreque V, Hinrichsen P, Cothran EG, Bailey E, Coogle L, Mancilla R, Jorge García-Huidobro J.(1998) Isolation of highly polymorphic microsatellites in alpaca for genomic characterization of south-american camelids. *Plant and Animal Genome VI Abstracts*. P69.
- Lear TL, Irwin Z, Brandon R, Bell K, Mathiason K, Bailey E, L. Skow L. 1998. Physical assignment of microsatellite markers to horse chromosomes using FISH. *Plant and Animal Genome VI Abstracts*. P331.
- Lear TL, Adams MH, McDowell KJ, Ponce de Leon FA, Sullivan ND, Coogle L, Ferguson E, Chambers TM, Bailey E. 1997. Chromosomal location of genes for *ESR*, *ETS2*, *GOT2*, *KIT*, *MX1* and *PGR* in the horse, *Equus caballus*. In: *Proceedings of the 10th North American Colloquium on domestic Animal Cytogenetics and Gene Mapping*, Apalachicola, FL.
- Lear TL, Bailey E, 1997. Chromosome evolution in equids: Zoo-FISH studies of the horse, donkey and Hartmann's zebra using human, whole chromosome paints. International Plant & Animal Genome Conference V, San Diego.
- Bailey E, Reid R, Skow L, Mathiason K, Lear TL, McGuire T, 1997. Linkage of the genes for equine combined immunodeficiency disease (*CID*), two microsatellite markers and DNA-pk. International Plant & Animal Genome Conference V, San Diego.
- Lear TL, Bailey E, 1996. Human chromosome paints identify conserved regions on the chromosomes of the horse, donkey and zebra. Conference on the Human Genome Project, Tuskegee University.
- Bailey E, Lear TL, Coogle L, Fraser DG, Reid R, Breathnach C, Cothran EG, Graves KT, Raney N, 1996. Gene map of the horse. Conference on the Human Genome Project, Tuskegee University.
- Fraser, DG & Bailey E (1996) Investigation of equine class II MHC genes: polymorphism, number of loci and transcription. *Animal Genetics* 27 (supplement 2) 50.
- Graves, KT, N Raney, R Ennis, L Coogle, R Reid, E Bailey, L. van de Goor, EG Cothran, G Guerin, L Skow, M Breen & K Bell (1996) Equine gene mapping: Synteny mapping DNA markers. *Animal Genetics* 27, supplement 2,73.
- Raney, N, KT Graves, AR Flannery, R Ennis, E Bailey, LA Lyons, TF Laughlin & SJ O'Brien (1996) Efficacy of comparative anchor tagged sites (CATS) primers for synteny mapping the horse. *Animal Genetics* 27, supplement 2,74.
- Lear, T.L. and E. Bailey (1995) The use of human whole chromosome paints to identify homologous segments on horse chromosomes. *Proceedings of the Ninth North American Colloquium on Domestic Animal Cytogenetics and Gene Mapping*, 1995.
- Albright, D.G., Reid, R., Gerber, V. and Bailey, E. (1995) Characterization of equine major histocompatibility complex loci *DRA* and *DRB* using single-strand conformation polymorphism. *Proceedings of the XX Beltsville Symposium*, 1995.
- Coogle, L., T.Lear, R Reid, P. Henney, K.T. Graves, E.G. Cothran and E. Bailey, (1995) Identification and synteny mapping of equine microsatellite DNA markers. *Proceedings of the XXth Beltsville Symposium*.
- Lear, T.L., E. Bailey, and E.G. Cothran (1994) Phylogenetic studies of equids using RAPD markers. *Animal Genetics* 25 supplement 2: 34 .
- Szalai, G, R Kuehne, E Bailey, S Lazary (1992) Serologically defined ELA class II specificities are associated with the MHC class II DQb chain. *Animal Genetics* 23 supplement: 39.
- Hines, HC, CA Park, E Bailey, JA Riggenbach (1992) Detection of bovine microsatellite variation on silver stained polyacrylamide gels. *Animal Genetics* 23 supplement: 60.
- Hines, HC, E Bailey, C Park (1991) Relationship of the bovine MHC with aspects of persistent lymphocytosis/leukemia. *Animal Genetics* 22 (supplement 1): 93.
- Hines, HC, E Bailey (1991) Southern blotting analyses of immunoglobulin G4 in horses and cattle. *Animal Genetics* 22 (supplement 1): 69.
- Langemeier, JL, E Bailey (1991) Genetic studies of *Tcp-1* in horses. *Animal Genetics* 22 (supplement 1): 70.
- Weitkamp, LR, E Bailey and J MacCluer (1991) ELA mating type and conception in Standardbred trotters. *Animal Genetics* 22 (supplement 1):96.

- Hines, HC, E Bailey (1989) Association of BoLA antigens with aspects of bovine leukemia. *J Ani Sci* 67, Supplement 1, p18.
- Weitkamp, LR, E Bailey, JW MacCluer, SA Guttormsen (1989) Polymorphism for equine F13A; linkage of F13A with ELA and A. *Animal Genetics* 20, Supplement 1, p10.
- Albright, DG, JG Woodward, E Bailey, CB Baker (1988) Investigation of equine DNA using a mouse probe to the Tcp-1 gene. In: *Molecular Biology of MHC of Domestic Animal Species*. p. 167.
- Alexander, AJ, DG Albright, E Bailey, JG Woodward (1987) Studies of equine families by Southern Blot analysis. *Fed. Proc.*46:3663.
- Alexander, AJ, E Bailey, JG Woodward (1987) Molecular genetics of the equine MHC. *Animal Genetics* 18, suppl, p 22.
- Cothran, EG, JW MacCluer, LR Weitkamp, E Bailey (1987) Genetic differentiation within American standardbred horses associated with gait. *Animal Genetics* 18, suppl, p 105.
- Alexander, AJ, E Bailey, JG Woodward (1986) Restriction fragment length polymorphism within the class I genes of the equine MHC. *Fed. Proc.* 45:(4) 4869.
- Alexander, AJ, E Bailey, JG Woodward (1985) Restriction fragment polymorphism of the equine class I gene family. *Fed. Proc.* 44:(3) 867.
- Bailey, E (1985) Histocompatibility between sire and dam does not influence segregation of genes for lymphocyte alloantigens in horses. *Animal Blood Groups and Biochemical Genetics* 16, suppl 1.
- Henney, PJ, DL Colling, E Bailey (1985) Blood typing markers in American Saddle Horses. *Animal Blood Groups and Biochemical Genetics* 16, suppl 1.
- Bull, RW, PJ Cotterman and E Bailey (1982) Production of murine monoclonal antibodies to horse RBC antigens. *Eighteenth International Conference on Animal Blood Group Research*, Ottawa, Canada; July 18-25, 1982.
- Suzuki, Y, E Bailey, C Stormont, A Trommershausen-Smith (1980) Hemolytic reagents which detect blood group factors in the D system of the horse. *Animal Blood Groups and Biochemical Genetics* 11, suppl 1, p 21.
- Bailey, E (1980) Studies on lymphocyte alloantigens of the horse. *Animal Blood Groups and Biochemical Genetics* 11, suppl 1, p 14.

### Popular Press/ Non-Refereed Publications

- Bailey E & Lear T (2009) Recent Findings in the Study of Lordosis. *American Saddlebred Horse Journal* 27:71-73
- Bailey, E (2009) Studies of Hereditary Traits in Horses using New Tools. *Bluegrass Equine Digest* (August).
- Bailey, E (2007) White paper on horse genomics. AAEP-ECRG, JULY 2007.
- Bailey E, Lear, T and J MacLeod (2006) UK Researchers See Future Equine Health Breakthroughs Resulting From Recently Announced Genomic Sequencing Project. *Business Lexington*, Sept 2006.
- Bailey, E. (2006) Breeding Best to Best. *Equine Disease Quarterly* v 15.2 April 2006
- Bailey E. (2006) "Whole genome sequencing". *The Horse*, February 2006.
- Bellone, R., S Archer, E Bailey (2005) The Appaloosa Genetic Project Lopes Ahead. *The Appaloosa* 13:5-8.
- Bailey E. (2004) Horse Genomics Research Update. *Equine Disease Quarterly*, 13 (1): 2. (republished in *Equine Veterinary Science*, 2004)
- Bailey E. (2003) Mapping Color Genes in Horses. *The Horse*, May 2003 , p63.
- Bailey E., D. Bernoco, H. Lewin, Y. Suzuki (2003) Obituary: Clyde Junior Stormont (1916-2002). *Animal Genetics* 34: 81. (Also at <http://www.isag.org.uk/stormont2.pdf>)
- Bailey E. (2002) Seven Years after Beginning the Five Year Plan. Proceedings from "Horse Genomics 101" sponsored by AQHA, AAEP, GJCRF, MAF and edited by Nat White.
- Bailey E. (2001) Equine Gene Mapping: Uncovering the Medical Mysteries of the Horse. *Animal News* (Morris Animal Foundation) Volume II, 2001, p. 9.
- Bailey E. (1999) Meeting Report (IEGMW), *Equinet* 8 (November 1999)
- Bailey E. (1999) The Equine Genome Project. *Equus*, 260: 52-56.
- Bailey E. (1998) USDA funds National Genome Project for the Horse. *Equine Disease Quarterly* 6: 2-3.
- Bailey E and D. Bernoco (1998) SCID: After the DNA Test. *Newsletter of the International Arabian Horse Registry of North America*. Spring 1998.
- Bailey, E Collaborative Efforts to Gene Map the Horse *PROBE Newsletter*. 1998.
- Bailey, E Horse Coordinator's Report. *NAGRP News*. . Vol. 3, No. 2, 1997.
- Bailey, E Toward a genetic map of the horse. *Equine Data Line*, September 1989.
- Bailey, E Blood transfusions of horses. *Equine Data Line*, March 1985, p 2-3. Reprinted in *Equine Veterinary Data*.
- Bailey, E Immunity. *The Blood Horse*, November 17, 1984, p 8542-8550.
- Bailey E and PJ Henney; Blood typing and neonatal isoerythrolysis in foals. *Equine Data Line*, March 1984, p 7-8. Reprinted in *Equine Veterinary Data*.
- Bailey E; Horses, disease, lymphocytes and genes. *Equine Data Line*, September 1983, p 2-3.
- Bailey E; Horse blood typing: service and basic research. *Appaloosa World*, October 1983 p 46-47.

Bailey, E; Anticipating jaundiced foals: use of blood typing. *The Morgan Horse*, November 1982, p 46-47.

### Conferences and Invited Presentations

Plant, Animal and Microbe Genome XVIII Conference, San Diego, January 2010. (participate in horse technical committee and executive committee meetings of NRSP8).

National Breeders Conference of the Pyramid Arabian Horse Society; September 27<sup>th</sup>, 2009; presentation: "Understanding and Applications of Equine Genomics"

Central Kentucky Equine Veterinary Meeting; June 23, 2009; seminar entitled: Status of the Equine Genome Project, and how will these discoveries benefit veterinary medicine.

Office of Leadership and School Improvement Kentucky Department of Education; June 22, 2009; Kentucky Horse Park: presentation on coat colors in horses for Kentucky High School Math Educators.

Plant, Animal and Microbe Genome XVII Conference, San Diego, January 2009. (participate in horse technical committee and executive committee meetings of NRSP8).

Equine Science Society, May 28-31, 2009 (Section Chair; co-author on 2 presentations)

Eighth Dorothy Russell Havemeyer Horse Genome Workshop; Ickworth Hotel, Newmarket, United Kingdom; July 22-25, 2009; poster presentation. (Panel chair, Presentation "Adventures with PLINK").

University of Iowa

-Ramsey Lecture Series; April 20, 2009; "Genetics Diseases of Horses"

-Animal Breeding and Genetics Lecture; April 21, 2009; "Structure of the Horse Industry and Applications of Genomics".

-Phi Zeta Banquet Speaker; April 21, 2009; "Horsing Around in Academia"

Plant, Animal and Microbe Genome XVI Conference, San Diego, January 12-16, 2008. (participate in horse technical committee and executive committee meetings of NRSP8)

Animal Science Seminar, University of Kentucky "Genomics and Animal Agriculture", February 11, 2008.

Welfare and Safety of the Racehorse Summit (Keeneland)- March 17,18, 2008; (participant and banquet speaker)

International Equine Summit, April 28, 29, 2008; Lexington KY (invited speaker and panelist)

American Society for Animal Science Conference, Indianapolis, IN; July 11-17,2008 (attendee)

Professional Horse Farm Manager's Symposium, SUNY Cobleskill, Saratoga, NY, August 26<sup>th</sup>., 2008. (Invited Speaker).

Department of Veterinary Science/Equine Diagnostic and Research Seminar, University of Kentucky; September 25, 2008; Equine Genome; invited presentation with Jamie MacLeod and Teri Lear.

World Breeding Federation for Sports Horses Assembly; November 3-4, 2008; Lyon, France. (Invited Speaker)

Veterinary Comparative Respiratory Symposium, October 12, 2007; Lafayette, Indiana. "Applications of Genomics to Respiratory Disease Studies of Horses". (invited talk)

Havemeyer Workshop on Horse Genomics. August 16-19, 2007. Tahoe California. Chair for two sessions.

Equine Science Society; Hunt Valley, Maryland; June 9<sup>th</sup>, 2007; presented invited talk "Horse DNA Sequence: How the genome information will make us better horsemen and horsewomen".

Alltech 23<sup>rd</sup> Symposium; Lexington, Ky May 22, 2007; Present invited talk "Genetics of Horse Performance".

Plant, Animal and Microbe Genome XV Conference, San Diego, January 12-16, 2007. (participate in horse technical committee and executive committee meetings of NRSP8)

Department of Veterinary Science Seminar, UK Sept 5, 2006. DNA sequencing the horse: Broad Implications.

Conference of the International Society of Animal Genetics; Porto Seguro, Brazil, August 19-26, 2006. Chair of two sessions, Editorial Board Meeting, 1 oral presentation with a poster presentation, member of two workshops.

Equine Research Coordination Group of American Association of Equine Practitioners; Indianapolis, IN July 27, 2006. Panel member.

Horse Bowl: June 12, 2006 4-H program conducted by Dr. Bob Coleman; contest judge.

Equine Genome Sequencing Meeting; Broad Institute, MIT, Boston, MA; April 27, 2006.

Alltech Symposium; Lexington, Ky April 24, 2006; Present invited talk.

Equine Research Summit; Lexington, KY April 19-20, 2006. (Panel on funding health research for horses.)

Plant, Animal and Microbe Genome XIV Conference, San Diego, January 14-20, 2006. (participate in horse technical committee and executive committee meetings of NRSP8)

National Animal Health Program Planning Workshop ARS/CSREES, Kansas City, MO Sept 20-21, 2005.

Sixth International Havemeyer Equine Genome Workshop, Newbridge, Ireland July 12-14, 2005. Organizer, session chair and oral presentation on 2X whole genome sequencing.

British Society of Animal Science Annual Conference, York, United Kingdom; April 4-6, 2005. Present invited paper entitled "Reaping Benefits of an Equine Genome Map".

Plant, Animal and Microbe Genome XIII Conference, San Diego, January 14-20, 2005. (participate in horse technical committee and executive committee meetings of NRSP8)

Animal Science Department Seminar Series, University of Kentucky: "USDA resources for genomics research in livestock: Genomic studies in horses", September 20, 2004.

Veterinary Science Department Seminar Series, University of Kentucky: "Genes: Destiny, Health and Performance", August 30, 2004.

Horse Technology 2004; Saratoga, NY August 3-4, 2004; invited speaker and panelist.

Midway College, KY genetics class lecture: invited speaker, "Mapping the gene for appaloosa in horses", April 22, 2004.

Darley Flying Start, Lexington, KY (industry class for horse managers) Lectures on genetics of horses; February 18, March 10, April 20, 27, 2004

Plant, Animal and Microbe Genome XI Conference, San Diego, January 11-15, 2004. (participate in horse technical committee and executive committee meetings of NRSP8)

University of Pittsburg, Department of Human Genetics Retreat, September 5-7, 2003; Pymatuning Creek, PA. Invited talk on Horse Genomics/ 2 posters on cytogenetics and horse coat color genetics.

Fifth International Equine Gene Mapping Workshop convened by the DR Havemeyer Foundation, August 11-14, 2003; Kruger National Park, South Africa. One presentation and co-author on two others.

13<sup>th</sup> North American Colloquium on Animal Cytogenetics and Gene Mapping; Louisville, KY July 13-17, 2003. Present update on horse genomics. Co-author on two other presentations.

Conference entitled "Genomic Approaches to Equine Immunology", Cornell University, June, 2003. Present invited talk on status of horse genomics.

Plant, Animal and Microbe Genome XI Conference, San Diego, January 11-15, 2003. (attend horse technical committee and executive committee meetings of NRSP8)

Twenty-eighth International Conference on Animal Genetics, Goettingen, Germany, August 11-15, 2002. (Workshop presentation, editorial board meeting).

Blue Ribbon Panel on Horse Genomics; AQHA meeting, Dallas, TX. Organize meeting and make presentation entitled, "Seven Years after Beginning the Five Year Plan". March 1 & 2, 2002

National Research Council Public Workshop: "Exploring Horizons for Domestic Animal Genomics", Washington, DC. Invited participant, February 19, 2002.

Colorado State University, College of Veterinary Medicine; invited seminar: "Horse Genomics: Using the map to solve long-standing problems"; February 15, 2002.

Plant, Animal and Microbe Genome X Conference, San Diego, January 12-16, 2002. (Present poster; attend horse technical committee and executive committee meetings of NRSP8)

University of Arizona, Department of Animal Science; invited seminar, "Applications of Horse Genomic Research", October 4-5, 2001.

Fourth International Equine Gene Mapping Workshop. Co-Organizer, session chair, presenter. Brisbane, Australia, July 3-7, 2001.

Plant and Animal Genome IX Conference, San Diego, January 12-16, 2001. (Present poster; attend horse technical committee and executive committee meetings of NRSP8)

University of Kentucky, Veterinary Science Department Seminar; "Horse Genome: Three Applications", November 27, 2000.

Twenty-seventh International Conference on Animal Genetics, Minneapolis, Minnesota, July 21-25, 2000. (Four posters and chair one workshop).

University of Nebraska Biotechnology Seminar Series, March 1, 2000. "Horse Genomics: Value and Application for the Horse Industry".

South Eastern Region Animal Science Society Meeting, Lexington, Ky, February 1, 2000. Invited speaker, "Horse Genomics".

Plant and Animal Genome VIII Conference, San Diego, January 9-12, 2000. (Invited Speaker at Cattle'Sheep Genomics workshop; Present poster; attend horse technical committee and executive committee meetings of NRSP8)

University of Kentucky Association of Emeriti Faculty: Luncheon speaker on "The Department of Veterinary Science", November 18, 1999.

Midway, KY College Arts and Lectures Seminar: invited speaker, "Horse Genomics", October 8, 1999.

American Society of Animal Science, Indianapolis, IN. Invited Speaker: "Advances in Horse Gene Mapping Research". July 23, 1999.

Third International Havemeyer Gene Mapping Workshop for the Horse. Uppsala, Sweden, June 2-5, 1999. Coordinator, Session chair.

HUGO Comparative Mapping Workshop, invited participant, poster presentation, discussant, Toulouse, France, May 2-3, 1999.

ETH, Zurich, Animal Breeding Department. Invited seminar: "Research on the Gene Map of the Horse; March 4, 1999.

Plant and Animal Genome VII Conference, San Diego, January 1999. (Present poster, chair workshop session; attend executive committee meeting of NRSP8)

Conference: *Up to Date In Applied Biotechniques in Equine*. Belo Horizonte, Brazil: November 21-29, 1998. (2 invited oral presentations).

Twenty-sixth International Conference on Animal Genetics, Auckland, New Zealand, August 9-14, 1998. (Three posters and chair one workshop).

Eighth International Equine Infectious Diseases Conference; March 21-26, 1998; Dubai, United Arab Emirates (poster and oral workshop presentation).

Banbury Conference on Genetics of Performance for the Horse; March 1998; Cold Spring Harbor, NY (organizer and oral presentation).

Plant and Animal Genome VI Conference; San Diego, 18-22 January 1998; (present two posters; chair workshop).

Plant and Animal Genome V Conference; San Diego, 12-16 January 1997; (present two posters; chair workshop).

Tuskegee Conference on the Human Genome; Sept. 26-28, 1996; present two posters.

Twenty fifth International Conference on Animal Genetics, Tours, France, 22-29 July 1996; (present two posters; chair workshop).

Animal Genome Technical Committee Meeting; College Park, MD, 25-26 October 1995. (invited guest).

First International Equine Gene Mapping Workshop; October 21-23, 1995; Lexington, KY; (Host).

Beltsville Symposium XX on Biotechnology's Role in the Genetic Improvement of Farm Animals; May 14-17, 1995: (present 2 posters entitled: "Identification and syntenic mapping of equine microsatellite DNA markers" and "Identification and syntenic mapping of equine microsatellite DNA markers").

Animal Genome Technical Committee Meeting; Minneapolis, MN, 21-23 September 1994. (invited guest).

Hereditary Diseases of the Horse, International Congress. Interlaken, Switzerland 7-9 September, 1994. (invited participant: present poster entitled, "Gene mapping the horse using microsatellites and a somatic cell hybrid panel.")

Twenty fourth International Conference on Animal Genetics, Prague, Czech Republic, 22-29 July 1994. (presented a poster and an invited talk).

Seventh International Conference on Equine Infectious Disease, Tokyo, Japan, 8-11 June 1994. (invited speaker).

Animal Genome Technical Committee Meeting; Salt Lake City UT, 18-19 Nov 1993. (invited guest).

Annual meeting of International Arabian Horse Association; Louisville, KY 16 Nov 1993; (invited talk entitled, "DNA Testing for Arabians- Is it the solution?")

USDA/NCR150 committee meeting; St. Louis, Mo.; 17-18 May 1993. (participant)

Gordon Conference on Quantitative Genetics and Biotechnology, Ventura, CA; February 15-19, 1993. (participant).

Animal Biotechnology Symposium; Chicago- USDA /NCR150 meeting- May 17-19, 1992.

First International Conference on DNA fingerprinting; Bern, Switzerland, October 3-5, 1990.

Allerton Conference: Mapping Domestic Animal Genomes: Needs and Opportunities.; University of Illinois, April 8-10, 1990.

University of Pittsburg Human Genetics Conference, Pymatuning, PA; October 13-15, 1989.

Mid-American Miniature Horse Association. Louisville, KY October 7, 1989; presentation entitled: "Horse breeding and genetic selection".

Gordon Conference on Quantitative Genetics and Biotechnology, Santa Barbara, CA; January 8-13, 1989.

Twenty-first International Conference on Animal Blood Group Research; Torino, Italy; July 2-8, 1988. (two poster presentations).

Twenty-third Annual Convention of the American Association of Equine Practitioners; December, 1987; New Orleans, LA. (invited speaker).

Fifth International Workshop on Lymphocyte Alloantigens of the Horse/ First International Conference on Equine Immunology and Immunogenetics. Baton Rouge, LA; October 31- November 2, 1987 (research presentation).

International Symposium on the Molecular Biology of the Major Histocompatibility Complex of Domestic Animal Species; October 22-23, 1987; Ames, Iowa. (invited speaker)

Restriction enzyme analysis and segregation distortion of the ELA system. Dairy Science Department, Ohio State University; January 21, 1987.

Gene mapping and physiology of the equine MHC. Pymatuning Genetics Retreat, University of Pittsburg, Oct. 9-11, 1986.

Male Segregation distortion of the equine MHC. Conference on the t-complex and related systems. Jackson Laboratory, Bar Harbor, ME; Sept. 3-7, 1986.

Twentieth International Conference on Animal Blood Group Research, Helsinki, Finland; July 25-August 1, 1986. Use of Blood Typing for Parentage Analysis. Annual Meeting of the American Saddlebred Horse Association; Lexington, KY; Feb. 26, 1986.

Gordon Conference on Quantitative Genetics and Biotechnology, Santa Barbara, CA; January 21-26, 1986.

Genetics of the Equine MHC. Pymatuning Genetics Retreat, University of Pittsburg; Sept. 28, 1985.

Development of Animal Blood Group Research. Biology Department, University of Louisville; Nov. 14, 1984.

Immunity. Horseman's Short Course, Lexington, KY; Oct. 1984.

Influence of the ELA locus on Reproduction; Current status of horse blood typing. Department of Dairy Science, Ohio State University; January 31, 1984.

Segregation distortion of genes in the equine lymphocyte antigen complex. Southeastern Immunology Conference, Stone Mountain, GA; Oct 20-21, 1983.

Current Status of Horse Blood Typing Research. American Horse Council Conference, Washington, DC; May 24, 1983.

Eighteenth International Conference on Animal Blood Groups Research, Ottawa, Canada; July 18-25, 1982.

Relationship of blood typing to neonatal isoerythrolysis. Farm Managers Meeting, Lexington, KY; June 1982.

Incidence of anti-RBC antibodies in horses and tests for hemolytic disease of the newborn. Department of Veterinary Reproduction, University of California, Davis; Oct. 6, 1981.

Current Status of Lymphocyte Typing. Serology Blood Typing Round Table, University of California, Davis; September, 1980.

Blood typing and sampling. Horse Identification Short Course, Washington State University; Sept. 9, 1978.

**Conferences for Gene Marker Standardization**

Horse blood typing comparison tests; 1982, Ottawa, Canada; 1984, Göttingen, FRG; 1986, Helsinki, Finland.

International Workshops on Lymphocyte Alloantigens of the Horse: New York, New York, October 1981; Ithaca, NY, October 1982; New Bolton Center, PA, May 1984; Lexington, KY, October 1985; Baton Rouge, LA, October 1987.

First International Workshop on Bovine Lymphocyte Antigens, Edinburgh, Scotland; August 1978.

***CURRICULUM VITAE***  
**Udeni B. R. Balasuriya B.V.Sc., MS, Ph.D.**

**PERSONAL INFORMATION:**

Date of Birth: December 13, 1958 (Kandy, Sri Lanka)  
Citizenship: United States of America  
Native Language: Sinhalese  
Spouse: Ranjani K. M. Balasuriya  
Children: Beverly K. Balasuriya (17 years)

**DEPARTMENT ADDRESS:**

Department of Veterinary Science  
108 Maxwell H. Gluck Equine Research Center  
Room 439, University of Kentucky  
Lexington, KY 40546-0099  
Phone: (859) 257-4757 ext. 81124 [Office],  
(859) 257-4757 ext. 81164 [Laboratory]  
Fax: (859) 257-8542  
E-mail: [ubalasuriya@uky.edu](mailto:ubalasuriya@uky.edu)  
Web site: <http://www.ca.uky.edu/gluck/BalasuriyaUBR.asp>

**HOME ADDRESS:**

173 Somersly Place  
Lexington, KY 40515  
Phone: (859) 543-8703 (Home)  
(859) 806-4775 (Cell)

**ACADEMIC DEGREES:**

Ph.D., 1996	University of California, Davis	Comparative Pathology with special emphasis in molecular virology
M.S., 1991	University of California, Davis	Comparative Pathology with special emphasis in diagnostic pathology
B.V.Sc., 1985	Faculty of Veterinary Medicine and Animal Science, University of Peradeniya, Peradeniya, Sri Lanka	

**PROFESSIONAL EXPERIENCE AND EMPLOYMENT:**

2005 August -	Associate Professor of Virology, Department of Veterinary Science, Gluck Equine Research Center, University of Kentucky, Lexington
2001 - 2005	Associate Research Molecular Virologist, Dept. of Pathology, Microbiology and Immunology, School of Veterinary Medicine, University of California, Davis
1999 - 2005	Scientific Director and Coordinator, Equine Viral Disease Laboratory, Dept. of Pathology, Microbiology and Immunology, School of Veterinary Medicine, University of California, Davis
1997 - 2001	Assistant Research Molecular Virologist, Dept. of Pathology, Microbiology and Immunology, School of Veterinary Medicine, University of California, Davis
1996 -1997	Postdoctoral Fellow, Dept. of Pathology, Microbiology and Immunology, School of Veterinary Medicine, University of California, Davis
1991 - 1996	Graduate Student/Postgraduate Researcher, Dept. of Pathology, Microbiology and Immunology, School of Veterinary Medicine, University of California, Davis



- 1990 - 1992      Residency training in Diagnostic Veterinary Pathology, Veterinary Medical Teaching Hospital, University of California, Davis
- 1989 - 1991      Graduate Student, Dept. of Pathology, School of Veterinary Medicine, University of California, Davis
- 1985 - 1989      Veterinary Research Officer, Veterinary Research Institute, Sri Lanka

**GRADUATE SCHOOL APPOINTMENT:**

- 2006 -            Full member, Graduate Faculty for the Veterinary Science Program, University of Kentucky

**ADDITIONAL TRAINING IN DISEASE DIAGNOSTICS:**

1. FAO Training Course in Diagnostic Methods in Rinderpest, Veterinary Research Institute, Sri Lanka (March 12-21, 1988)
2. Training in Diagnostic Methods in Rinderpest, Animal Virus Laboratory, Sri Lanka (January 15-20, 1988)
3. FAO/APHCA International Training Course on Diagnosis of African Swine Fever, Indian Veterinary Research Institute, Izatnagar, India (September 1-12, 1987)

**FELLOWSHIPS:**

1. Austin Eugene Lyons Graduate Scholarship 1991/92 and 1994/95 (UC Davis)
2. Chancellor's Graduate Fellowship 1993/94 (UC Davis)
3. Jastro Shields Scholarship 1992/93, 1993/94 and 1994/95 (UC Davis)
4. Fulbright Scholarship 1989-1991 (United States Information Agency)
5. Commonwealth Bureau of Animal Health Scholarship 1985 (University of Peradeniya, Sri Lanka)
6. Pfizer Scholarship 1984/85 (University of Peradeniya, Sri Lanka)

**HONORS:**

1. The Honor Society of Agriculture, Gamma Sigma Delta 2009
2. Fulbright Scholar 1989-1991
3. Obtained the highest aggregate in the third (1983) and final (1985) B.V.Sc examinations
4. Distinction in Veterinary Microbiology in the third B.V.Sc. examination (1983)

**ORGANIZATIONAL AFFILIATIONS:**

1. Member Gamma Sigma Delta 2009 -
2. Member United States Animal Health Association 2007 -
3. Member Research Workers in Animal Diseases 2005 -
4. Member Society for General Microbiology 2000 -
5. Member American Society for Microbiology 1997 -
6. Member American Society for Virology 1996 -
7. Member American Association of Veterinary Laboratory Diagnosticians 1993 -
8. Member Phi Sigma Gamma Delta Chapter 1992 -
9. Member Sri Lanka Veterinary Association 1985 -

### **RESEARCH INTERESTS:**

1. Molecular virology and development of improved diagnostic assays for equine viral diseases
2. Equine arteritis virus, equine herpesviruses
3. Virus-host interactions and viral pathogenesis
4. Recombinant vaccines
5. Molecular epidemiology
6. Equine infectious diseases

### **PROFESSIONAL ACTIVITIES:**

1. Co-organizer, XII<sup>th</sup> Nidovirus International Symposium, 2011
2. Member, International Committee on Taxonomy of Viruses (ICTV) Arterivirus Study Group, 2005-2008 & 2009-2011
3. Scientific Board Member, Porcine Reproductive and Respiratory Syndrome Coordinated Agriculture Project (PRRS-CAP), 2006-
4. Editorial Board Member, Journal of Veterinary Diagnostic and Investigation, 2008-
5. Editorial Board Member, The Open Virology Journal, 2008-
6. Editorial Board Member, Clinical and Vaccine Immunology, 2007-2011
7. Editorial Board Member, Virus Genes, 2007-
8. Peer reviewer (*ad hoc* reviewer) for the following scientific journals (24)\*
  - Applied and Environmental Microbiology
  - Archives of Virology
  - BBA - Proteins and Proteomics
  - Clinical and Vaccine Immunology
  - Comparative Immunology, Microbiology and Infectious Diseases
  - Equine Veterinary Journal
  - Journal of General Virology
  - Journal of Clinical Microbiology
  - Journal of Molecular Biology and Evolution
  - Journal of Veterinary Diagnostic and Investigation
  - Journal of Veterinary Medicine
  - Journal of Virology
  - Journal of Virological Methods
  - Open Virology Journal
  - PLoS Pathogen
  - Research in Veterinary Science
  - Slovenian Veterinary Research
  - Vaccine
  - Veterinary Immunology and Immunopathology
  - Veterinary Microbiology
  - Veterinary Research
  - Virology
  - Virus Genes
  - Virus Research

*\*Number of manuscripts reviewed per year approximately 25-30*

9. Services on national and university research grant reviews (*ad hoc* and as a panel member)

- Panel Member, USDA-CSREES Animal Protection & Biosecurity Panel A (USDA-AFRI Competitive Grant Program), 2009
- Panel Manager, Porcine Reproductive and Respiratory Syndrome USDA-CAP2 Grant Review Panel, 2008
- Panel Member, USDA-CSREES Animal Protection & Biosecurity Panel B (USDA-NRI Competitive Grant Program), 2008
- Kentucky Tobacco Research & Development Center Competitive Grant Program primary, 2006
- USDA-NRI Porcine Reproductive and Respiratory Syndrome Integrated Grant Program – *ad hoc* reviewer, 2005
- Porcine Reproductive and Respiratory Syndrome USDA-CAP1 Grant Program – *ad hoc* reviewer, 2005
- Academic Federation Research Grant Program Innovative Developmental Awards – primary scientific reviewer, 2005
- USDA’s Small Business Innovation Research (SBIR) Animal Production and Protection Program – *ad hoc* reviewer, 2004
- National Pork Board and NRI/NC229 USDA Integrated Program Project - *ad hoc* reviewer, 2004
- Center for Food Animal Health, School of Veterinary Medicine, UC Davis - scientific reviewer, 2002-2004

**UNIVERSITY SERVICE:**

1. Standing Committee Assignments
  - Gluck Equine Research Center Intramural Research Support Committee (Chair), 2009
  - Jes E. and Clementine M. Schlaikjer Chair Search Committee 2009 (April - September)
  - Koller Bioinformatics Committee, 2008 -
  - Faculty Performance Advisory Committee, 2008 -
  - Hatch/Animal Health Review Advisory Committee, 2008 -
  - Isolation Facilities Advisory Committee, 2008 -
2. Coordinator – Gluck Equine Research Center Weekly Scientific Seminar Series 2009-2010
3. Member, Academic Federation Research Committee, 2003-2005
4. Member, Peer and Voting Group for Academic Federation Members, Department of Pathology, Microbiology and Immunology, 2003-2004.
5. Member, Peer and Voting Group for Academic Federation Members, Center for Vector-Borne Disease Research and Veterinary Genetics Laboratory, 2003-2004.

**OTHER DOCUMENTED ACCOMPLISHMENTS AND CONTRIBUTIONS:**

Provide assistance with molecular diagnostics (RT-PCR and real-time RT-PCR)

1. Testing of clinical specimens submitted to the OIE designated reference laboratory for equine viral arteritis (EVA) at the Gluck Equine Research Center
2. Testing of clinical specimens submitted to the OIE designated reference laboratory for equine influenza at the Gluck Equine Research Center

Outreach - provide advice on equine viral arteritis to veterinarians and equine industry associates over the phone

**TRAINING AND SUPERVISION OF GRADUATE STUDENTS:**

1. Kristin M Pfahl\*, Masters Student, Department of Veterinary Science, 2009 -
2. Kathryn L. Smith, Doctoral Student, Department of Veterinary Science, 2008 -
3. Zhengchun Lu, Doctoral Student, Department of Veterinary Science, 2006 -
4. Yun Young Go\*, Doctoral Student, Department of Veterinary Science, 2005 -

*\*Co-advisor and Mentor*

**TRAINING AND SUPERVISION OF POSTDOCTORAL SCHOLARS:**

1. Yanqiu Li, Paul Mellon Post Doctoral Scholar, Gluck Equine Research Center, 2009 -
2. Jianqiang Zhang, Post Doctoral Scholar, Gluck Equine Research Center, 2005 -

**MENTORING OF GRADUATE STUDENTS (University of California, Davis)\*:**

1. Clifton Drew, Ph.D. Student, Department of Pathology, Microbiology and Immunology, University of California, Davis, 2004-2010 (Current Position: Pathologist/Scientist, Centers for Disease Control and Prevention, Atlanta, GA),
2. Stephanie Bell, Ph.D. Student, Department of Pathology, Microbiology and Immunology, University of California, Davis 2002-2009 (Current Position: Assistant Professor, Large Animal Medicine, College of Veterinary Medicine and Biomedical Sciences, Colorado State University, CO)
3. Josh Boone, MS Student, Department of Pathology, Microbiology and Immunology, University of California, Davis 2005-2007, (Current Position: Air Pollution Specialist, California Air Resources Board, Sacramento, CA)
4. Brian Bird, Combined DVM/Ph.D. program, Department of Pathology, Microbiology and Immunology, University of California, Davis, Winter, 2003-2005 (Current Position: Veterinarian/Scientist, Special Pathogens Branch, Division of Viral and Rickettsial Diseases, National Center for Infectious Diseases, Centers for Disease Control and Prevention, Atlanta, GA)
5. Brian D. Moore, Ph.D. Student, Department of Pathology, Microbiology and Immunology, University of California, Davis, 1999-2002 (Current Position: Colonel, Veterinary Corps, US Army, US Army Medical Research Institute of Infectious Diseases, Fort Detrick, MD)
6. Jesse Deere, Graduate Student, Microbiology Graduate Program, Research training and supervision of microbiology graduate students (Microbiology 201L), University of California, Davis, Fall Quarter, 2004
7. Linda Ta, Graduate Student, Microbiology Graduate Program, Research training and supervision of microbiology graduate students (Microbiology 201L), University of California, Davis, Spring Quarter, 2004
8. Linda Zhang, Graduate Student, Microbiology Graduate Program, Research training and supervision of microbiology graduate students (Microbiology 201L), University of California, Davis, Winter Quarter, 2002
9. Jodi F. Hedges, Ph.D. Student, Department of Pathology, Microbiology and Immunology, University of California, Davis, 1996-2000 (Current Position: Research Assistant Professor, Department of Veterinary Molecular Biology, Montana State University, Bozeman, MT)
10. John F. Patton, MS Student, Department of Pathology, Microbiology and Immunology, University of California, Davis 1996-1998 (Current Position: Field Service Engineer, Applied Biosystems, Foster City, CA)

11. Kyle R. Bonneau, Graduate Student, Microbiology Graduate Program, Research training and supervision of microbiology graduate students (Microbiology 201L), University of California, Davis, Spring Quarter, 1997 (Current Position: Research Scientist, Cella Inc., Mountain View, CA)
  12. Jodi F. Hedges, Graduate Student, Microbiology Graduate Program, Research training and supervision of microbiology graduate students (Microbiology 201L), University of California, Davis, Fall Quarter, 1995.
- \*Co-advisor and mentor. Professor N. J. MacLachlan was the major advisor of these graduate students.*

**RESEARCH TRAINING AND SUPERVISION OF UNDERGRADUATE AND HIGH SCHOOL STUDENTS:**

1. Jena White, Undergraduate Student/Laboratory Assistant/ABT 395 Research, University of Kentucky, 2007- 2010
2. Jessica Hennig\*, Otterbein College, Westerville, OH, Summer Undergraduate Student, 2008 and 2009
3. Gong Seoul, Undergraduate Student/Laboratory Assistant, University of Kentucky, 2007 -
4. Jessica Brooke Gusler, Undergraduate Student, Agriculture Biotechnology Program, University of Kentucky, 2008 – 2009
5. Ashley Howard, Undergraduate Student, ABT 395 Research, University of Kentucky; 2007 (Current position: Veterinary Student, Auburn University, Auburn, AL)
6. Doug Denniston, Math and Science Magnet Program, Paul Laurence Dunbar High School, Lexington, KY 2005-2007. His project on equine coronavirus won first place in Microbiology at the Fifth Annual Kentucky Science & Engineering Fair (Current Position: Undergraduate Student, Vanderbilt University, Nashville, TN)
7. Lydia Cox, Undergraduate Student/Laboratory Assistant, University of Kentucky, 2005-2006
8. Prem Tripathi, Undergraduate Student/Laboratory Assistant, Undergraduate Student/Laboratory Assistant, University of California, Davis, 2005
9. Patricia P. Wong, Undergraduate Student/Laboratory Assistant, UC Davis, 2005 (Current Position: Medical Student, St. George's University, Grenada)
10. Michael Kaleel, Undergraduate Student/Laboratory Assistant, UC Davis, 2004 (Current Position: Medical Student, School of Medicine, St. George's University, Grenada)
11. Casey DeCino, Undergraduate Student/Laboratory Assistant, University of California, Davis, 2003-2005 (Current Position: Veterinarian)
12. Janet Jimenez, Undergraduate Student/Laboratory Assistant, University of California, Davis 2003-2004 (Current Position: Research Assistant, The Beer Laboratory, Oregon Health & Science University, Hematology and Medical Oncology, Prostate Cancer Program, Portland, OR)
13. Josh Boone, Undergraduate Student/Laboratory Assistant, University of California, Davis, 2003-2004
14. Victoria L. Smalley, Undergraduate Student/Laboratory Assistant, University of California, Davis, 2001-2003 (Current Position: Veterinarian)
15. Andrea Navarrettee, Undergraduate Student/Laboratory Assistant, University of California, Davis, 2000-2002 (Current Position: Technician)
16. J. B. Topol, Undergraduate Student/Laboratory Assistant, University of California, Davis, 1999-2001 (Current Position: Pharmacist)

**\*Co-advisor**

### **RESEARCH TRAINING OF VISITING VETERINARIANS AND SCIENTISTS:**

1. Iván Francisco Vázquez\*, Visiting Graduate Student, Epidemiology, Zoonoses and Parasitic Diseases Veterinary Faculty. Santiago de Compostela University, 27002-Lugo, Spain, Fall, 2009
2. Fabien Miszczak, Visiting Scientist, Animal Health Department, Frank Duncombe Departmental Laboratory, France, 2005 and 2009
3. Jianqiang Zhang, Visiting PhD Student, Gluck Equine Research Center, Fall, 2004
4. Federica Monaco, Visiting Scientist, Istituto Zooprofilattico Sperimentale, Teramo, Italy, Fall, 2003 and Fall, 2004
5. Cesare Camma, Visiting Scientist, Istituto Zooprofilattico Sperimentale, Teramo, Italy, Fall, 2002
6. Heike M. Wagner, Veterinarian and Visiting Scientist, Germany, 2001-2002

\*Co-advisor

### **DOCTORAL/THESIS ADVISORY COMMITTEES:**

1. Sanjay Sarkar, Department of Veterinary Science - Doctoral advisory committee, 2010 -
2. Ashish Tiwari, Department of Veterinary Science - Doctoral advisory committee, 2008 -
3. Monika Sharma, Department of Plant Pathology - Doctoral advisory committee, 2008 -
4. Kathryn L. Smith, Department of Veterinary Science - Doctoral advisory committee, 2008 -
5. Lauren Detlefsen, Department of Veterinary Science – M.S. advisory committee, 2008 -
6. Zhengchun Lu, Department of Veterinary Science - Doctoral advisory committee, 2006 -
7. Yun Young Go, Department of Veterinary Science - Doctoral advisory committee, 2006 -
8. Barry Jay Meade, Department of Veterinary Science - Doctoral advisory committee, 2006 -
9. Clifton P. Drew, Department of Pathology, Microbiology and Immunology, University of California, Davis - Ph.D. Dissertation committee, 2006 - 2010
10. Saikat Boliar, Department of Veterinary Science - Doctoral advisory committee, 2006 – 2009
11. Josh Boone, Department of Pathology, Microbiology and Immunology, University of California, Davis - M.S. Thesis committee, 2005-2007
12. Shankar P. Mondal, Department of Pathology, Microbiology and Immunology, University of California, Davis - Ph.D. Dissertation committee, 2003-2005
13. Dana M. Nelson, Department of Pathology, Microbiology and Immunology, University of California, Davis - M.S. Thesis committee, 2003-2005
14. Kellie McCormick, Division of Cardiovascular Medicine, School of Medicine, University of California, Davis - Ph.D. Dissertation committee, 2003-2004

### **OUTSIDE EXAMINER FOR DOCTORAL EXAMINATIONS:**

1. Ravi P. Subramanian – Department of Microbiology, Immunology and Molecular Genetics, College of Medicine, University of Kentucky, 2007

### **QUALIFYING EXAMINATION COMMITTEES:**

1. Francisco J. Monge Navarro - Ph.D. Candidate, Comparative Pathology Graduate Group, University of California, Davis, September 2005
2. Shankar P. Mondal - Ph.D. Candidate, Comparative Pathology Graduate Group, University of California, Davis, June 2003
3. Kellie McCormick - Ph.D. Candidate, Molecular, Cellular and Integrative Physiology Graduate Group, University of California, Davis, March 2003

### **DISCLOSURE AND RECORD OF INVENTIONS:**

1. Patent (pending): An infectious cDNA clone of the modified live virus strain of the equine arteritis virus (University of Kentucky Case 1502)
2. Vaccine for bluetongue virus (UC Case No. 2006-501-1)
3. Cloned outer capsid proteins of the serotypes of bluetongue virus (BTV) that are endemic (currently) in North America (UC Case No. 2004-529-1)
4. Immunization against equine viruses using a replicon vector gene delivery system (UC Case No. 2000-297-1)

### **NUCLEOTIDE SEQUENCE DEPOSITION TO GENBANK DATABASE:**

Total Number of Genbank Accessions: 365 nucleotide sequences

- **Full-length Viral Genomic Sequences: 35**

1. GenBank accession # AY349167 - Equine arteritis virus strain CW96
2. GenBank accession # AY349168 - Equine arteritis virus strain CW01
3. GenBank accession # DQ846750 - Equine arteritis virus strain Bucyrus
4. GenBank accession # DQ 846751– Equine arteritis virus infectious cDNA clone pEAVrVBS
5. GenBank accession # EU252113 - Equine arteritis virus strain HeLa-EAVP35
6. GenBank accession # EU252114 -Equine arteritis virus strain HeLa-EAVP80
7. GenBank accession # EU586273 - Equine arteritis virus strain HK25
8. GenBank accession # EU586274 - Equine arteritis virus strain HK116
9. GenBank accession # EU586275 - Equine arteritis virus strain ARVAC
10. GenBank accession # EF446615 - Equine coronavirus NC99 strain
11. GenBank accession # FJ798195 – Equine arteritis virus infectious cDNA clone pEAVrMLV<sup>f</sup>
12. GenBank accession # FJ798196 – Equine arteritis virus infectious cDNA clone pEAVrMLVB<sup>f</sup>
13. GenBank accession # GQ903794 - Equine arteritis virus isolate S3685\*
14. GenBank accession # GQ903795 - Equine arteritis virus isolate S3861\*
15. GenBank accession # GQ903796 - Equine arteritis virus isolate S3699\*
16. GenBank accession # GQ903797 - Equine arteritis virus isolate S3961\*
17. GenBank accession # GQ903798 - Equine arteritis virus isolate S4417\*
18. GenBank accession # GQ903799 - Equine arteritis virus isolate S3712\*
19. GenBank accession # GQ903800 - Equine arteritis virus isolate S4007\*
20. GenBank accession # GQ903801 - Equine arteritis virus isolate S3711\*
21. GenBank accession # GQ903802 - Equine arteritis virus isolate S4227\*
22. GenBank accession # GQ903803 - Equine arteritis virus isolate S3854\*
23. GenBank accession # GQ903804 - Equine arteritis virus isolate S4333\*
24. GenBank accession # GQ903805 - Equine arteritis virus isolate S3886\*
25. GenBank accession # GQ903806 - Equine arteritis virus isolate S4421\*
26. GenBank accession # GQ903807 - Equine arteritis virus isolate S3943\*
27. GenBank accession # GQ903808 - Equine arteritis virus isolate S4445\*
28. GenBank accession # GQ903809 - Equine arteritis virus isolate S3583\*

29. GenBank accession # GQ903810 - Equine arteritis virus isolate S3817\*
30. GenBank accession # GQ903811 - Equine arteritis virus isolate S4216\*
31. GenBank accession # GU732198 – Equine arteritis virus chimeric infectious cDNA clone rMLV/VBS 234<sup>§</sup>
32. GenBank accession # GU732199 – Equine arteritis virus chimeric infectious cDNA clone rMLV/VBS 56<sup>§</sup>
33. GenBank accession # GU732200– Equine arteritis virus chimeric infectious cDNA clone rMLV/VBS S<sup>§</sup>
34. GenBank accession # GU732201 – Equine arteritis virus chimeric infectious cDNA clone rVBS/MLV S<sup>§</sup>
35. GenBank accession # GU732202 – Equine arteritis virus chimeric infectious cDNA clone rVBS/HK116 S<sup>§</sup>

<sup>f</sup>These two sequences will be released to the public in December 31, 2010 or just after publishing the manuscript

\*These eighteen sequences will be released to the public in May, 2011 or just after publishing the manuscript

<sup>§</sup>These five sequences will be released to the public in March, 2012 or just after publishing the manuscript

- **Viral Genes: 335**

1. Equine arteritis virus – 231\*
2. Equine herpesvirus 2 - 14
3. Equine herpesvirus 5 -9
4. Equine herpesvirus 7 (Mule)- 1
5. Equine coronavirus - 2
6. Equine influenza - 2
7. Bluetongue virus - 69
8. Rotavirus B – 7

\*Includes 90 sequences that will be released to the public in May, 2011 or just after publishing the manuscript

**GRANTS AWARDED:**

1. Principal investigator of: “Cloning of the full-length neuropathogenic equine herpesvirus-1 Findlay strain (T953) genome as an infectious bacterial artificial chromosome (BAC) in *E.coli*”. Gluck Equine Research Center Intramural Grant Support, University of Kentucky, 2010, \$6,000 (Intramural).
2. Co-principal investigator of: “Discovery of equine genes associated with the susceptibility to equine arteritis virus (EAV) infection of equine CD3+ T lymphocytes and identification of possible genetic marker(s) for the prediction of the establishment of EAV persistent infection in stallions”. Gluck Equine Research Center Intramural Grant Support, University of Kentucky, 2010, \$7,000 (Intramural).
3. Principal investigator of: “Establishment of the importance of the role of heparin/heparan sulfate as an attachment factor for infection of equine endothelial cells (EECs) with equine arteritis virus (EAV)”. Research Activity Award, College of Agriculture, University of



Kentucky, 2010, \$1,250 (Intramural).

4. Principal investigator of: “Molecular characterization of neuropathogenic strains of EHV-1”. Research Activity Award, College of Agriculture, University of Kentucky, 2009, \$10,000 (Intramural).
5. Principal investigator of: “Molecular phylogenetic analysis of EHV-1 isolates from the United States and France”. Research Activity Award, College of Agriculture, University of Kentucky, 2009, \$3,500 (Intramural).
6. Principal investigator and author of: “Comparative Genomics of Gamma-Herpesviruses of Equids.” Paul Mellon Post Doctoral Scholarship Award to Dr. Yanqiu Li, 2009-2011, \$72,000 (Intramural).
7. Principal investigator of: “Development and characterization of equine arteritis virus-vectored chimeric viruses as vaccines against porcine reproductive and respiratory syndrome virus (PRRS).” Fort Dodge Animal Health Laboratories, 2008-2010. \$211,000.
8. Principal investigator of: “Molecular epidemiology of EAV: 2006 Occurrence in the US.” Grayson-Jockey Club Research Foundation, Inc., 2008-2009, \$31,967.
9. Principal investigator of: “Development of real-time PCR-based diagnostic assays for detection of virus infections in horses.” American Quarter Horse Association, 2007-2008 (Year 2), \$22,407.
10. Co-investigator of: “Investigating equine arteritis virus transmission risks with embryo transfer in vaccinated and non-vaccinated embryo donor mares.” American Quarter Horse Association, 2007-2008, \$106,949.
11. Principal investigator of: “Development of real-time PCR-based diagnostic assays for detection of virus infections in horses.” American Quarter Horse Association, 2006-2007 (year 1), \$29,566
12. Principal investigator of: “Detection of Antibodies to EAV by microsphere immunoassay.” Grayson-Jockey Club Research Foundation, Inc., 2006-2007, \$24,702.
13. Principal investigator of: “Molecular basis of attenuation of the modified live virus vaccine strain of equine arteritis virus.” Fort Dodge Animal Health Laboratories, 2006-2008, \$156,335.
14. Co-principal investigator of: “West Nile membrane cleavage defective viruses as a vaccine candidate for equines.” Marcia MacDonald Rivas Research Funds, 2004-2005, \$26,450.
15. Co-principal investigator and co-author of: “Novel recombinant bluetongue virus vaccine.” U.S.D.A.-N.R.I. Competitive Grants Program, 2002-2004, \$220,000.
16. Principal investigator of: “Genetic determinants of virulence and attenuation of equine

- arteritis virus.” U.S.D.A.-N.R.I. Competitive Grants Program, 2001-2004, \$225,000.
17. Principal investigator of: “Development of real-time PCR-based diagnostic assays for detection of virus infection in horses.” Center for Equine Health, 2000-2002, \$52,915.
  18. Co-principal investigator and co-author of: “Development of novel recombinant subunit vaccines to prevent virus infections of the horse: Validation using equine arteritis virus.” Center for Equine Health, 2000-2001, \$25,368.
  19. Co-principal investigator and co-author of: “Role of DI particles in persistent EAV infection of stallions.” Grayson-Jockey Club Research Foundation, Inc., Kentucky, 2000-2001, \$67,101.
  20. Principal investigator of: “Construction and characterization of chimeric infectious cDNA clones of velogenic, mesogenic and lentogenic strains of equine arteritis virus.” Marcia MacDonald Rivas Research Funds, 1999-2000, \$27,980.
  21. Co-principal investigator and co-author of: “Development of a direct reverse transcription and polymerase chain reaction (RT-PCR) based colorimetric assay for detection of equine arteritis virus in semen and other clinical samples.” Center for Equine Health, 1998-2000, \$37,600.
  22. Principal investigator of: “Phenotypic characterization of equine arteritis virus with an infectious cDNA clone.” U.S.D.A.-N.R.I. Competitive Grants Program, 1997-2000, \$176,689.
  23. Co-principal investigator and co-author of: “Genetic diversity of equine arteritis virus during persistent infection of stallions.” Grayson-Jockey Club Research Foundation, Inc., Kentucky, 1997-1998, \$56,135.
  24. Co-principal investigator and co-author of: “Development of improved prophylactic and diagnostic reagents for control of equine arteritis virus infection of horses.” Center for Equine Health, 1997-1998, \$30,938.
  25. Co-principal investigator and co-author of: “Development of improved prophylactic and diagnostic reagents for control of equine arteritis virus infection of horses.” Center for Equine Health, 1996-1997, \$24,450.
  26. Co-principal investigator and co-author of: “The neutralization determinants of equine arteritis virus.” U.S.D.A.-N.R.I. Competitive Grants Program, 1995-1997, \$125,512.
  27. Co-principal investigator and co-author of: “Equine viral arteritis: Pathogenesis of infection of the horses and molecular characterization of equine arteritis virus.” Grayson-Jockey Club Research Foundation, Kentucky, 1994-1996, \$57,500.
  28. Co-principal investigator and co-author of: “Characterization of the humoral immune response of the horse to equine arteritis virus (EAV) and neutralization determinants of the

virus.” Equine Research Laboratory, 1994-1996, \$63,500.

29. Co-principal investigator and co-author of: “Characterization of the humoral immune response of the horse to equine arteritis virus (EAV) and neutralization determinants of the virus.” Marcia MacDonald Rivas Research Funds, 1994-1995, \$14,000.
30. Co-principal investigator and co-author of: “Molecular characterization of equine arteritis virus.” Marcia MacDonald Rivas Research Funds, 1993-1994, \$24,000.

**GRANTS SUBMITTED (PENDING):**

1. Principal investigator of: “Testing the susceptibility of neuropathogenic and non-neuropathogenic equine herpesviruses-1 strains to antivirals”. American Quarter Horse Foundation, 2010-2011, \$39,745.
2. Co-principal investigator and co-author of: “Genome-wide Scan to Identify Genetic Factors Responsible for Establishment of Equine Arteritis Virus Carrier State in Stallions”. American Quarter Horse Foundation (Young Investigator Application by Dr. Yun Young Go, Graduate Student), 2010-2011, \$29,940.
3. Principal investigator of: “Molecular characterization of neurovirulent EHV-1 strains”. Grayson-Jockey Club Research Foundation, Inc., 2010-2012, \$95,361.
4. Co-investigator and co-author of: “Equine arteritis virus-based vaccine for EPM and EVA”. Grayson-Jockey Club Research Foundation, Inc. 2010-2012, \$92,685.
5. Principal investigator of: “Comparison of *in vitro* antiviral activity of herpesvirus DNA polymerase inhibitors against neuropathogenic and non-neuropathogenic strains of equine herpesvirus-1. Kentucky Horse Racing Commission. 2010-2011, \$40,499.

**GRANTS SUBMITTED (NOT FUNDED):**

1. Principal investigator of: “Molecular characterization and identification of virulence determinants of neuropathogenic EHV-1 strains”. USDA-AFRI, 2009-2011, \$348,774.
2. Principal investigator of: “Genetic characterization of neuropathogenic EHV-1 field isolates and molecular epidemiology of EHV-1”. Morris Animal Foundation, 2009-2011, \$135,130.
3. Principal investigator of: “Molecular epidemiology of EHV-1 in Central Kentucky.” Grayson Jockey Club Research Foundation, 2009-2010, \$43,510.
4. Principal investigator of: “Comprehensive analysis of the molecular epidemiology and evolution of equine herpesvirus-1 in Central Kentucky.” American Quarter Horse Association, 2009-2010, \$31,245.
5. Co-principal investigator and co-author of: “Tissue distribution and definitive cellular localization of equine arteritis virus in the reproductive tract of persistently infected stallions.” American Quarter Horse Association, 2009-2010, \$29,812.

6. Principal investigator of: "Genome scanning and identification of chromosomal Region(s) and candidate genes associated with susceptibility to equine arteritis virus infection". Morris Animal Foundation, 2009. *Pre-proposal*.
7. Co-principal investigator of: "Comparative genomics of gamma-herpesviruses of equids." National Science Foundation, 2008, \$250,039.
8. Principal investigator of: "Development of attenuated marker vaccine for equine and porcine Arteriviruses. USDA-NRI, 2007, \$181,707.

### **PEER-REVIEWED PUBLICATIONS:**

*\*Indicates corresponding author*

*#Denotes publications that were derived from research of students or postdoctoral scholars under my direct supervision*

1. **Balasuriya, U. B. R.**, Rossitto, P. V., DeMaula, C. D., and MacLachlan, N. J. 1993. A 29K envelope glycoprotein of equine arteritis virus expresses neutralization determinants recognized by murine monoclonal antibodies. *J. Gen. Virol.* 74(Pt 11):2525-29.
2. Kita, J., **Balasuriya, U. B. R.**, and Osburn, B. I. 1994. Comparison of the proteins of bovine and ovine parainfluenza-3 viruses. *Arch. Vet. Pol.* 34(3-4):195-204.
3. **Balasuriya, U. B. R.**, MacLachlan, N. J., de Vries, A. A. F., Rossitto, P. V., and Rottier, P. J. M. 1995. Identification of a neutralization site in the major envelope glycoprotein (G<sub>L</sub>) of equine arteritis virus. *Virology* 207(2):518-27.
4. **Balasuriya, U. B. R.**, Timoney, P. J., McCollum, W. H., and MacLachlan, N. J. 1995. Phylogenetic analysis of open reading frame 5 (ORF 5) of field isolates of equine arteritis virus and identification of conserved and non-conserved regions in G<sub>L</sub> envelope protein. *Virology* 214(2):690-97.
5. Hedges, J. F., **Balasuriya, U. B. R.**, Timoney, P. J., McCollum, W. H., and MacLachlan, N. J. 1996. Genetic variation in open reading frame 2 of field isolates and laboratory strains of equine arteritis virus. *Virus Res.* 42(1-2):41-52.
6. MacLachlan, N. J., **Balasuriya, U. B. R.**, Rossitto, P. V., Hullinger, P. A., Patton, J. F., and Wilson, W. D. 1996. Fatal experimental equine arteritis virus infection of a pregnant mare: immunohistochemical staining of viral antigens. *J. Vet. Diagn. Invest.* 8:367-74.
7. **Balasuriya, U. B. R.**, Patton, J. F., Rossitto, P. V., Timoney, P. J., McCollum, W. H., and MacLachlan N. J. 1997. Neutralization determinants of laboratory strains and field isolates of equine arteritis virus: identification of four neutralization sites in the amino-terminal ectodomain of the G<sub>L</sub> envelope glycoprotein. *Virology* 232(1):114-28.
8. MacLachlan, N. J., **Balasuriya, U. B. R.**, Hedges, J. F., Schweidler, T. M., McCollum, W. H., Timoney, P. J., Hullinger, P. A., and Patton, J. F. 1998. Serologic response of horses to structural proteins of equine arteritis virus. *J. Vet. Diagn. Invest.* 10:229-36.

9. Pierce, C. M., **Balasuriya, U. B. R.**, and MacLachlan, N. J. 1998. Phylogenetic analysis of the S10 gene of field and laboratory strains of bluetongue virus from the United States. *Virus Res.* 55(1):15-27.
10. **Balasuriya, U. B. R.**, Evermann, J. F., Hedges, J. F., McKeirnan, A. J., Mitten, J. Q., Beyer, J. C., McCollum, W. H., Timoney, P. J., and MacLachlan, N. J. 1998. Serologic and molecular characterization of an abortigenic strain of equine arteritis virus isolated from infective frozen semen and an aborted equine fetus. *J. Am. Vet. Med. Assoc.* 213 (11) 1586-9.
11. Hedges, J. F., **Balasuriya, U. B. R.**, Ahmad, S., Timoney, P. J., McCollum, W. H., Yilma, T. D., and MacLachlan, N. J. 1998. Detection of antibodies to equine arteritis virus by enzyme linked immunosorbant assays utilizing the G<sub>L</sub>, M and N proteins expressed from baculovirus. *J. Virol. Methods* 76(1-2):127-137.
12. Hedges, J. F., **Balasuriya, U. B. R.**, Timoney, P. J., McCollum, W. H., and MacLachlan, N. J. 1999. Genetic divergence with emergence of novel phenotypic variants of equine arteritis virus during persistent infection of stallions. *J. Virol.*73(5):3672-81.
13. Patton, J. F., **Balasuriya, U. B. R.**, Hedges, J. F., Schweidler, T. M., Hullinger, P. A., and MacLachlan N. J. 1999. Phylogenetic characterization of a highly attenuated strain of equine arteritis virus from the semen of a persistently infected standardbred stallion. *Arch. Virol.* 144(4):817-27.
14. **Balasuriya, U. B. R.**, Snijder, E. J., van Dinten, L. C., Heidner, H. W., Wilson, W. D., Hullinger, P. J., Hedges, J. F., and MacLachlan, N. J. 1999. Equine arteritis virus derived from an infectious cDNA clone is attenuated and genetically stable in infected stallions. *Virology* 260(1):201-8.
15. **Balasuriya, U. B. R.**, Hedges, J. F., Nadler, S. A., McCollum, W. H., Timoney, P. J., and MacLachlan, N. J. 1999. Genetic stability of equine arteritis virus during horizontal and vertical transmission in an outbreak of equine viral arteritis. *J. Gen. Virol.* 80(Pt 8):1949-58.
16. Hedges, J. F., **Balasuriya, U. B. R.**, and MacLachlan, N. J. 1999. The open reading frame 3 of equine arteritis virus encodes an immunogenic glycosylated, integral membrane protein. *Virology* 264(1):92-8.
17. **Balasuriya, U. B. R.**, Heidner, H. W., Hedges, J. F., Williams, J. C., Davis, N. L., Johnston, R. E., and MacLachlan, N. J. 2000. Expression of the two major envelope proteins of equine arteritis virus as a heterodimer is necessary for induction of neutralizing antibodies in mice immunized with recombinant Venezuelan equine encephalitis virus replicon particles. *J. Virol.* 74(22):10623-30.
18. Moore, B. D., **Balasuriya, U. B. R.**, Hedges, J. F., and MacLachlan, N. J. 2002. Growth characteristics of a highly virulent, a moderately virulent, and an avirulent strain of equine

arteritis virus in primary equine endothelial cells are predictive of their virulence to horses. *Virology* 298(1):39-44.

19. **Balasuriya, U. B. R.**, Heidner, H. W., Davis, N. L., Wagner, H. M., Hullinger, P. J., Hedges J. F., Williams, J. C., Johnston, R. E., Wilson, W. D., Liu, I. K., and MacLachlan, N. J. 2002. Alphavirus replicon particles expressing the two major envelope proteins of equine arteritis virus induce high level protection against challenge with virulent virus in vaccinated horses. *Vaccine* 20(11-12):1609-17.
20. **Balasuriya, U. B. R.**, Leutenegger, C. M., Topol, J. B., McCollum, W. H., Timoney, P. J., and MacLachlan, N. J. 2002. Detection of equine arteritis virus by real-time TaqMan<sup>®</sup> reverse transcription-PCR assay. *J. Virol. Methods* 101(1-2):21-28.
21. Wagner, H. M., **Balasuriya, U. B. R.**, and MacLachlan, N. J. 2003. The serologic response of horses to equine arteritis virus as determined by competitive enzyme-linked immunosorbent assays (c-ELISAs) to structural and non-structural viral proteins. *Comp. Immunol. Microbiol. Infect. Dis.* 26(4):251-60.
22. Moore, B. D., **Balasuriya, U. B. R.**, Nurton, J. P., McCollum, W. H., Timoney, P. J., Guthrie, A. J., and MacLachlan, N. J. 2003. Differentiation of strains of equine arteritis virus of differing virulence to horses by growth in equine endothelial cells. *Am. J. Vet. Res.* 64(6):779-84.
23. Guthrie, A. J., Howell, P. G., Hedges, J. F., Bosman, A. M., **Balasuriya, U. B. R.**, McCollum, W. H., Timoney, P. J., and MacLachlan, N. J. 2003. Lateral transmission of equine arteritis virus amongst Lipizzaner stallions in South Africa. *Equine Vet. J.* 35(6):596-600.
24. Guthrie, A. J., Howell, P. G., Gardner, I. A., Swanepoel, R. E., Nurton, J. P., Harper, C. K., Pardini, A., Groenewald, D., Visage, C. W., Hedges, J. F., **Balasuriya, U. B. R.**, Cornell, A. J., and MacLachlan, N. J. 2003. West Nile virus infection of thoroughbred horses in South Africa, 2000-2001. *Equine Vet. J.* 35(6):601-5.
25. Moore, B. D., **Balasuriya, U. B. R.**, Watson, J. L., Bosio, C. M., MacKay, R. J., and MacLachlan, N. J. 2003. Virulent and avirulent strains of equine arteritis virus induce different quantities of TNF- $\alpha$  and other proinflammatory cytokines in alveolar and blood-derived equine macrophages. *Virology* 314(2):662-70.
26. **Balasuriya, U. B. R.**, Hedges, J. F., Smalley, V. L., Navarrettee, A., McCollum, W. H., Timoney, P. J., Snijder, E. J., and MacLachlan, N. J. 2004. Genetic characterization of equine arteritis virus during persistent infection of stallions. *J. Gen. Virol.* 85:379-90.
27. Nelson, D. M., Gardner, I. A., Chiles, R. F., **Balasuriya, U. B. R.**, Eldridge, B. F., Scott, T. W., Reisen, W. K., and MacLachlan, N. J. 2004. Prevalence of antibodies against Saint Louis encephalitis and Jamestown Canyon viruses in California horses. *Comp. Immunol. Microbiol. Infect. Dis.* 27(3):209-15.

28. **Balasuriya, U. B. R.**, Dobbbe, J. C., Heidner H. W., Smalley, V. L., Navarrettee, A., Snijder, E. J., and MacLachlan, N. J. 2004. Characterization of the neutralization determinants of equine arteritis virus using recombinant chimeric viruses and site-specific mutagenesis of an infectious cDNA clone. *Virology* 321:235-46.
29. **Balasuriya, U. B. R.**, and MacLachlan, N. J. 2004. The immune response to equine arteritis virus: potential lessons for other arteriviruses. *Vet. Immunol. Immunopath.* 102:107-29 (Review).
30. **Balasuriya, U. B. R.**, Shi, P. -Y., Wong, S. J., Demarest, V. L., Gardner, I. A., Hullinger, P. J. Ferraro, G. L., Boone, J. D., De Cino, C. L., Glaser, A. L., Renshaw, R. W., Ledizet, M., Koski, R. A., and MacLachlan, N. J. 2006. Detection of antibodies to West Nile virus in equine sera using microsphere immunoassay. *J. Vet. Diagn. Invest.* 18:392-95.
31. Bell, S. A., **Balasuriya, U. B. R.**, Gardner, I. A., Barry, P. A., Wilson, W. D., Ferraro, G. L., and MacLachlan, N. J. 2006. Temporal detection of equine herpesvirus infections of a cohort of mares and their foals. *Vet. Microbiol.* 116(4):249-57.
32. Bell, S. A., **Balasuriya, U. B. R.**, and MacLachlan, N. J. 2006. Equine viral arteritis. *Clinical Techniques in Equine Practice* 5(3):233-8.
33. Bell, S. A., **Balasuriya, U. B. R.**, Nordhausen, R. W., and MacLachlan, N. J. 2006. Isolation of equine herpesvirus-5 from blood mononuclear cells of a California gelding. *J. Vet. Diagn. Invest.* 18(5):472-5.
34. Gardner, I.A., Wong, S. J., Ferraro, G. L., **Balasuriya, U. B. R.**, Hullinger P. J., Wilson W. D., Shi, P. -Y., and MacLachlan, N. J. 2007. Incidence and effects of West Nile virus infection in vaccinated and unvaccinated horses in California. *Vet Res.* 38(1):109-16.
35. Boone, J. D., **Balasuriya, U. B. R.**, Karaca, K., Audonnet, J. -C., Yao, J., He, L., Nordgren, R., Monaco, F., Savini, G., Gardner, I. A., and MacLachlan, N. J. 2007. Recombinant canarypox virus vaccine co-expressing genes encoding the VP2 and VP5 outer capsid proteins of bluetongue virus induces high-level protection in sheep. *Vaccine* 25(4):672-8.
36. **\*Balasuriya, U. B. R.**, Snijder, E. J., Heidner, H. W., Zhang, J., Zevenhoven-Dobbe, C., Boone, J. D., McCollum, W. H., Timoney, P. J., and MacLachlan, N. J. 2007. Development and characterization of an infectious cDNA clone of the virulent Bucyrus strain of equine arteritis virus. *J. Gen. Virol.* 88:918-24.
37. MacLachlan, N. J., **Balasuriya, U. B. R.**, Davis, N. L., Collier, M., Johnston R. E., and Guthrie, A. J. 2007. Experiences with new generation vaccines against equine viral arteritis, West Nile disease and African horse sickness. *Vaccine* 25(30):5577-82.
38. Hallam, K. M., Edirisinghe, I., **Balasuriya, U. B. R.**, Gunawardena, S., Bravo, E. M., Ravi, K., and Kappagoda, C. T. 2007. Effects of mitral regurgitation on the reflex diuresis to pulmonary lymphatic obstruction in rabbits. *Exp. Lung Res.* 33(5):259-75.

39. Zhang, J., Miszczak, F., Pronost, S., Fortier, C., \***Balasuriya, U. B. R.**, Zientara, S., Fortier, G., and Timoney, P. J. 2007. Genetic variation and phylogenetic analysis of 22 French strains of equine arteritis virus. *Arch. Virol.* 152(11):1977-94.
40. #Zhang J., Guy, J. S., Snijder, E. J., Denniston, D. A., Timoney, P. J., and \***Balasuriya, U. B. R.** 2007. Genomic characterization of equine coronavirus. *Virology* 369(1):92-104.
41. MacLachlan, N. J., Zientara, S., Stallknecht, D. E., Boone, J. D., Goekjian, V. H., Sailleau, C., and **Balasuriya, U. B. R.** 2007. Phylogenetic comparison of the S10 genes of recent isolates of bluetongue virus from the United States and French Martinique Island. *Virus Res.* 129(2):236-40.
42. **Balasuriya, U. B. R.**, Nadler, S. A., Wilson, W. C., Pritchard, L. I., Smythe, A. B., Savini, G., Monaco, F., De Santis, P., Zhang, N., Tabachnick, W. J., and MacLachlan, N. J. 2008. The NS3 proteins of global strains of bluetongue virus evolve into regional topotypes through negative (purifying) selection. *Vet. Microbiol.* 126(1-3):91-100.
43. #Go, Y. Y., Wong, S. J., Branscum, J. A., Demarest, V. L., Shuck, K. M., Vickers, M. L., Zhang, J., McCollum, W. H., Timoney, P. J., and \***Balasuriya, U. B. R.** 2008. Development of a fluorescent microsphere immunoassay for detection of antibodies specific to equine arteritis virus and comparison with the virus neutralization test. *Clin. Vaccine Immunol.* 15(1):76-87.
44. #Lu, Z., Branscum, J. A., Shuck, K. M., Zhang, J., Dubovi, E., Timoney, P. J., and \***Balasuriya, U. B. R.** 2008. Comparison of two real-time reverse transcription polymerase chain reaction assays for the detection of equine arteritis virus nucleic acid in equine semen and tissue culture fluid. *J. Vet. Diagn. Invest.* 20(2):147-55.
45. Bell, S. A., Pusterla, N., **Balasuriya, U. B. R.**, Mapes, S. M., Nyberg, N. L., and MacLachlan, N. J. 2008. Isolation of a gammaherpesvirus similar to asinine herpesvirus-2 (AHV-2) from a mule and a survey of mules and donkeys for AHV-2 infection by real-time PCR. *Vet. Microbiol.* 130(1-2):176-83.
46. Holyoak, G. R., **Balasuriya, U. B. R.**, Broaddus, C. C., and Timoney, P. J. 2008. Equine viral arteritis: Current status and prevention. *Theriogenology* 70(3):403-14.
47. #Zhang, J., Go, Y.Y., Maclachlan, N.J., Meade, B. J., Timoney, P. J., and \***Balasuriya, U. B. R.** 2008. Amino acid substitutions in the structural or nonstructural proteins of a vaccine strain of equine arteritis virus are associated with its attenuation. *Virology* 378(2): 355-362.
48. #Zhang, J., Timoney, P. J., MacLachlan, N. J., McCollum, W. H., and \***Balasuriya U. B. R.** 2008. Persistent equine arteritis virus infection in HeLa cells. *J Virol.* 82(17): 8456-8464.
49. #Zhang, J., Timoney, P. J., MacLachlan, N. J., and \***Balasuriya, U. B. R.** 2008. Identification of an additional neutralization determinant of equine arteritis virus. *Virus Res.*



138:150-153.

50. #Smith, K. L., Allen, G. P., Branscum, A. J., Cook, R. F., Vickers, M. L., Timoney, P. J., and \***Balasuriya, U. B. R.** 2009. Increased prevalence of neuropathogenic strains of EHV-1 in equine abortions. *Vet. Micro.* (2009 Aug 8. [Epub ahead of print]).
51. #Lu, Z., Chambers, T., Boliar, S., Timoney\* **Balasuriya, U. B. R.** 2009. Development and evaluation of one-step TaqMan<sup>®</sup> real-time reverse transcription-PCR assays targeting NP, M and HA genes of equine influenza virus. *J. Clin. Microbiol.* 47(12):3907-13.
52. Pronost, S., Pitel, P. H., Legrant, L., Miszczak, F., Marcillaud-Pitel, C., Hamon, M., Tapprest, J., **Balasuriya, U. B. R.**, Freymuth, F., and Fortier, G. 2010. Description of the first recorded major occurrence of equine viral arteritis in France. *Equine Vet. J.* (in press).
53. #Zhang, J., Stein, D. A., Timoney, P. J., and \***Balasuriya, U. B. R.** 2010. Cure of persistent equine arteritis virus infection in HeLa cells by treatment with a peptide-conjugated morpholino oligomer. *Virus Res.* (in press).
54. Broaddus, C. C., **Balasuriya, U. B. R.**, White, J., Timoney, P. J., Funk, R. A., and Holyoak, G. R. 2010. Safety consideration of vaccinating mares against equine viral arteritis in mid and late pregnancy and in the immediate postpartum period. *J. Am. Vet. Med Assoc.* (in press).
55. #Go, Y. Y., Zhang, J., Timoney, P. J., Cook, R. F., Horohov, D. W., and \***Balasuriya U. B. R.** 2010. Complex Interactions between the Major and Minor Envelope Proteins of Equine Arteritis Virus Determine its Tropism for Equine CD3<sup>+</sup> T Lymphocytes and CD14<sup>+</sup> Monocytes. *Journal of Virology* (in press).
56. #Zhang, J., Timoney, P. J., Shuck, K. M., Seoul, G., Go, Y. Y., Lu, Z., Powell, D. G., Meade, B. J., and \***Balasuriya, U. B. R.** 2010. Molecular characterization of equine arteritis virus isolates associated with the 2006/2007 multi-state disease occurrence in the USA. *J. Gen. Virol.* (in revision).
57. #Lu, Z., Dubovi, E. J., Zylich, N., Crawford, P. C., Sells, S., Go, Y. Y., Loynachan, A. T., Timoney, P. J., Chambers, T. M., and \***Balasuriya, U. B. R.** 2010. Diagnostic application of H3N8 specific equine influenza real-time RT-PCR assays for the detection of canine influenza virus in clinical specimens. *J. Vet. Diagn. Invest.* (submitted).
58. Brault, S. A., Bird, B. H., **Balasuriya, U. B. R.**, and MacLachlan, N. J. 2009. Genetic heterogeneity and variation in viral load during equid herpesvirus-2 infection of foals. *Vet. Microbiol.* (submitted).

#### **MANUSCRIPTS IN PREPARATION:**

\*Indicates corresponding author

#Denotes publications that were derived from research of students or postdoctoral scholars under my direct supervision

1. Broaddus, C. C., **Balasuriya, U. B. R.**, White, J., Timoney, P. J., Makloski, C., Torrissi, K. and Holyoak, G. R. 2010. Infectivity of embryos following insemination of donor mares with equine arteritis virus infective semen. *J. Am. Vet. Med Assoc.*
2. #Zhang, J., Go, Y. Y., Lu, Z., Meade, B. J., Lu, Z., Timoney, P. J., and \***Balasuriya, U. B. R.** 2010. Recombinant equine arteritis virus derived from an infectious cDNA clone of the modified live virus vaccine strain mimics biological properties of its parental virus *in vitro* and *in vivo*. *Vaccine.*
3. #Zhang J., Go Y. Y., Gusler J. B., Timoney P. J. and \***Balasuriya U. B. R.** 2010. Development and characterization of a modified live virus marker vaccine candidate against equine viral arteritis.
4. #Zhang, J., Huang, C., Timoney, P.J., and \***Balasuriya U. B. R.** 2010. Equine arteritis virus-vectored chimeric viruses: A tool to study the cell tropism determinants of equine and porcine arteriviruses as well as a vaccine candidate against porcine reproductive and respiratory syndrome.
5. Drew, C. P., **Balasuriya, U. B. R.**, and MacLachlan, N. J. 2010. The comparative distribution of viral nucleic acid and E-selectin expression in a horse experimentally infected with the virulent horse-adapted Bucyrus strain of equine arteritis virus. *Vet. Pathology.*
6. Timoney, P. J., Summer, A., Go, Y. Y., Lu, Z., McCue, P. M., **Balasuriya, U. B. R.**, Bruemmer, J. E. 2010. Further evaluation studies on the safety of the current modified live virus vaccine against EVA (ARVAC<sup>®</sup>) in stallions.

#### **NON REFEREED PUBLICATIONS:**

1. Brault, A. C., and **Balasuiriya, U. B. R.** 2004. West Nile virus of California: Veterinary diagnostics and statewide surveillance. *Proceeding of the Nineteenth Annual Horse Day Symposium* (October 9<sup>th</sup>-10th, 2004), University of California, Davis, CA.
2. Pronost, S., **Balasuriya, U. B. R.**, Miszczak, F., Legrant, L, Pitel, P. H., and Fortier, G. 2007. L'artérite virale équine: connaissances actuelles et perspectives. *Pratique Vétérinaire équine* 39(156): 7-18 (*Published in French*).

#### **BOOK CHAPTERS:**

1. **Balasuriya, U. B. R.**, Hedges, J. F., and MacLachlan, N. J. 2001. Molecular epidemiology and evolution of equine arteritis virus. In: *Advances in Experimental Biology (The Nidoviruses)*, Edited by E. Lavi *et al.* Kluwer Academic/Plenum Publishers. pp. 19-23.
2. Hedges, J. F., **Balasuriya, U. B. R.**, Topol, J. B., Lee, D. W. and MacLachlan, N. J. 2001. Genetic variation of ORF3 and 4 of equine arteritis virus. In: *Advances in Experimental Biology (The Nidoviruses)*, Edited by E. Lavi *et al.* Kluwer Academic/Plenum Publishers. pp. 69-72.

3. **Balasuriya, U. B. R.,** and Stott, J. L. 2004. *Coronaviridae* and *Arteriviridae*. In: Veterinary Microbiology (Second edition), Edited by D. C. Hirsh *et al.*, Blackwell Publishing, Ames, IA. pp. 383-397.
4. MacLachlan, N. J., and **Balasuriya, U. B. R.** 2006. Equine viral arteritis. In: Advances in Experimental Biology, volume 581. Edited by S. Perlman, Kluwer Academic/Plenum Publishers. pp 429-433 (Review).
5. **Balasuriya, U. B. R.,** and MacLachlan, N. J. 2007. Equine viral arteritis. In: Infectious Diseases of the Horse. Edited by Debra Sellon and Maureen Long, Saunders Elsevier, Chapter 14, pp 153-164.
6. MacLachlan, N. J., and **Balasuriya, U. B. R.,** Murtaugh, M. P., Barthold, S. W., and Lowenstine, L. J. 2007. Arterivirus pathogenesis and immune response. In: Nidoviruses. Edited by S. Perlman, American Society for Microbiology Press, Chapter 21, pp 325-337.
7. **Balasuriya, U. B. R.,** and Snijder, E. J. 2007. Arteriviruses. In: Animal Viruses: Molecular Biology. Edited by Thomas C. Mettenleiter and Francisco Sobrino, Caister Academic Press, Chapter 3, pp 97-148.

#### **INVITED PRESENTATIONS:**

1. **Balasuriya, U. B. R.** 2004. Equine arteritis virus 1953–2004: what have we learned? *Gluck Equine Research Center, University of Kentucky, Lexington, KY.*
2. **Balasuriya, U. B. R.** 2005. Neutralization and virulence determinants of equine arteritis virus: Implications for PRRSV pathogenesis and immunity. *Keynote address to the 2005 International porcine respiratory and reproductive syndrome virus (PRRSV) symposium in St. Louis, MO (December 2-3, 2005).*
3. **Balasuriya, U. B. R.** 2006. Equine viral arteritis: molecular epidemiology, diagnosis and control. *Department of Pathobiology, University of Guelph, Ontario, Canada (March 31, 2006).*
3. **Balasuriya, U. B. R.** 2007. Equine viral arteritis: evolving significance in an era of expanding trade in horses and semen. *Department of Pathobiology, College of Veterinary Medicine, University of Illinois at Urbana-Champaign, IL (December 5, 2007).*
4. **Balasuriya, U. B. R.** 2008. From coronaviruses to arteriviruses: what is the connection? *Department of Biology, University of Texas, San Antonio, TX (March 3, 2008).*

#### **ABSTRACTS/PRESENTATIONS:**

*\*Presentations by the graduate student or the postdoctoral scholar*

1. **Balasuriya, U. B. R.,** and Wanasinghe, D. D. 1986. Suitability of materials received for bacteriological examination at the Veterinary Research Institute. *Proc. Sri Lanka Vet. Assoc.*
2. Wanasinghe, D. D., **Balasuriya, U. B. R.,** and Horadagoda, N. U. 1986. A preliminary report on investigation into jaundice and photosensitization among goats and sheep. *Proc.*

3. **Balasuriya, U. B. R.,** Maithripala, H. A., and Wanasinghe, D. D. 1986. Pneumonia among a herd of goats - possible role of *Pasteurella haemolytica*. *Proc. Sri Lanka Vet. Assoc.*
4. Horadagoda, N. U., **Balasuriya, U. B. R.,** De Silva, L. N. A., Samarajeewa, U., Jayasekera, L. S., and Pemasiri, K. H. J. M. S. 1989. Clinico-pathological studies of a disease in goats characterized by jaundice and photosensitization. *Proc. Sri Lanka Vet. Assoc.*
5. **Balasuriya, U. B. R.,** Bastiansz, H. L. G., Maithripala, H. A., and Wanasinghe, D. D. 1989. Antibiogram of organisms isolated from materials submitted for bacterial diagnosis to the Veterinary Research Institute. *Proc. Sri Lanka Vet. Assoc.*
6. **Balasuriya, U. B. R.,** Horadagoda, N. U., Perumal, M. C. R. M., and Athuruliya, D. S. 1989. An abattoir study of liver diseases in goats in Sri Lanka. *Proc. Sri Lanka Vet. Assoc.*
7. Horadagoda, N. U., **Balasuriya, U. B. R.,** De Silva, L. N. A., and Mulleriyawa, I. S. 1990. Hematological studies of Sri Lanka Boer goats. *Proc. Sri Lanka Vet. Assoc.*
8. **Balasuriya, U. B. R.,** Rossitto, P. V., DeMaula, C. D., and MacLachlan, N. J. 1993. A 29K envelope glycoprotein of equine arteritis virus expresses neutralization determinants recognized by murine monoclonal antibodies. *Am. Assoc. Vet. Lab. Diagn.*
9. **Balasuriya, U. B. R.** 1994. Molecular characterization of neutralization determinants of equine arteritis virus (EAV). *Australian Animal Health Laboratory, Geelong, Victoria, Australia and Center for Equine Virology, School of Veterinary Science, University of Melbourne, Parkville, Victoria, Australia.*
10. **Balasuriya, U. B. R.,** Rossitto, P. V., Patton, J. F., de Vries, A. F., and MacLachlan, N. J. 1995. Neutralization epitopes of equine arteritis virus. *American Society for Virology.*
11. Patton, J. F., **Balasuriya, U. B. R.,** Timoney, P. J., McCollum, W. H., and MacLachlan N. J. 1995. Phenotypic variation of field isolates of equine arteritis virus. *Am. Assoc. Vet. Lab. Diagn.*
12. **Balasuriya, U. B. R.,** Timoney, P. J., McCollum, W. H., Rossitto, P. V., Patton, J. F., and MacLachlan N. J. 1995. Genetic variation of strains of equine arteritis virus and identification of major neutralization domains in the G<sub>L</sub> protein of the virus. *Am. Assoc. Vet. Lab. Diagn.*
13. **Balasuriya, U. B. R.,** Timoney, P. J., McCollum, W. H., Rossitto, P. V., Patton, J. F., and MacLachlan N. J. 1996. Phylogenetic analysis of open reading frame 5 and identification of major neutralization sites in the G<sub>L</sub> envelope glycoprotein of equine arteritis virus. *Am. Soci. Virol.*
14. **Balasuriya, U. B. R.,** Patton, J. F., Rossitto, P. V., Hedges, J. F., Timoney, P. J., McCollum,

- W. H., and MacLachlan N. J. 1997. Identification of four neutralization sites in the amino-terminal ectodomain of the G<sub>L</sub> protein and emergence of novel genetic variants of equine arteritis virus. *American Society for Virology*.
15. **Balasuriya, U. B. R.,** Hedges, J. F., Heidner, H., Chinsangaram, J., and MacLachlan, N. J. 1998. Characterization of two major envelope proteins (G<sub>L</sub> and M) of equine arteritis virus using eukaryotic expression systems. *American Society for Virology*.
  16. Hedges, J. F., **Balasuriya, U. B. R.,** Patton, J. F., Timoney, P. J., McCollum, W. H., and MacLachlan, N. J. 1998. Genetic variation of sequential equine arteritis virus from persistently infected stallions. *Am. Soci. Virol.*
  17. Evermann, J. F., McKeiman, A. J., **Balasuriya, U. B. R.,** Mitten, J. Q., Beyer, J. C., and MacLachlan, N. J. 1998. Apparently novel strain of equine arteritis virus isolated from a case of equine abortion in Washington State. *Am. Assoc. Vet. Lab. Diagn.*
  18. **Balasuriya, U. B. R.,** Hedges, J. F., McCollum, W. H., Timoney, P. J., and MacLachlan, N. J. 1999. Genetic stability of equine arteritis virus during horizontal and vertical transmission in an outbreak of equine viral arteritis. *American Society for Virology*.
  19. Hedges, J. F., **Balasuriya, U. B. R.,** and MacLachlan, N. J. 1999. The equine arteritis virus GP3 protein is antigenic in carrier stallions and membrane associated. *Am. Soci. Virol.*
  20. **Balasuriya, U. B. R.,** Hedges, J. F., and MacLachlan, N. J. 2000. Molecular epidemiology and evolution of equine arteritis virus. *The VIII Intl. Symp. Nidoviruses (Coronaviruses and Arteriviruses)*.
  21. Hedges, J. F., **Balasuriya, U. B. R.,** and MacLachlan, N. J. 2000. Genetic variation of ORF3 and 4 of equine arteritis virus. *The VIII Intl. Symp. Nidoviruses (Coronaviruses and Arteriviruses)*.
  22. **Balasuriya, U. B. R.,** Hedges, J. F., Topol, J. B., McCollum, W. H, Timoney, P. J. and MacLachlan, N. J. 2000. Detection of North American and European strains of equine arteritis virus by reverse transcription polymerase chain reaction. *American Society for Virology*.
  23. **Balasuriya, U. B. R.,** Heidner, H. W., Davis, N. L., Hullinger, P. J., Wagner, H. M., Johnston, R. E., Hedges, J. F., Williams, J. C., Wilson, W. D., Liu, I. K., and MacLachlan, N. J. 2001. Alphavirus replicon particles expressing the two major envelope proteins of equine arteritis virus induce high level protection against challenge with virulent virus in vaccinated horses. *American Society for Virology*.
  24. Hedges J. F., **Balasuriya, U. B. R.,** McCollum, W. H, Timoney, P. J., and MacLachlan N. J. 2001. Defective equine arteritis virus genomes in the semen of persistently infected carrier stallions. *American Society for Virology*.
  25. Moore, B. D., Hedges, J. F., **Balasuriya, U. B. R.,** DeMaula, C. D., McCollum, W. H,

- Timoney P. J. and MacLachlan N. J. 2001. Growth kinetics of field strains of equine arteritis virus in primary equine endothelial cells reflects their virulence. *Am. Soci. Virol.*
26. **Balasuriya, U. B. R.,** Dobbeb, J. C., Heidner H. W., Smalley, V. L., Navarrettee, A., Snijder, E. J., and MacLachlan, N. J. 2003. Molecular characterization of the neutralization determinants of equine arteritis virus using recombinant chimeric viruses and site-specific mutagenesis of an infectious cDNA clone. *IXth Intl. Symp. Nidoviruses (The Netherlands).*
27. Zhang, J., **Balasuriya, U. B. R.,** Shuck, K. M., McCollum, W. H., and Timoney, P. J. 2003. Virus-specific cell receptors are not sole mediators of cell permissiveness to equine arteritis virus. *American Society for Virology.*
28. **Balasuriya, U. B. R.,** Dobbeb, J. C., Heidner, H. W., Smalley, V. L., Navarrettee, A., Snijder, E. J., and MacLachlan, N. J. 2003. Molecular characterization of the neutralization determinants of equine arteritis virus using recombinant chimeric viruses and site-specific mutagenesis of an infectious cDNA clone. *American Society for Virology.*
29. Zhang, J., **Balasuriya, U. B. R.,** Shuck, K. M., McCollum, W. H., and Timoney, P. J. 2003. Establishment and characterization of persistent equine arteritis virus infection in HeLa cells. *Conference of Research Workers in Animal Diseases (CRWAD).*
30. **Balasuriya, U. B. R.,** Nadler, S. A., Wilson, W. C., Smythe, A. B., De Santis, P., Zhang, N., Tabachnick, W. J., and MacLachlan, N. J. 2003. Global isolates of bluetongue virus segregate into region-specific topotypes based on phylogenetic analyses of their NS3 genes. *Third International Symposium on Bluetongue (Taormina, Italy).*
31. **Balasuriya, U. B. R.,** and MacLachlan, N. J. 2004. Polymerase chain reaction-based diagnostics for equine arteritis virus: uses, limitations and future prospects. *Workshop on the diagnosis of equine arteritis virus infection, M. H. Gluck Equine Research Center, University of Kentucky, Lexington, KY.*
32. MacLachlan, N. J., and **Balasuriya, U. B. R.** 2004. The serologic response of horses to equine arteritis virus. *Workshop on the diagnosis of equine arteritis virus infection, M. H. Gluck Equine Research Center, University of Kentucky, Lexington, KY.*
33. **Balasuriya, U. B. R.,** Snijder, E. J., Heidner, H. W., and MacLachlan, N. J. 2005. Development and characterization of an infectious cDNA clone of the virulent Bucyrus strain of equine arteritis virus. *Xth Intl. Nidovirus Symposium at the Cheyenne Mountain Resort in Colorado Springs, CO.*
34. MacLachlan, N. J., and **Balasuriya U. B. R.** 2005. Molecular epidemiology and pathogenesis of equine arteritis virus infection of horses. *Xth Intl. Nidovirus Symposium at the Cheyenne Mountain Resort in Colorado Springs, CO.*
35. Bell, S. A., Ferraro, G. L., Blea, J., Arthur, R. M., Dowd, J., Wilson, W. D., Gardner, I. A., **Balasuriya, U. B. R.,** and MacLachlan, N.J. 2005. Polymerase chain reaction detection of

herpesviruses in horses. *Twenty-seventh Annual House Officer Seminar Day. UC Davis Veterinary Medical Teaching Hospital, Davis, CA*

36. Zhang, J., **Balasuriya, U. B. R.**, Shuck, K. M., McCollum, W. H., MacLachlan, N. J., and Timoney, P. J. 2006. Determination of permissiveness of various cell lines to equine arteritis virus infection and demonstration of equine arteritis virus infection restricted at the entry step in non-permissive cell lines. *American Society for Microbiology. Orlando, FL.*
37. \*Zhang, J., **Balasuriya, U. B. R.**, Snijder, E. J., Shuck, K. M., McCollum, W. H., MacLachlan, N. J., and Timoney, P. J. 2006. Genetic characterization of equine arteritis virus during persistent infection of Hela cells and identification of a new neutralization determinant. *American Soc. Virol., Madison, WI.*
38. Bell, S. A., **Balasuriya, U. B. R.**, Gardner, I. A., Barry, P. A., Wilson, W. D., Ferraro, G. L., and MacLachlan, N. J. 2006. Temporal detection of equine herpesvirus infections of a cohort of mares and their foals. *American College of Veterinary Internal Medicine 24th Annual Forum. Louisville, KY.*
39. \*Zhang J., Guy, J. S., Snijder, E. J., Denniston, D. A., Timoney, P. J., and **Balasuriya, U. B. R.** 2007. Genomic characterization of equine coronavirus. *Eighth Symposium on Positive Stranded RNA Viruses, Washington, D.C.*
40. \*Lu, Z., Branscum, A., Shuck, K. M., Zhang, J., Dubovi, E., Timoney, P. J., and **Balasuriya, U. B. R.** 2007. Comparison of 2 real-time RT-PCR assays for the detection of equine arteritis virus nucleic acid in equine semen and tissue culture fluid. *American Association Veterinary Laboratory. Diagnosticians, Reno, NV.*
41. \*Go, Y. Y., Wong, S. J., Branscum, A., Demarest, V. L., Shuck, K. M., Vickers, M. L., Zhang, J., McCollum, W. H., Timoney, P. J., and **Balasuriya, U. B. R.** 2007. Development and comparison of a fluorescent microsphere immunoassay with the virus neutralization test for the detection of antibodies to equine arteritis virus. *American Association Veterinary Laboratory. Diagnosticians, Reno, NV.*
42. Drew, C. P., **Balasuriya, U. B. R.**, and MacLachlan, N. J. 2007. The comparative distribution of viral nucleic acid and E-selectin expression in a horse experimentally infected with the virulent horse-adapted Bucyrus strain of equine arteritis virus. *McLaughlin Symposium on Endotheliotropic Diseases, Galveston, TX.*
43. \*Zhang, J., Go, Y. Y., MacLachlan, N. J., Meade, B. J., Timoney, P. J., and **Balasuriya, U. B. R.** 2008. Amino acid substitutions in both the structural and non-structural proteins of the modified live virus vaccine strain of equine arteritis virus are responsible for its attenuation. *XI<sup>th</sup> Nidovirus Symposium, University of Oxford, Oxford, United Kingdom.*
44. \*Zhang, J., Miszczak, F., Pronost, S., Fortier, C., **Balasuriya, U. B. R.**, Zientara, S., Fortier, G., and Timoney, P. J. 2008. Genetic variation and phylogenetic analysis of 22 French isolates of equine arteritis virus. *XI<sup>th</sup> Nidovirus Symposium, University of Oxford, Oxford,*

*United Kingdom.*

45. \*Zhang, J., MacLachlan, N. J., Timoney, P. J., and **Balasuriya, U. B. R.** 2008. Persistent equine arteritis virus infection in HeLa cells. *XI<sup>th</sup> Nidovirus Symposium, University of Oxford, Oxford, United Kingdom.*
46. \*Lu, Z., Branscum, A., Shuck, K. M., Zhang, J., Dubovi, E., Timoney, P. J., and **Balasuriya, U. B. R.** 2008. Comparison of two real-time reverse transcription polymerase chain reaction assays for the detection of equine arteritis virus nucleic acid in equine semen and tissue culture fluid. *XI<sup>th</sup> Nidovirus Symposium, University of Oxford, Oxford, United Kingdom.*
47. \*Go, Y. Y., Wong, S. J., Branscum, A., Demarest, V. L., Shuck, K. M., Vickers, M. L., Zhang, J., McCollum, W. H., Timoney, P. J., and **Balasuriya, U. B. R.** 2008. Development of a fluorescent microsphere immunoassay for detection of antibodies specific to equine arteritis virus and comparison with the virus neutralization test. *XI<sup>th</sup> Nidovirus Symposium, University of Oxford, Oxford, United Kingdom.*
48. \*Go, Y. Y., Timoney, P. J., Horohov, D. W., and **Balasuriya, U. B. R.** 2008. Flow cytometric analysis of *in vitro* equine arteritis virus infected equine peripheral blood mononuclear cells. *XI<sup>th</sup> Nidovirus Symposium, University of Oxford, Oxford, United Kingdom.*
49. \*Lu, Z., Branscum, A., Shuck, K. M., Zhang, J., Dubovi, E., Timoney, P. J., and **Balasuriya, U. B. R.** 2008. Comparison of two real-time reverse transcription polymerase chain reaction assays for the detection of equine arteritis virus nucleic acid in equine semen and tissue culture fluid. *Second International Workshop on Equine Viral Arteritis, Lexington, KY.*
50. \*Go, Y. Y., Wong, S. J., Branscum, A., Demarest, V. L., Shuck, K. M., Vickers, M. L., Zhang, J., McCollum, W. H., Timoney, P. J., and **Balasuriya, U. B. R.** 2008. Development of a fluorescent microsphere immunoassay for detection of antibodies specific to equine arteritis virus and comparison with the virus neutralization test. *Second International Workshop on Equine Viral Arteritis, Lexington, Kentucky.*
51. Pronost, S., Miszczak, F., Legrand, L, **Balasuriya, U. B. R.**, Marcillaud-Pitel, C., Hans, A., Zientara, S., and Fortier, G. 2008. First detection and characterization of equine viral arteritis in France during the 2007 outbreak illustrating the importance of molecular tools for the diagnosis of this infection. *Second International Workshop on Equine Viral Arteritis, Lexington, KY.*
52. Hennig, J., Timoney, P. J., Shuck, K. M., **Balasuriya, U. B. R.**, Baker, R., Williamson, L., A. and Niehaus, A. 2008. Serosurveillance of the US camelid population for evidence of equine arteritis virus infection. *Second International Workshop on Equine Viral Arteritis, Lexington, KY.*
53. Meade, B. J., Timoney, P. J., **Balasuriya, U. B. R.**, and Shuck, K. M. 2008. Isolation of equine arteritis virus (EAV) from stallions whose semen was imported into the United States,



1996-2007. *Second International Workshop on Equine Viral Arteritis, Lexington, KY.*

54. \*Zhang, J., Shuck, K. M., Seoul, G., Go, Y. Y., Lu, Z., Meade, B. J., Powell, D. G., Timoney P. J., and **Balasuriya, U. B. R.** 2008. Molecular characterization of equine arteritis virus isolates associated with the 2006/2007 multi-state disease occurrence in the USA. *Second International Workshop on Equine Viral Arteritis, Lexington, KY.*
55. \*Zhang, J., Shuck, K. M., Seoul, G., Go, Y. Y., Lu, Z., Meade, B. J., Powell, D. G., Timoney, P. J., and **Balasuriya, U. B. R.** 2009. Molecular characterization of equine arteritis virus isolates associated with the 2006/2007 multi-state disease occurrence in the USA. *American Society for Virology, July 11<sup>th</sup>-15<sup>th</sup>, 2009, Vancouver, British Columbia, Canada.*
56. \*Zhang, J., Stein, D. A., Timoney, P. J., and **Balasuriya, B. R. U.** 2009. Elimination of equine arteritis virus from persistently infected cell culture using peptide-conjugated morpholino oligomers. *American Society for Virology July 11<sup>th</sup>-15<sup>th</sup>, 2009, Vancouver, British Columbia, Canada.*
57. \*Go, Y. Y., Zhang, J., Timoney, P. J., Horohov, D. W., Cook R. F., and **Balasuriya, U. B. R.** 2009. *In vitro* analysis of virulent and avirulent strains of equine arteritis virus infection in equine peripheral blood mononuclear cells. *American Society for Virology, July 11<sup>th</sup>-15<sup>th</sup>, 2009, Vancouver, British Columbia, Canada.*
58. \*Go, Y. Y., Zhang, J., Timoney, P. J., Horohov, D. W., Cook R. F., and **Balasuriya, U. B. R.** 2009. *In Vitro* characterization of equine arteritis virus chimeras derived from infectious cDNA clones. *American Society for Virology, July 11<sup>th</sup>-15<sup>th</sup>, 2009, Vancouver, British Columbia, Canada.*
59. \*Lu, Z., Chambers, T, Boliar, S., Timoney, P. J., Branscum, A. J., Reedy, S. E., Tudor, L., Dubovi, E., Vickers, M. L., Sells, S., and **Balasuriya, U. B. R.** 2009. Development and evaluation of one-step TaqMan<sup>®</sup> real-time reverse transcription-PCR assays targeting NP, M and HA genes of equine influenza virus. *52<sup>nd</sup> Annual AAVLD/USAHA Meeting, October 7<sup>th</sup>-14<sup>th</sup>, 2009, San Diego, CA.*
60. \*Smith, K. L., Allen, G. P., Branscum, A. J., Cook, R. F., Vickers, M. L., Timoney, P. J., and **Balasuriya, U. B. R.** 2009. Increased prevalence of neuropathogenic strains of EHV-1 in equine abortions. *52<sup>nd</sup> Annual AAVLD/USAHA Meeting, October 7<sup>th</sup>-14<sup>th</sup>, 2009, San Diego, CA.*
61. \*Go, Y. Y., Zhang, J., Timoney, P. J., Cook, R. F., Horohov, D. W., and **Balasuriya, U. B. R.** 2009. Major and minor envelope proteins of equine arteritis virus determine tropism for peripheral blood mononuclear cells. Conference of Research Workers in Animal Disease, December 6<sup>th</sup>-8<sup>th</sup>, Chicago, Illinois.
62. \*Go, Y. Y., Bailey, E., Cook, D., Timoney, P. J., Cook, R. F., and **Balasuriya, U. B. R.** 2010. Genome-Wide Scan to Identify Genetic Factors Responsible for the Susceptibility of

Horses to Equine Arteritis Virus Infection. The 9<sup>th</sup> International Symposium on Positive Stranded RNA Viruses, May 17<sup>th</sup>-22<sup>nd</sup>, Atlanta, Georgia.

63. \*Lu, Z., Timoney, P. J., Heidner, H. W., Williams, J. C., Zhang, J. and **Balasuriya, U. B. R.** 2010. Heparin-dependent attachment of equine arteritis virus to equine endothelial cells. The 9<sup>th</sup> International Symposium on Positive Stranded RNA Viruses, May 17<sup>th</sup>-22<sup>nd</sup>, Atlanta, Georgia.
64. \*Zhang, J., Go, Y. Y., Lu, Z., Meade, B. J., Timoney, P. J., **Balasuriya, U. B. R.** 2010. Development and characterization of an infectious cDNA clone of the modified live virus vaccine strain of equine arteritis virus and its potential as a vaccine vector. The 9<sup>th</sup> International Symposium on Positive Stranded RNA Viruses, May 17<sup>th</sup>-22<sup>nd</sup>, Atlanta, Georgia.

### **CURRENT NATIONAL AND INTERNATIONAL RESEARCH COLLABORATIONS:**

1. Gluck Equine Research Center, University of Kentucky
  - Dr. Peter J. Timoney - Development of improved prophylactic and diagnostic reagents for equine viral arteritis
  - Drs. R. Frank Cook and Peter J. Timoney – Molecular characterization of alpha and gamma herpesviruses of equids
  - Dr. Thomas Chambers - Development and validation of real-time PCR assays for the detection of equine influenza virus nucleic acids in clinical specimens
  - Dr. David Horohov – Characterization of cell mediated immune response of horse to equine arteritis virus
  - Dr. Daniel Howe – Use of an infectious cDNA clone of the modified live virus vaccine strain of EAV as a vector to express immunogenic proteins of *Sarcocystis neurona* to be used as a potential recombinant vaccine against equine protozoal myeloencephalitis.
  - Dr. Ernest Bailey - Identification of gene polymorphism associated with susceptibility to EAV infection using equine gene chip
  - Dr. Thomas Tobin – Evaluation of antiviral drugs against equine herpesvirus-1
2. Livestock Disease Diagnostic Center, University of Kentucky
  - Mr. Stephen Sells and Dr. Mary Lynn Vickers – Development of improved diagnostic assays for equine viral diseases (exchange expertise, clinical samples and reagents)
  - Drs. Maria A. Shank, Laura Kennedy and Neil Williams – Identify the cellular localization of EAV in the male reproductive tract using *in situ* hybridization (ISH) and immunohistochemistry (IHC) techniques
3. School of Public Health, University of Kentucky
  - Dr. Adam Branscum – Statistical data analysis for assay validation
4. Other US Universities and Institutions
  - Dr. N. J. MacLachlan, University of California, Davis, CA – Equine arteritis virus and gamma herpesvirus infections in horses

- Dr. Edward Dubovi - Animal Health Diagnostic Center, New York State College of Veterinary Medicine, Cornell University, Ithaca, NY – Development of improved diagnostic reagents for equine viral diseases
- Dr. Susan J. Wong, Wadsworth Center, New York State Department of Health, Albany, NY – Development of microsphere bead (Luminex) based serological and molecular diagnostic assays for equine viral diseases
- Dr. Reed Holyoak, Department of Veterinary Clinical Sciences, Oklahoma State University, Stillwater, OK - Investigating equine arteritis virus transmission risks with embryo transfer in vaccinated and non-vaccinated embryo donor mares
- Drs. Patrick McCue and J. E. Bruemmer, Department of Clinical Sciences, College of Veterinary Medicine and Biomedical Sciences, Colorado State University, Fort Collins, CO - Clinical, virological and serological responses of stallions following vaccination with the modified live virus vaccine (ARVAC<sup>®</sup>) against equine viral arteritis
- Dr. Kui Li, Associate Professor, Department of Molecular Sciences, The University of Tennessee Health Science Center, Memphis, TN – Expression of interferon (IFN) regulatory factors and IFN-stimulated genes in HeLa-high passage cells persistently infected with EAV
- Dr. Dongwan Yoo, Professor, Department of Pathobiology, University of Illinois, Urbana-Champaign, IL and Dr. Ying Fang, Department of Veterinary Science, South Dakota State University, Brookings, SD – Modulation of type I interferon signaling pathway by equine arteritis virus
- Drs. Sharon Hietala and Beate Crossley, California Animal Health and Food Safety Laboratory, University of California, Davis, CA – Equine Herpesvirus-1

#### 5. Foreign Universities and Institutions

- Dr. Eric J. Snijder, Department of Medical Microbiology, Molecular Virology Laboratory, Leiden University Medical Center, Leiden, The Netherlands – Molecular characterization of equine arteritis virus
- Dr. Guillaume Fortier and Stéphane Pronost, Frank Duncombe Laboratory, 14053 Caen, France - Molecular epidemiology of equine viral arteritis in France
- Dr. Aymeric Hans, French Food Safety Agency (AFSSA), Laboratory for studies and research on equine diseases (LERPE), Goustranville, France – Equine viral arteritis
- Dr. Klaus Osterrieder, Professor für Virologie, Institut für Virologie, Fachbereich Veterinärmedizin der FU Berlin, Germany

#### 6. Biotechnology Industry

- Fort Dodge Animal Health Laboratories, Fort Dodge, Iowa – Development of improved recombinant vaccines against arteriviruses

## CURRICULUM VITAE

### THOMAS M. CHAMBERS

DATE & PLACE OF BIRTH: May 16, 1954; Cleveland, Ohio

OFFICE ADDRESS: Department of Veterinary Science  
108 Gluck Equine Research Center  
University of Kentucky, Lexington, KY 40546-0099  
Tel. (859) 257-4757 ex 81126, Email tmcham1@uky.edu

ACADEMIC DEGREES:

B.S. 1975 University of Notre Dame, Notre Dame, IN  
(Preprofessional Studies, with High Honors)  
Ph.D. 1982 University of Notre Dame, Notre Dame, IN (Microbiology)

PROFESSIONAL APPOINTMENTS:

1982-85 Postdoctoral Fellow, Department of Microbiology and Immunology,  
School of Medicine, University of California, Los Angeles, CA  
1985-88 Research Associate, Department of Virology and Molecular Biology,  
St. Jude Children's Research Hospital, Memphis, TN  
1988-90 Assistant Member, Department of Virology and Molecular Biology, St.  
Jude Children's Research Hospital, Memphis, TN  
1990-96 Assistant Professor, Department of Veterinary Science, University of  
Kentucky, Lexington, KY  
1992-1997 Associate Member, Graduate Faculty of Department of Veterinary  
Science, University of Kentucky, Lexington KY  
1996-pres Associate Professor, Department of Veterinary Science, University of  
Kentucky, Lexington, KY  
1997-pres Full member, Graduate Faculty of Department of Veterinary Science,  
University of Kentucky, Lexington, KY

RESEARCH INTERESTS:

Molecular biology of negative-strand RNA viruses; equine influenza viruses; equine respiratory immunity to influenza infection; equine influenza pathogenesis and vaccinology.

## PUBLICATIONS:

### Thesis

1. Chambers, T.M.: The effect of ozonation on the mutagenicity of chemical carcinogens. Ph.D. Thesis, University of Notre Dame, Notre Dame, Indiana, 1981.

### Original Refereed Articles

1. Chambers, T.M. and Burleson, G.R.: pH-sensitive mutagenic activity of ozone-treated 1,2-dimethylhydrazine in the Salmonella/microsome assay. **Mutation Res.** 94:23-29, 1982.
2. Burleson, G.R. and Chambers, T.M.: Effect of ozonation on the mutagenicity of water-borne carcinogens. **Environ. Mutagen.** 4:469-476, 1982.
3. Chanda, P.K., Chambers, T.M., and Nayak, D.P.: *In vitro* transcription of defective interfering particles of influenza virus produces polyadenylic acid-containing complementary RNAs. **J. Virol.** 45:55-61, 1983.
4. Akkina, R.K., Chambers, T.M., and Nayak, D.P.: Expression of defective-interfering influenza virus-specific transcripts and polypeptides in infected cells. **J. Virol.** 51:395-403, 1984.
5. Akkina, R.K., Chambers, T.M., and Nayak, D.P.: Mechanism of interference by defective interfering particles of influenza virus: Differential reduction of intracellular synthesis of specific polymerase proteins. **Virus Res.** 1:687-702, 1984.
6. Ransohoff, R.M., Maroney, P.A., Nayak, D.P., Chambers, T.M., and Nilsen, T.W.: Effect of human alpha A interferon on influenza virus replication in MDBK cells. **J. Virol.** 56:1049-1052, 1985.
7. Chambers, T.M. and Webster, R.G.: Defective interfering virus associated with A/Chicken/Pennsylvania/83 influenza virus. **J. Virol.** 61:1517-1523, 1987.
8. Akkina, R.K., Chambers, T.M., Londo, D.R., and Nayak, D.P.: Intracellular localization of the viral polymerase proteins in cells infected with influenza virus and cells expressing PB1 protein from cloned cDNA. **J. Virol.** 61:2217-2224, 1987.
9. Kawaoka, Y., Chambers, T.M., Sladen, W.L., and Webster, R.G.: Is the gene pool of influenza viruses in shorebirds and gulls different from that in wild ducks? **Virology** 163:247-250, 1988.
10. Chambers, T.M., Kawaoka, Y., and Webster, R.G.: Protection of chickens from lethal influenza infection by vaccinia-expressed hemagglutinin. **Virology** 167:414-421, 1988.
11. Chambers, T.M., Yamnikova, S., Kawaoka, Y., Lvov, D.K., and Webster, R.G.: Antigenic and molecular characterization of subtype H13 hemagglutinin of influenza virus. **Virology** 172:180-188, 1989.
12. Yamnikova, S.S., Kovtun, T.O., Dmitriev, G.A., Shemyakin, I.G., Semenova, N.P., Lvov, D.K., Chambers, T.M., and Webster, R.G.: Antigenic variability of avian influenza A/H13 viruses isolated in the USSR. **Voprosii Virologii** 5:568-572, 1989.
13. Chambers, T.M., Essani, K., and Webster, R.G.: Conditional expression of foreign genes by temperature-sensitive mutants of vaccinia virus. **Gene** 95:275-278, 1990.

14. Kawaoka, Y., Yamnikova, S., Chambers, T.M., Lvov, D.K., and Webster, R.G.: Molecular characterization of a new hemagglutinin, subtype H14, of influenza virus. **Virology** 179:759-767, 1990.
15. Chambers, T.M., Hinshaw, V.S., Kawaoka, Y., Easterday, B.C., and Webster, R.G.: Influenza viral infection of swine in the United States 1988-1989. **Arch. Virol.** 116:1-4, 1991.
16. Chambers, T.M. and Webster, R.G.: Protection of chickens from lethal influenza virus infection by influenza A/Chicken/Pennsylvania/1/83 virus: characterization of the protective effect. **Virology** 183:427-432, 1991.
17. Chambers, T.M.: Cross-reactivity of existing equine influenza vaccines with new strain of equine influenza virus from China. **Vet. Rec.** 131:388-391, 1992.
18. Donofrio, J.C., Coonrod, J.D., and Chambers, T.M.: Diagnosis of equine influenza by the polymerase chain reaction. **J. Vet. Diag. Invest.** 6:39-43, 1994.
19. Walker, J.A., Molloy, S.S., Thomas, G., Sakaguchi, T., Yoshida, T., Chambers, T.M., and Kawaoka, Y.: Sequence specificity of furin, a proprotein processing endoprotease, for the hemagglutinin of a virulent avian influenza virus. **J. Virol.** 68:1213-1218, 1994.
20. Chambers, T.M., Shortridge, K.F., Li, P.H., Powell, D.G., and Watkins, K.L.: Rapid diagnosis of equine influenza by the Directigen FLU-A enzyme immunoassay. **Vet. Rec.** 135:275-279, 1994.
21. Lai, A.C.K., Lin, Y.P., Powell, D.G., Shortridge, K.F., Webster, R.G., Daly, J., and Chambers, T.M.: Genetic and antigenic analysis of the influenza virus responsible for the 1992 Hong Kong equine influenza epizootic. **Virology** 204:673-679, 1994.
22. Chambers, T.M., Holland, R.E., and Lai, A.C.K.: Equine influenza - Current veterinary perspectives. **Equine Practice** 17/8:19-23, 1995 (Part 1); 17/10:26-30, 1995 (Part 2).
23. Lai, A.C.K. and Chambers, T.M.: A rapid protocol for sequencing RNA virus using  $\Delta$ Taq™ version 2.0 DNA polymerase. **BioTechniques** 19:704-705, 1995.
24. Daly, J.M., Lai, A.C.K., Binns, M.M., Chambers, T.M., Barrandeguy, M., and Mumford, J.A.: Recent worldwide antigenic and genetic evolution of equine H3N8 influenza A viruses. **J. Gen. Virol.** 77:661-671, 1996.
25. Rees, W.A., Harkins, J.D., Woods, W.E., Blouin, R.A., Lu, M., Fenger, C., Holland, R.E., Chambers, T.M., and Tobin, T.: A miltadine and equine influenza: pharmacology, pharmacokinetics, and neurological effects in the horse. **Equine Vet. J.** 29:104-110, 1997.
26. Lear, T.L., Bailey, E., Ponce de Leon, F.A., Coogle, L., Ferguson, E.M., and Chambers, T.M.: Cloning and chromosomal localization of *MX1* and *ETS2* to chromosome 28 of the horse (*Equus caballus*). **Chromosome Res.** 6:333-336, 1998.
27. Rees, W.A., Harkins, J.D., Lu, M., Holland, R.E., Lehner, A.F., Tobin, T., and Chambers, T.M.: Pharmacokinetics and therapeutic efficacy of rimantadine in horses experimentally infected with influenza virus A2. **Amer. J. Vet. Res.** 60:888-894, 1999.
28. Anzai, T., Walker, J., Blair, M., Chambers, T., and Timoney, J.: Comparison of the phenotypes of *Streptococcus zooepidemicus* isolated from tonsils of healthy horses

- and specimens obtained from foals and donkeys. **Amer. J. Vet. Res.** 61, 162-166, 2000.
29. Suzuki, Y., Ito, T., Suzuki, T., Holland, R.E., Chambers, T.M., Kiso, M., Ishida, H., and Kawaoka, Y.: Sialic acid species as a determinant of the host range of influenza A viruses. **J. Virol.** 74, 11825-11831, 2000.
  30. Lunn, D.P., Hussey, S., Sebring, R., Rushlow, K.E., Radecki, S., Whitaker-Dowling, P., Youngner, J.S., Chambers, T.M., Holland, R., Horohov, D.W.: Safety, efficacy, and immunogenicity of a modified-live equine influenza vaccine after exercise-induced immunosuppression. **J. Amer. Vet. Med. Assoc.** 218, 900-906, 2001.
  31. Youngner, J.S., Whitaker-Dowling, P., Chambers, T.M., Rushlow, K.E., Sebring, R.: Derivation and characterization of a live attenuated equine influenza vaccine virus. **Amer. J. Vet. Res.** 62, 1290-1294, 2001.
  32. Lai, A.C.K., Chambers, T.M., Holland, R.E. Jr., Morley, P.S., Haines, D.M., Townsend, H.G., and Barrandeguy, M.: Diverged evolution of recent equine-2 influenza (H3N8) viruses in the Western Hemisphere. **Arch. Virol.** 146, 1063-74, 2001.
  33. Lin, C., Zimmer, S.G., Lu, Z., Holland, R.E. Jr., Dong, Q., and Chambers, T.M.: The involvement of a stress-activated pathway in equine influenza virus mediated apoptosis. **Virology** 287, 202-213, 2001. (cover illustration)
  34. Lin, C., Holland, R.E. Jr., Williams, N.M., and Chambers, T.M.: Cultures of equine respiratory epithelial cells and organ explants as tools for the study of equine influenza virus infection. **Arch. Virol.** 146, 2239-2247, 2001.
  35. Chambers, T.M., Holland, R.E., Tudor, L.R., Townsend, H.G., Cook, A., Bogdan, J., Lunn, D.P., Hussey, S., Whitaker-Dowling, P., Youngner, J.S., Sebring, R.W., Penner, S.J., and Stiegler, G.L.: A new modified-live equine influenza virus vaccine: Phenotypic stability, restricted spread, and efficacy against heterologous virus challenge. **Equine Vet. J.** 33, 630-636, 2001.
  36. Townsend, H.G.G., Penner, S.J., Watts, T.C., Cook, A., Bogdan, J., Haines, D.M., Griffin, S., Chambers, T., Holland, R.E., Whitaker-Dowling, P., Youngner, J.S., Sebring, R.W.: Efficacy of a modified-live, temperature sensitive, intra-nasal vaccine against equine influenza: Challenge trials. **Equine Vet. J.** 33, 637-643, 2001.
  37. Lin, C.B., Holland, R.E. Jr., Donofrio, J.C., McCoy, M.H., Tudor, L.R., and Chambers, T.M.: Caspase activation in equine influenza induced apoptotic cell death. **Vet. Microbiol.** 84, 357-365, 2002.
  38. Lai, A.C.K., Rogers, K.M., Glaser, A., Tudor, L., and Chambers, T.M. Alternate circulation of recent equine-2 influenza viruses (H3N8) from two distinct lineages in the United States. **Virus Research** 100, 159-164, 2004.
  39. Quinlivan, M., Zamarin, D., Garcia-Sastre, A., Cullinane, A., Chambers, T., and Palese, P.: Attenuation of equine influenza viruses through truncations of the NS1 protein. **J. Virology** 79, 8431-8439, 2005.
  40. Boliar, S., Stanislawek, W., and Chambers, T.M.: Inability of kaolin treatment to remove non-specific inhibitors from equine serum for the hemagglutination inhibition test against equine H7N7 influenza virus. **J. Vet. Diag. Invest.** 18, 264-267, 2006.
  41. Chambers, TM, Quinlivan, M., Sturgill, T., Cullinane, A., Horohov, D.W., Zamarin, D., Arkins, S., Garcia-Sastre, A., and Palese, P. Influenza A viruses

- with truncated NS1 as modified live virus vaccines: Safety and efficacy studies in horses. **Equine Vet. J.**, 41, 87-92, 2009.
42. Bryant, N.A., Rash, A.S., Russell, C.A., Ross, J., Cooke., Bowman, S., Griffiths, L., MacRae, S., Zanoni, R., Meier, H., Paillot, R., Daly, J.M., Chambers, T.M., Newton, J.R., and Elton, D.M.: Equine influenza virus surveillance in North America and Europe from 2006 to 2007. **Vet. Microbiol.** 138, 41-52, 2009.
  43. Lu, Z., Chambers, T.M., Boliar, S., Timoney, P.J., Branscum, A.J., Reedy, S.E., Tudor, L., Dubovi, E.J., Vickers, M.L., Sells, S., and Balasuriya, U.B.R.: Development and evaluation of one-step Taqman® real-time reverse transcription-PCR assays targeting NP, M, and HA genes of equine influenza virus. **J. Clin. Microbiol.** 47:3907-3913, 2009.
  44. Horohov, D.W., Adams, A.A., and Chambers, T.M.: Immunosenescence of the Equine Immune System. **J. Comp. Path.** 142: S78-S84, 2010.
  45. Boliar, S. and Chambers, T.M. A new strategy of immune evasion by influenza A virus: inhibition of monocyte differentiation into dendritic cells. **Veterinary Immunology and Immunopathology**, in press.

Submitted:

Leedom-Larson, K.R., Capuano, A.W., Setterquist, S.F., Chambers, T.M., and Gray, G.C.: Serological evidence of equine influenza infections among persons with horse exposures. Submitted to **Emerging Infectious Diseases**.

Lu, Z., Dubovi, E.J., Zylich, N.C., Crawford, P.C., Sells, S., Go, Y.Y., Loynachan, A.T., Timoney, P.J., Chambers, T.M., and Balasuriya, U.B.R. Diagnostic application of the H3N8 specific equine influenza real-time RT-PCR assays for the detection of canine influenza virus in clinical specimens. Submitted to **J. Vet. Diag. Invest.**

### **Manuscripts in Preparation**

1. McCoy, M. and Chambers, T.M.: Influenza A virus infection results in an increase in the ratio of host cell cap-dependent to cap-independent translation, due in part to NS1.
2. Lin, C.B., Holland, R.E., Donofrio, J.C., McCoy, M.H., and Chambers, T.M.: Infectivity of equine influenza virus in bovine turbinate cells and cattle.
3. Donofrio, J.C., Steiner, J., Holland, R.E., and Chambers, T.M.: No induction of T-lymphocyte anergy in foals vaccinated against equine influenza in the presence of maternal antibodies.
4. Godman, R.L., Holland, R.E., Gantz, M., Tobin, T., and Chambers, T.M.: Heatstroke in racing Thoroughbreds: Comparison of venous blood clinical biomarkers.
5. McCormick, J., Collins, J., Holland, R., Barnett, C., Chambers T., Tudor, L., and Henderson, D.: Comparative vaccine protocols of a modified-live and killed virus vaccine for inducing immune protection against equine influenza in performance horses.



6. Adams, AA, Breathnach, CC, Sturgill, T, Chambers, T and Horohov, DW. Characterization of the immunological and phy siological response of aged horses to equine influenza infection. Manuscript in preparation.
7. Diaz-Mendez, A, Carman, S, Tiwari, A, Chambers, T, Hewson, J, Dewey, C, and Viel, L. Surveillance of equine influenza virus in Ontario horses. Submitted to Canadian J. Vet. Res.
8. Lewis, NS, Daly, JM, Russell, CA, Horton, DL, Skepner, E, Bryant, NA, Rash, AS, Mumford, JA, Wood, JLN, Chambers, TM, Fouchier, RAM, Elton, MD, and Smith, DJ. The antigenic and genetic evolution of equine influenza A (H3N8) virus from 1968-2007.

### Book Chapters and Reviews

1. Chambers, T.M., Akkina, R.K., and Nayak, D.P.: In vivo transcription and translation of defective interfering influenza virus RNAs. In, R.W. Compans and D.H.L. Bishop (eds), **Segmented Negative Strand Viruses**. Academic Press, Orlando, FL, pp. 85-91, 1984.
2. Nayak, D.P., Chambers, T.M., and Akkina, R.K.: Defective interfering (DI) RNAs of influenza viruses: Origin, structure, expression and interference. In, R. Rott (ed), **Current Topics in Microbiology & Immunology**. Springer-Verlag, Berlin, vol. 114, pp. 103-151, 1985.
3. Nayak, D.P., Chambers, T.M., and Akkina, R.K.: Structure of defective-interfering RNAs of influenza viruses and their role in interference. In, R.M. Krug (ed), **The Influenza Viruses**. Plenum Press, New York, pp. 269-317, 1989.
4. Webster, R.G., Chambers, T.M., Krauss, S., Channell, D., Thomas, T., and Kawaoka, Y.: The influenza A virus gene pool in wild ducks and shorebirds including gulls: importance in the origin of human strains. In, Y.C. Chan, S. Doraisingham, and A.E. Ling (eds), **Current Topics in Comparative Virology**. World Scientific, Singapore, pp. 377-386, 1989.
5. Webster, R.G., Bean, W.J., Gorman, O.T., Chambers, T.M., and Kawaoka, Y.: Ecology and evolution of influenza A viruses. **Microbiol. Rev.** 56:152-179, 1992.
6. Chambers, T.M. and Webster, R.G.: Modulation of highly pathogenic avian influenza with defective interfering particles. In: **Proceedings of the Third International Symposium on Avian Influenza**, Extension Duplicating Services, University of Wisconsin, Madison, pp. 218-226, 1992.
7. Chambers, T.M., Lai, A.C.K., Franklin, K.M., and Powell, D.G.: Recent evolution of the hemagglutinin of equine-2 influenza virus in the U.S.A.. In: (H. Nakajima and W. Plowright, eds) **Equine Infectious Diseases VII**, R&W Publications Ltd., Newmarket, pp. 175-180, 1994.
8. Rees, W.A., Harkins, J.D., Woods, W.E., Blouin, R.A., Lu, M., Fenger, C., Holland, R.E., Tobin, T., and Chambers, T.M.: Chemotherapy for equine influenza: overview of the pharmacology and side effects of amantadine and rimantadine in the horse.

- Proc. 11th Internat. Conf. Racing Analysts and Veterinarians**, Queensland, Australia, pp.355-357, 1996.
9. Lai, A.C.K. and Chambers, T.M.: Rapid protocol for sequencing RNA virus using  $\Delta$ Taq™ version 2.0 DNA polymerase. (U. Gyllensten and J. Ellingboe, Eds.) **The PCR Technique: DNA Sequencing II**, Eaton Publishing, Natick MA, pp. 21-24, 1997.
  10. Mumford, J.A., and Chambers, T.M.: Equine Influenza (review). (Nicholson, K.G., Hay, A.J., and Webster, R.G., eds.) **Textbook of Influenza**, Blackwell Scientific Press, pp. 146-162, 1998.
  11. Whitaker-Dowling, P., Youngner, J.S., Chambers, T.M.: A new intranasal, modified-live virus vaccine for equine influenza. (Osterhaus A., Cox N., and Hampson A., eds) **Options for the Control of Influenza IV** (International Congress Series 1219), Excerpta Medica, Amsterdam, pp. 961-964, 2001.
  12. Suzuki, Y., Ito, T., Suzuki, T., Miyamoto, D., Hidari, K., Guo, C.T., Kida, H., Webster, R.G., Chambers, T.M., and Kawaoka, Y.: Sialyl sugar chains as receptors and determinants of host range of influenza A viruses. (Osterhaus A., Cox N., and Hampson A., eds) **Options for the Control of Influenza IV** (International Congress Series 1219), Excerpta Medica, Amsterdam, pp. 521-525, 2001.
  13. Chambers, T.M., Lai, A.C.K., Powell, D.G., and Shortridge, K.F.: Equine influenza in China, including Hong Kong, 1989-1994. A review. **Emergence and Control of Zoonotic Ortho- and Paramyxovirus Diseases**, John Libbey Eurotext, Montrouge (France), pp. 55-64, 2001.

### Books

1. Burleson, F.G., Chambers, T.M., and Wiedbrauk, D.L.: **Virology: A Laboratory Manual**. Academic Press, San Diego, 1992.

### Published Abstracts

1. Akkina, R.K., Chambers, T.M., and Nayak, D.P.: Mechanism of interference by defective-interfering particles of influenza virus. 6th International Meeting on Negative Strand Viruses, Robinson College, Cambridge, England, September, 1985. **Virus Research Supplement** 1:33, 1985.
2. Chambers, T.M., Londo, D.R., and Nayak, D.P.: Expression of influenza polymerase proteins. UCLA Symposium on Molecular and Cellular Biology: Options for the Control of Influenza. **J. Cell. Biochem. Supplement** 9:269, 1985.
3. Chambers, T. and Webster, R.: Defective interfering particles associated with an influenza virus isolated from a natural infection. **Abstracts of VII International Congress of Virology**. p. 247 (OP 1.2), 1987.
4. Akkina, R.K., Chambers, T.M., Londo, D.R., Mimiaga, A.T., and Nayak, D.P.: Influenza viral polymerase proteins: subcellular location, assembly and interaction with viral RNA. **Abstracts of VII International Congress of Virology**. p. 250 (OP 1.22), 1987.

5. Chambers, T.M. and Webster, R.G.: Role of avirulent influenza A/Chick/Pennsylvania/83 virus as a modulator of virulent influenza virus infection. 7th International Meeting on Negative Strand Viruses, Dinard, France, September 1988. **Virus Research Supplement** 2:89, 1988.
6. Burleson, G.R., Stutzman, J.D., Ehrlich, J.P., Brown, S.D., and Chambers, T.M.: Rat-adapted influenza virus as a host resistance model for pulmonary immunotoxicity studies. **Toxicologist** 10:287, 1990.
7. Burleson, G.R., Stutzman, J.D., Ehrlich, J.P., Brown, S.D., and Chambers, T.M.: Effect of inhaled compounds on pulmonary cell-mediated immunity. **In Vitro Cell Develop. Biol.** 26:28, 1990.
8. Chambers, T.M. and Bailey, E.F.: Identification of an *Mx*-like putative antiviral gene of the horse. **Abstracts of the 12th Annual Meeting of the American Society for Virology**, no. 23-4, A52, 1993.
9. Chambers, T.M., Lai, A.C.K., Franklin, K.M., and Powell, D.G.: Recent evolution of the hemagglutinin of equine-2 influenza virus in the USA. **Abstracts of the 7th International Conference on Equine Infectious Diseases**, Oral IV-6, p.54, 1994.
10. Chambers, T.M.: New approaches to control of equine influenza. **Proceedings of the 7th International Conference on Equine Infectious Diseases**, p.305-306, 1994.
11. Powell, D.G., Watkins, K.L., Shortridge, K.F., Ping, L., Lai, A.C.K., and Chambers, T.M.: An outbreak of influenza among racehorses in Hong Kong. **Proceedings of the 7th International Conference on Equine Infectious Diseases**, p. 345-346, 1994.
12. Lai, A.C.K., Lin, Y.P., Shortridge, K.F., Schudel, A.A., Webster, R.G., and Chambers, T.M.: Evolution of equine-2 influenza virus hemagglutinin and its role in the evasion of vaccine-induced immunity. **Abstracts of the 13th Annual Meeting of the American Society for Virology**, W43-10, p.255, 1994.
13. Franklin, K.M. and Chambers, T.M.: Identification of phosphorylated peptides in the nucleoprotein of influenza virus strain A/WSN/33 grown in three cell lines. **Abstracts of the 13th Annual Meeting of the American Society for Virology**, P7-3, p.128, 1994.
14. Lai, A.C.K., Daly, J.M., Mumford, J.A., Binns, M.M., Schudel, A.A., and Chambers, T.M.: Recent antigenic and genetic evolution of equine H3N8 influenza viruses. **Abstracts of the 14th Annual Meeting of the American Society for Virology**, P9.3, p. 125, 1995.
15. Rees, W.A., Chambers, T.M., Fenger, C.K., Harkins, J.D., Blouin, R.A., Holland, R.E., and Tobin, T.: The pharmacokinetics and bioavailability of amantadine in the horse: A preliminary report. **Proceedings of the 41st Annual Convention of the American Association of Equine Practitioners**, pp.270-271, 1995.
16. Chambers, T.M. and Lai, A.C.K.: Equine influenza: Diagnosis, surveillance, and immune response. **Abstracts of the V Congreso Argentino de Virología**, S7, 1996.
17. Chambers, T.M., Lai, C.K., Powell, D.G., Li, P.H., Shortridge, K.F., and Watkins, K.L.: Diagnosis and surveillance for equine influenza in the western hemisphere and Hong Kong. **Abstracts of Options for the Control of Influenza III**, P3-17, p.76,

- 1996.
18. Chambers, T.M. and Lai, A.C.K.: Antigenic epitopes of the hemagglutinin of equine-2 (H3N8) influenza virus. **Abstracts of Options for the Control of Influenza III**, P4-9, p.80, 1996.
  19. Daly, J.M., Lai, A.C.K., Binns, M.M., Chambers, T.M., and Mumford, J.A.: Evolution of equine influenza A (H3N8) viruses. **Abstracts of Options for the Control of Influenza III**, W6-8, p.40, 1996.
  20. Lai, A.C.K. and Chambers, T.M.: Delineation of antigenic sites of equine influenza virus (H3N8) hemagglutinin. **Abstracts of the 15th Annual Meeting of the American Society for Virology**, W23-12, p.124, 1996.
  21. Lin, C-B and Chambers, T.M.: Combined TUNEL and immuno-staining for the study of influenza virus induced apoptosis. **Abstracts of the 77th Annual Meeting of the Conference of Research Workers in Animal Diseases**, Iowa State University Press, P110, 1996. (Second Place Award)
  22. Lin, C.B., Pang, Z., Geddes, J.W., and Chambers, T.M.: An antisense oligonucleotide to c-jun attenuates equine influenza virus induced cytopathic effects and apoptotic cell death. **Abstracts of 16th Annual Meeting of the American Society for Virology**, P24-7, p.223, 1997.
  23. Conboy, H.S., Berry, D.B. Jr., Fallon, E.H., Holland, R.E. Jr., Powell, D.G., and Chambers, T.M.: Failure of foal seroconversion following equine influenza vaccination. **AAEP Proceedings** 43: 22-23, 1997.
  24. Rees, W.A., Holland, R.E., Dirikolu, L., Tobin, T., and Chambers, T.M.: Therapeutic efficacy of rimantadine HCL in experimentally induced influenza A illness in horses. **AAEP Proceedings** 43:390-391, 1997.
  25. Lear, T.L., Adams, M.H., McDowell, K.J., Ponce de Leon, F.A., Sullivan, N.D., Coogle, L., Ferguson, E. Jr., Chambers, T.M., and Bailey, E.: Chromosomal location of the genes for ESR, ETS2, GOT2, KIT, Mx1, and P GR in the horse, *Equus caballus*. **Abstracts of the 10<sup>th</sup> North American Colloquium on Gene Mapping and Cytogenetics of Domestic Species**, 1997.
  26. Lai, A.C.K. and Chambers, T.M.: Sequential amino acid substitutions at an antigenic site of equine-2 influenza virus (H3N8) hemagglutinin: a molecular basis for antigenic drift. **Abstracts of 17th annual meeting of the American Society for Virology**, P7-3, p.171, 1998.
  27. Breathnach, C.C., Allen, G.P., Holland, R.E., Conboy, H.S., Berry, D.B. Jr., and Chambers, T.M.: Problems associated with vaccination of foals against equine herpesvirus-4 (EHV-4) and the role of anti-EHV-4 maternal antibodies. R & W Publications Ltd, **Proceedings of the 8th Equine Infectious Disease Conference**, pp. 426-7, 1999.
  28. Lai, A.C.K., Chambers, T.M., Morley, P.S., Haines, D., Townsend, H., and Barrandeguy, M.: Surveillance for equine influenza viruses in the western hemisphere: an update. R&W Publications Ltd, **Proceedings of the 8th Equine Infectious Disease Conference**, p. 468, 1999.
  29. Holland, R.E., Conboy, H.S., Berry, D.B., Fallon, E.H., Powell, D.G., Tudor, L.R., and Chambers, T.M.: Age dependence of foal vaccination for equine influenza: new evidence from the USA. R&W Publications Ltd, **Proceedings of the 8th Equine**

- Infectious Disease Conference**, pp. 547-8, 1999.
30. Holland, R.E., Tudor, L.R., Timoney, J.F., Anzai, T., and Chambers, T.M.: Equine influenza disease in donkeys: severe bronchopneumonia due to clonal invasion by *Streptococcus zooepidemicus*. R&W Publications Ltd., **Proceedings of the 8th Equine Infectious Disease Conference**, pp. 548-9, 1999.
  31. Rees, W.A., Holland, R.E., Dirikolu, L., Goehle, C., Tobin, T., and Chambers, T.M.: Therapeutic efficacy of rimantadine HCL in experimentally induced influenza A illness in horses. R & W Publications Ltd., **Proceedings of the 8th Equine Infectious Disease Conference**, pp. 571-2, 1999.
  32. Barrandeguy, M., Parreño, V., Chambers, T., Lai, A., Saif, L., Costantini, V., Craig, B., and Fernandez, F.: Viral infections of horses in Argentina. R&W Publications Ltd., **Proceedings of the 8th Equine Infectious Disease Conference**, pp. 520-22, 1999.
  33. Holland, R., Chambers, T., Townsend, H., Cook, A., Bogdan, J., Lunn, D., Hussey, S., Whitaker-Dowling, P., Youngner, J., Sebring, R., Penner, S., and Stiegler, G.: New modified-live equine influenza virus vaccine: safety and efficacy studies in young equids. **AAEP Proceedings** 45, 38-40, 1999.
  34. Townsend, H., Cook, A., Watts, T., Bogdan, J., Haines, D., Griffin, S., Chambers, T., Holland, R., Whitaker-Dowling, P., Youngner, J., Penner, S., and Sebring, R.: Efficacy of a cold-adapted, modified-live virus influenza vaccine: a double-blind challenge trial. **AAEP Proceedings** 45, 41-42, 1999.
  35. Lunn, D., Horohov, D., Hussey, S., Whitaker-Dowling, P., Youngner, J., Chambers, T., Holland, R., Rushlow, K., and Sebring, R.: A potent modified-live equine influenza virus vaccine: safe even after exercise-induced immunosuppression. **AAEP Proceedings** 45, 43-44, 1999.
  36. Whitaker-Dowling, P., Youngner, J.S., Chambers, T.M., and the Heska Corporation Collaborative Group: A new intranasal, modified-live virus vaccine for equine H3N8 influenza. **World Congress on Options for the Control of Influenza IV**, W62-8, p.52, 2000.
  37. Lin, C.B., Holland, R.E., Vickers, M.L., and Chambers, T.M.: Infectivity of equine-2 (H3N8) influenza virus in bovine cells and animals. **World Congress on Options for the Control of Influenza IV**, P2-86, p.154, 2000.
  38. Chambers, T.M., Lai, A.C.K., Powell, D.G., and Shortridge, K.F.: Equine influenza in China, including Hong Kong, since 1989. **Merieux Foundation International Symposium on emergence and control of zoonotic ortho-and paramyxovirus diseases**, p.27, 2000
  39. Donofrio, J.C., Holland, R.E. Jr, Steiner J.V., Allen, G.P., Tudor, L.R., and Chambers, T.M. No induction of T-lymphocyte tolerance in foals vaccinated against equine influenza in the presence of maternal antibodies. **Abstracts of 20th annual meeting of the American Society for Virology**, P15-3, p.178, 2001.
  40. Chambers, T.M., Holland, R.E., Sebring, R.W., and the Heska Corporation Collaborative Group. Safety assessments of a new modified live virus vaccine for equine influenza. **Proceedings of the 7<sup>th</sup> World Congress WEVA-SIVE**, p. 268, 2001.
  41. Chambers, T. Holland, R., Townsend, H., Whitaker-Dowling, P., Youngner, J.,

- Sebring, R., Stiegler, G., & Heska Corporation Collaborative Group. Efficacy against heterologous virus challenge by a new modified-live equine influenza virus vaccine. Abstracts of the 21<sup>st</sup> Annual Meeting of **American Society for Virology**, W1-1, p. 57, 2002.
42. Lin, C.B., McCoy, M.H., Donofrio, J.C., Holland, R.E. Jr., Vickers, M.L., and Chambers, T.M. Equine H3N8 influenza virus in bovines: in vitro and in vivo studies. Abstracts of the 21<sup>st</sup> Annual Meeting of **American Society for Virology**, W1-2, p. 57, 2002.
  43. Dillon, B., Chambers, T., Bomalaski, J., Lesnaw, J., and Clark, M. Inhibition of influenza virus replication in vitro by an anti-cancer agent. Abstracts of the 21<sup>st</sup> Annual Meeting of **American Society for Virology**, W46-5, p. 158, 2002.
  44. Lai, A.C.K., Rogers, K., Glaser, A., and Chambers, T. Diverged evolution of equine-2 influenza virus (H3N8): alternate circulation of viruses from distinct lineages. Abstracts of the 21<sup>st</sup> Annual Meeting of **American Society for Virology**, P13-1, p. 177, 2002.
  45. McCoy, M. and Chambers, T.M. Influenza A virus infection results in an increase in the ratio of host cell cap-dependent to cap-independent translation, due in part to NS1. **XII International Conference on Negative Strand Viruses**, poster 098, p. 100, 2003.
  46. Chambers, T.M., Daly, J., Donis, R.O., and Smith, C. Equine influenza surveillance and vaccine strain composition. Abstracts of the 24<sup>th</sup> Annual Meeting of **American Society for Virology**, W34-12, p. 142, 2005.
  47. Chambers, T.M., Zhou, W., Lin, C., and Holland, R.: Testing influenza interspecies transmission potential using epithelial explant cultures. Havemeyer Foundation Workshop, Equine Influenza and Cross Species Transmission, Miami, 2005.
  48. Chambers, T.M., Quinlivan, M., Sturgill-Wright, T., Cullinane, A., Zamarin, D., Garcia-Sastre, A., and Palese, P.: Equine influenza viruses with truncated NS1 as vaccines. Abstracts of the 25<sup>th</sup> Annual Meeting of **American Society for Virology**, W40-12, p. 181, 2006.
  49. Adams, AA, Breathnach, CC, Sturgill, T, Chambers, T and Horohov, DW. Characterization of the immunological and phy siological response of aged horses to equine influenza infection. P oster, 8<sup>th</sup> International Veterinary Immunology Symposium, Ouro Preto, Brazil, 2007.
  50. Boliar, S., Barnett, C., and Chambers, T.M.: C haracterization of temperature sensitive (ts) phenotype of Flu Avert <sup>TM</sup> I.N. equine influenza vaccine. Abstracts of the 26<sup>th</sup> Annual Meeting of **American Society for Virology**, P30-11, p. 285, 2007.
  51. Adams, AA, Breathnach, CC, Sturgill, T, Chambers, T and H orohov, DW. Characterization of the immunological and physiological response of aged horses to equine influenza infection. 88<sup>th</sup> Conference of Research Workers in Animal Disease, Chicago, Illinois, 2007.
  52. Boliar, S., Horohov, D.W., and Chambers, T.M.: A new strategy of immune evasion by influenza virus: inhibition of monocyte differentiation into dendritic cell. Abstracts of the 27<sup>th</sup> Annual Meeting of **American Society for Virology**, W40-5, p. 174, 2008.
  53. Sturgill T, Chambers TM, and Horohov D. Does vaccination of young foals against equine influenza in the presence of maternal antibodies increase

- resistance or susceptibility to infectious challenge? American Association of Equine Practitioners annual meeting, San Diego, Dec. 2008.
54. McCormick, JD, Collins, JK, Holland, RE, Barnett, C, Chambers, TM, and Tudor, LR. Comparison of single versus boosted vaccine protocols for a modified live and killed virus vaccine in inducing a serologic response against equine influenza in performance horses of different ages. *AAEP Proceedings* 55:302-303, 2009.

### Other Non-Refereed Articles

1. Chambers, T.M.: Invited book review of **Influenza** (ed. D.K. Lvov, Harwood, 1990). ***Virus Research*** 20:283-284, 1991.
2. Chambers, T.M.: A new equine influenza virus? ***Equine Data Line*** pp.2-3, December 1991.
3. Chambers, T.M.: A new test for equine influenza. ***Equine Disease Quarterly*** v.2 no.2 pp.1-2, 1994.
4. Webster, R.G. and Chambers, T.M.: China 'Flu'. ***Equine Disease Quarterly*** v.2 no.4, p.1, 1994.
5. Chambers, T.M.: Equine influenza. ***Equine Disease Quarterly*** v.4 no.2, p.3, 1996.
6. Mumford, J. and Chambers, T.: Equine influenza. ***Equine Disease Quarterly*** v.5 no.4, p.2, 1997.
7. Chambers, T.: At what age should you vaccinate foals for influenza? ***AAEP Report***, August 1997, p.9.
8. Mumford, J., Chambers, M., Daly, J.M., and Wood, J.L.N.: The equine influenza surveillance programme. ***Epidemiologie et Sante Animale***, p.31-32, 1997.
9. Holland, R.E. Jr. and Chambers, T.M.: Foal vaccination for equine influenza. ***Equine Disease Quarterly*** v.6 no.3 pp.3-4, 1998.
10. Holland, R.E. and Chambers, T.M.: Vaccinating foals for influenza - Does it work? ***The Quarter Horse Journal***, pp. 58-59, May 1998.
11. Chambers, T.M.: What is DNA vaccination? ***Equine Disease Quarterly*** v.7 no.2, 1999.
12. Chambers, T.M.: Commentary: International meeting on equine influenza. ***Equine Disease Quarterly*** v.8 no.1 p.1, 1999.
13. Chambers, T.M.: Invited book review of **Veterinary Virology** (Murphy et al., 3rd ed, Academic Press, 1999); in ***ASM News*** 66:637, 2000.
14. Chambers, T.M. and Holland, R.E. Jr.: To vaccinate or not to vaccinate—When is the question for your foal. ***The Quarter Horse Journal***, 2001.
15. Chambers, T.M. Commentary: Influenza. ***Equine Disease Quarterly*** v.15 no.1, 2006.
16. Chambers, T.M. What in the world is going on with equine influenza? ***Equine Disease Quarterly*** v.16 no.4, 2007.
17. Chambers, T.M.: Influenza in perspective. ***The Horse***, August? 2008
18. Chambers, T.M.: Why take nasal swabs? ***Equine Disease Quarterly***, v.18 no.2, 2009.

INTERNET PRESENTATIONS:

Webinar, "Equine Influenza Fundamentals" for TheHorse.com, Feb. 28, 2008.

INVITED ORAL PRESENTATIONS:

Branch Meeting of American Society for Microbiology, Gary, IN, April 19, 1980.  
American Society for Virology I, Ithaca, NY, August 3, 1982.  
Negative Strand Virus Symposium, Hilton Head, SC, September 16, 1983.  
St. Jude Children's Research Hospital, Memphis, TN, May 28, 1985.  
The potential effects of climate change on patterns of disease in the United States,  
workshop by US EPA & ICF/Clement, Washington, D.C., November 10, 1987.  
Vanderbilt University School of Medicine, Nashville, TN, May 18, 1988.  
American Society for Virology VII, Austin, TX, June 14, 1988.  
American Society for Virology VIII, London, Ontario, Canada, July 10, 1989.  
Eli Lilly and Co., Indianapolis, IN, November 28, 1989.  
East Carolina University School of Medicine, December 14, 1989.  
Bristol Myers Squibb Corp., Princeton, NJ, February 23, 1990.  
Washington State University, Pullman, WA, March 8, 1990.  
Universidade Federal Rural de Pernambuco, Coroa do Aviao, Brazil, April 18, 1990.  
Baylor University School of Medicine, Houston TX, June 18, 1990.  
American Society for Virology IX, Salt Lake City, UT, July 9, 1990.  
Center for Biologics Evaluation and Research, US FDA, Bethesda, MD, August 2,  
1990.  
Centers for Disease Control, USPHS, Atlanta, GA, August 10, 1990.  
Gluck Equine Research Center, Univ. of Kentucky, Lexington, KY, August 13, 1990.  
WHO/OIE Consultation on newly emerging strains of equine influenza virus,  
Animal Health Trust, Newmarket, United Kingdom, May 18, 1992.  
American Society for Virology XI, Ithaca, NY, July 13, 1992.  
General session: VII Int. Conf. on Equine Infect. Dis., Tokyo, June 10, 1994.  
Workshop session: VII Int. Conf. on Equine Infect. Dis., Tokyo, June 10, 1994.  
Becton Dickinson Corp., Cockeysville, MD, August 8, 1994.  
Univ. of Pittsburgh, PA, with Paravax Inc., July 6, 1995.  
Consultation of OIE and WHO experts on progress in surveillance of equine  
influenza and application to vaccine strain selection, Newmarket, England, Sept.  
18-19, 1995.  
Fort Dodge Laboratories Inc., Fort Dodge, IA, March 21, 1996.  
Kentucky Association of Equine Practitioners, Lexington KY, March 27, 1996.  
Gluck Equine Research Center, Univ. of KY, Lexington KY, April 8, 1996.  
Asociacion Argentina de Veterinaria Equina, Buenos Aires, Argentina, April 22,  
1996.  
V Congreso Argentino de Virologia (State of Art Lecture), Tandil, Arg., April 25,  
1996.



Workshop session: VIII Int. Conf. on Equine Infect. Dis., Dubai, March 25, 1998.  
University of Kentucky Equine Research Foundation, Lexington, April 9, 1998.  
North Carolina State Univ. School of Veterinary Medicine, Raleigh NC, Sept. 21, 1998.  
Fourth Int. Meet. of OIE and WHO Experts on control of equine influenza, Miami FL, Aug.3-5, 1999.  
Hagyard-Davidson-McGee Inc., Lexington KY, Sept. 30, 1999.  
Heska Corp., Fort Collins, CO, Oct. 1, 1999.  
*Equine Practice* Round-Table session, Estes Park CO, Oct. 2, 1999.  
Gluck Equine Research Center, Univ. of KY, Lexington KY, Oct. 5, 1999.  
KY Assoc. of Equine Practitioners, Lexington KY, October 5, 1999.  
103rd Annual Meeting of U.S. Animal Health Assoc., Equine Infect. Diseases Committee, featured scientific presentation, San Diego, Oct. 10, 1999.  
Virginia Veterinary Medical Assoc. annual meeting, Hot Springs VA, Feb. 5, 2000.  
World Congress on Options for the Control of Influenza IV, Crete, September 27, 2000.  
Merieux Fondation International Symposium on emergence and control of zoonotic ortho- and paramyxovirus diseases, Annecy, France, December 14, 2000.  
7<sup>th</sup> World Congress of World Equine Veterinary Association, Sorrento Italy, Oct. 5, 2001.  
21<sup>st</sup> Annual Meeting of American Society for Virology, Lexington KY July 20, 2002.  
OIE North American Equine Influenza Surveillance Meeting, at AAEP annual meeting, Orlando FL, December 5, 2002.  
Mount Sinai School of Medicine, New York NY, October 5, 2004: invited seminar.  
KY Assoc. of Equine Practitioners annual meeting, Lexington KY, Nov. 3, 2004  
24<sup>th</sup> Annual Meeting of American Society for Virology, State College PA, June 20, 2005.  
Havemeyer Foundation Workshop, Miami FL, Nov. 5, 2005  
University of Florida, Gainesville FL, May 9, 2006  
25<sup>th</sup> Annual Meeting of American Society for Virology, Madison WI, July 17, 2006.  
Invited Speaker and Panelist, Merial Equine Influenza Symposium, Chicago IL, Sept. 15-16, 2006.  
Livestock Disease Diagnostic Center, Equine Diagnostic & Research Seminar, Lexington KY July 26, 2007.  
U.S. Animal Health Association, Committee on Infectious Diseases of Horses, annual meeting. Reno NV, October 21, 2007.  
National Institute for Animal Agriculture, 2008 annual meeting, Indianapolis IN, April 2, 2008.  
USDA APHIS Veterinary Biologics Public Meeting, Ames IA, April 8, 2008.  
Synbiotics Corp. satellite session of American Association of Equine Practitioners annual meeting, San Diego, 12/7/2008.  
US Animal Health Association, annual meeting, Committee on Infectious Diseases of the Horse. San Diego, October 12, 2009  
1<sup>st</sup> International Symposium on Neglected Influenza Viruses, Amelia Island FL, February 5, 2010.  
National Pork Board, Committee on swine influenza vaccines, Amelia Island FL,

February 6, 2010.

OTHER PROFESSIONAL ACTIVITIES:

Member, Research Advisory Committee (Grant review panel), Grayson Jockey Club Research Foundation, 2008-present.

*Ad hoc* reviewer:

**Research in Virology** (Institut Pasteur), 1989.  
Kentucky Agricultural Experiment Station grant proposal 91-23, 1991.  
**Virus Research**, 1991 (M308, M324)  
**Journal of Veterinary Diagnostic Investigation**, 1992.  
**Journal of Virology**, 1992 (JVI 463-92).  
**European Journal of Epidemiology**, 1993 (0137-92).  
USDA CSRS/NRICGP (Mechanisms Animal Disease) grant proposal 93-03522.  
**Equine Infectious Diseases VII**, 1994 (EIDC/7/25).  
**Journal of Virology**, 1996 (JVI 1910-96).  
**Equine Infectious Diseases VIII**, 1998 (2 papers).  
**Journal of Virological Methods**, 1998 (JVMeth/1998/3270)  
**The Veterinary Journal**, 2000 (MS 1121A)  
**Journal of Virology**, 2001 (JVI 573)  
**Equine Veterinary Journal**, 2001, (2 papers)  
**Journal of General Virology**, 2002  
**Veterinary Research**, 2003  
**Virus Research**, 2003 (VRUD3603(1))  
**Archives of Virology**, 2003  
**Journal of Virology**, 2004 (JVI00883-04)  
**Virology**, 2005 (VIRO-05-46)  
**Archives of Virology**, 2006 (AVIROL-D-06-00012, AVIROL-D-06-00144)  
**Journal of Equine Veterinary Science**, 2006 (JEVS06-039)  
**Equine Veterinary Journal**, 2006 (EVJ/06/156)  
**Equine Veterinary Journal**, 2007 (EVJ/07/076)  
**Virus Research**, 2007 (VIRUS-D-07-00193)  
**Veterinary Microbiology**, 2007 (VETMIC-D-07-1764)  
**Vaccine**, 2007 (JVAC-D-07-00709)  
**Archives of Virology**, 2007 (AVIROL-D-07-00208)  
**Journal of Veterinary Internal Medicine**, 2007 (07-278)  
**Emerging Infectious Diseases**, 2007 (EID-07-1270)  
**Journal of Veterinary Diagnostic Investigation**, 2007 (07-0234)  
**Journal of Veterinary Diagnostic Investigation**, 2008 (08-0114)  
**Veterinary Microbiology**, 2008 (VETMIC-D-08-2813, D-08-2964)  
**Journal of Veterinary Diagnostic Investigation**, 2008 (08-0283)

**Vaccine**, 2009 (JVAC-D-09-00246)  
**Virus Research**, 2009 (VIRUS-D-09-00132)  
**Journal of Virology**, 2009 (JVI01612-09)  
**Journal of Veterinary Diagnostic Investigation**, 2009 (09-0182)  
**Vaccine**, 2010 (JVAC-D-10-00206)  
Horserace Betting Levy Board, 2005, grant proposal no. T9  
Horserace Betting Levy Board, 2006, grant proposal no. T5  
Horserace Betting Levy Board, 2007, grant proposal no. T7  
Horserace Betting Levy Board, 2009, grant proposal no. T33

Head of *Office International des Epizooties* Reference Laboratory for Equine Influenza, 1993-present.  
Member, OIE/WHO Expert Surveillance Panel for Equine Influenza, 1995-present.  
Consultant (non-exclusive) on equine influenza to Fort Dodge Laboratories Inc. 1994-98 and 2002-2009; to Intervet Inc., 2003.  
Participant, 1992 WHO/OIE Consultation on Newly Emerging Equine Influenza Viruses.  
Participant, 1995 Consultation of OIE and WHO experts on Progress in Surveillance of Equine Influenza and Application to Vaccine Strain Selection.  
Session chair, 8th Internat. Conf. on Equine Infectious Diseases, Dubai, 1998.  
Co-organizer, Session Chair, and Rapporteur, IV Meeting of OIE and WHO Experts on Control of Equine Influenza, Miami FL, August 1999.  
Co-inventor and royalty holder on a new modified-live equine influenza vaccine, Flu-Avert<sup>tm</sup> I.N. vaccine, marketed by Heska Corporation beginning in 1999.  
Workshop chair and member of Local Committee, 21<sup>st</sup> Annual Meeting of American Society for Virology, Lexington KY, July 20-24, 2002.  
Session Chair, Havemeyer Foundation Workshop on Equine Influenza, Miami FL Nov. 2005  
Member, Scientific Organizing Committee and Session Co-chair for ISIRV 1st International Symposium on Neglected Influenza Viruses, held at Amelia Island FL, February 3- 5, 2010.

#### UNIVERSITY ACTIVITIES:

Member, UK Molecular Virology Initiative Executive Committee, 1994.  
Chair, UK Molecular Virology Initiative Curriculum Committee, 1994-95.  
Member, UK Agricultural Biotechnology Program Coordinating Committee, 1997-99.  
Member, UK Dept. Vet. Sci. Graduate Committee since 1992; Chair 1999-2005.  
Member, UK Dept. Vet. Sci. Subcommittee for Graduate Studies Guidelines, 1992.  
Chair, UK Dept. Vet. Sci. Subcommittee for Graduate Student Recruitment, 1993.  
Member, UK Dept. Vet. Sci. Committee on High Security Isolation Facility, 1995.

Member, UK Dept. Vet. Sci. Clay Fellowship Administration Committee, 1995-2002.  
Member, UK Dept. Vet. Sci. Animal Resources Advisory Committee, 1997-present, Chair 2002-05.  
Chair, UK Dept. Vet. Sci. Hatch proposal review committee, 1997-2002  
Seminar Series Coordinator, UK Dept. Vet. Sci, 1998-99.  
Director of Graduate Studies, UK Dept. Vet. Sci., 1999-2005.  
Member (*ex officio*), Advisory & Strategic Planning Committee, UK Dept. Vet. Sci., 1999-2005.  
Member, UK Dept. Vet. Sci. BL2 & Facilities Steering Committees, 2000-present.  
Member, UK Dept. Vet. Sci. Faculty Appointments & Promotions Advisory Committee, 2002-present.  
Member, UK Dept. Vet. Sci. Chair Search Committee, 2006-07.  
Co-Chair, UK Institutional Biosafety Committee, 2002-present, Member 1999-present.  
Member, UK BSL-3 Advisory Committee, 2003-present.  
Member, UK Task Force on Pandemic Preparedness, 2005.  
Member, UK IACUC Crisis Management Committee, 2007.

#### TEACHING ACTIVITIES:

1977-81	Teaching assistant, Department of Microbiology, University of Notre Dame, Notre Dame, IN, in: general microbiology, medical microbiology, pathogenic bacteriology, immunology
1981	Instructor of immunology (summer), Indiana University at South Bend School of Nursing, South Bend, IN.
1988	Guest lecturer in molecular biology, Rhodes College, Memphis, TN.
1989	Lecturer in molecular biology, St. Jude Children's Research Hospital, Memphis, TN.
1991	Guest lecturer in Bio 582 Virology, UK.
1991-1999	Coordinator, UK Veterinary Science Journal Club.
1993,1994	Lecturer in VS 791 Advanced Virology, UK.
1994-pres	Faculty advisor, Agricultural Biotechnology program, UK.
1994-pres	Guest lecturer in Bio 582/VS 782 Virology (Dr. J. Lesnaw), UK.
1995-pres	Faculty participant, Bio 425 Seminar in Virology (Dr. J. Lesnaw), UK.
1997-2006	Faculty participant, A&S 150 Freshman Discovery Series (Dr. J. Lesnaw).

2000-2008 Faculty advisor, Honors Program Journal/Journey Project, UK.

STUDENTS/FELLOWS ADVISED:

Major Professor

Dr. Kathleen Franklin, postdoctoral fellow, 1992-94.  
Dr. Alexander C.K. Lai, postdoctoral fellow, 1992-99.

Dr. Robert E. Holland, DVM student-extern, 1993; PhD graduate student, 1994-00.  
Mr. Cheng-Bin Lin, Ph.D. graduate student, 1995-00.  
Mr. Morgan McCoy, Ph.D. graduate student, 1999-04.  
Dr. Joshua Fine DVM, PhD graduate student 2002.  
Mr. Saikat Boliar, Ph.D. graduate student, 2004-2009.  
Mr. Liang Zhang, Ph.D. graduate student, 2003-2009.

Mr. Ashish Tiwari, Ph.D. graduate student, 2007-present.  
Mr. Sanjay Sarkar, Ph.D. graduate student, 2008-present.

Mr. Eugene Ferguson, M.S. graduate student, 1994-99.  
Dr. Byung-Chul Ahn, M.S. graduate student, 1998.  
Ms. Jennifer Donofrio, M.S. graduate student, 1999-2001.  
Dr. Robert Lee Godman DVM, M.S. graduate student, 2001-04.

Committee Service

Mr. Weisong Zhou, Ph.D. advisory committee, 1995-00.  
Mr. W. Allan Rees, Ph.D. advisory committee, 1995-98.  
Ms. Darrilyn (Albright) Fraser, Ph.D. advisory committee, 1995-1998.  
Ms. Jennifer Myka, M.S. and Ph.D. advisory committee, 5/94-2003.  
Mr. Fangting Liang, Ph.D. advisory committee, 1997-98.  
Mr. Brian Dillon (Biol. Sci.), Ph.D. advisory committee, 2002-2007.  
Mr. Debasish Ghosh (Biol. Sci.), Ph.D. advisory committee, 2003-2007.  
Mr. Gagan Gupta, Ph.D. advisory committee, 2004-05.  
Ms. Amanda Adams, Ph.D. advisory committee, 2005—2008.  
Dr. Tracy Sturgill, Ph.D. advisory committee, 2005-2009.  
Ms. Rachel Angers, Ph.D. advisory committee, 2006-2009  
Mr. Kunj Pathek, Ph.D. advisory committee, 2007-present  
Ms. Zhengchen Lu, Ph.D. advisory committee, 2008-present.  
Ms. Lingshuang Sun, Ph.D, advisory committee, 2009-present.

Mr. Levent Dirikolu, M.S. advisory committee, 1997.  
Dr. Brad Bentz, M.S. advisory committee, 1998-99.  
Mr. Cedric Holtz, M.S. advisory committee, 1999-00.

Ms. Chithra Perumal, M.S. advisory committee, 2003.

Outside Examiner, Ph.D. thesis defenses of:

C. Arne, UK Dept. Entomol. (1995)  
J. Lillard, UK Dept. Microbiol. & Immunol. (1996)  
A. Nalca, UK Dept. Microbiol. & Immunol. (1998)  
Cara Pager UK Dept. Mol. Cell. Biochem. (2006)  
Kristi Green, UK Dept of Microbiol, Immunol, & Mol. Genetics (2007)  
Angela Martin, UK Dept of Microbiol, Immunol, & Mol. Genetics (2009)

(Undergraduate)

Agricultural Biotechnology students advised: Matthew R. Johnson, Carey Goehle, Michelle L. Donoghue, Charity D. Andrews, John Nachtigall; Kristy Farmer, Michelle Hand, Stephanie A. Pierce; Theresa Currier, Brad Herbek, Matt Parker, Daniel Obarr.

ABT395/BIO395 independent study projects supervised: Carey Goehle (1995), Michelle Donoghue (1997), Michelle Hand (1998), Stephen Rally (2000), Bracken Louis (2001), Joshua Branham (2004-06), Paul Bower (2006), Suzanne Kinney (2006-07), Whitney Hunter (2007-08), Scarlett Springate (2008), Sarah Boden (2010).

Honors Program Journal/Journey Project advisor to Jared Gallaher (2000-01), Jeremy Wilson (2001-03), C. Andrew Bates (2004-06), Zachary Harris (2006-07).

Honors Program—Senior Honors Project advisor to C. Andrew Bates (2007-08)

(Non-Degree)

Mr. Kevin Slone, undergraduate work-study student, 1991-93.  
Ms. Heather Beaudry, undergraduate work-study student, 1993-95.  
Ms. Nolwenn Druet, international exchange student, summer 1996.  
Dr. Margarita Brewer, international exchange student, summer 1998.

#### GRANT SUPPORT:

1982-83	NCI Training Grants 2T32 CA 09030 and 5T 32 CA 09030, UCLA School of Medicine, Los Angeles, CA.
1984	Principal Investigator, NIAID National Research Service Award 1 F32 AI 06945-01, UCLA School of Medicine, Los Angeles, CA.
1985-1990	Associate Investigator, NIAID Contract No. AI 52586, "National and international surveillance of influenza viruses among domestic and wild species of animals," R. G. Webster, principal investigator, St. Jude Children's Research Hospital.
1991-93	Principal Investigator, "Equine Influenza Virus Research," annual restricted gifts from Mr. Paul Mellon, \$279,000.
1992	Univ. KY Major Research Equipment Award 92-MREC-14, \$37,455.

- 1992-1997 Principal Investigator, Kentucky Agricultural Experiment Station (Hatch/State) Project No. 00354, "Cell culture models for analysis of equine influenza viral host discrimination".
- 1992-95 Principal Investigator, Grayson Jockey Club Research Foundation award, "Hemagglutinin antigen of equine-2 influenza virus," University of Kentucky, \$134,858.
- 1993-1997 Principal Investigator, USDA/CSRS/NRICGP Award, "Genetic and mechanistic analysis of equine *Mx* antiviral gene", with E. Bailey (coinvestigator), University of Kentucky, \$195,198, 1993-97.
- 1994-96 Co-Investigator, Grayson-Jockey Club Research Foundation award, "Amantadine/Rimantadine prophylaxis of equine influenza," T. Tobin, principal investigator, University of Kentucky, \$45,000, 1994-96.
- 1995-98 Principal Investigator, Paravax Inc. (Fort Collins CO): Testing of candidate live attenuated equine influenza virus vaccines. University of Kentucky, \$33,570.
- 1997-98 Principal Investigator, American Quarter Horse Association: "Age dependence of horse foal immunization for viral infectious diseases." University of Kentucky, \$12,133.
- 1998-03 Principal Investigator, Kentucky Agricultural Experiment Station (Hatch/State) Project No. KY014006, "Non-immune cellular/ molecular responses to influenza infection of the horse."
- 1998-00 Principal Investigator, American Quarter Horse Association: "Age dependence of horse foal immunization for viral infectious diseases." University of Kentucky, \$39,540.
- 1998-02 Principal Investigator, Heska Corp. (Fort Collins CO): Testing of candidate live attenuated equine influenza virus vaccines. University of Kentucky, \$41,153.
- 1999-00 Principal Investigator, Univ. KY College of Agriculture Research Committee Award, \$5,091, "Bovine Influenza."
- 2000-02 Principal Investigator, American Quarter Horse Association: "Age dependence of horse foal immunization for viral infectious diseases." University of Kentucky, \$23,880.
- 2002 Principal Investigator, Intervet Inc.: "Blinded experimental challenge of the Intervet Inc. equine influenza vaccine." University of Kentucky, \$14,730.
- 2002 Principal Investigator, Equine influenza surveillance, Animal Health Trust USA, \$16,000.
- 2002 Univ. KY Major Research Equipment Award, \$7,820.
- 2002-03 Principal Investigator, Equine influenza surveillance and molecular characterization. Equine influenza vaccine manufacturers consortium, \$42,500.
- 2002-04 Principal Investigator, Equine influenza serological testing services, Merial Inc., est. \$6,500.
- 2003 Univ. KY Major Research Equipment Award, \$19,020.
- 2003-06 Principal Investigator, Kentucky Agricultural Experiment Station

- (Hatch/State) Project No. KY014014, "West Nile virus immunity in horse foals."
- 2003-05 Principal Investigator, Intervet Inc.: "Combination vaccination for equine influenza—Flu-Avert plus Encevac TC-4." University of Kentucky, \$85,220.
- 2004-08 Co-Investigator (D.W. Horohov, P.I.): , Kentucky Agricultural Experiment Station (Hatch/State) Project, "The effect of aging on the immune response of horses."
- 2004-06 Principal Investigator, Pfizer Animal Health Inc.: "Testing of a Pfizer equine influenza vaccine 2004." University of Kentucky, \$42,458.
- 2005-06 Co-investigator, Pari-mutuel Wagering Trust Fund (FL), "Pathogenicity for horses of an equine influenza virus (H3N8) isolated from racing greyhounds in Florida." Paul Gibbs, P.I., Univ. Florida. \$94,125 total budget.
- 2006-07 Co-Investigator, "Evaluation of the Immunological Response of Aged Horses to Vaccination with a Recombinant Equine Influenza Vaccine and Subsequent Influenza Challenge," Merial Ltd., D.W. Horohov, P.I., \$135,000.
- 2006-08 Principal Investigator, Restricted gift from Mr. & Mrs. William Casner, "Hyperbaric oxygen treatment for equine infectious diseases," \$151,000.
- 2006-10 Principal Investigator, Kentucky Agricultural Experiment Station (Hatch/State) Project KY-014028, "Innate immune responses to influenza virus infection."
- 2007 UK College of Agriculture Research Activity Award, \$5,000.
- 2007-08 Co-Investigator, "Development of Real-Time PCR-Based Diagnostic Assays for Detection of Virus Infections in Horses," AQHA, U. Balasuriya (PI), P. Timoney, G. Allen, & T. Chambers. \$24,407.
- 2008-10 Contractor, SAIC (NIAID), "Testing methods for influenza infection in equine models." S. Rao, PI. \$102,466.
- 2009-10 Principal Investigator, Intervet/Schering-Plough Inc., "Does vaccination of very young foals with FluAvert in the presence of maternal antibodies protect them from infection? \$47,697.

#### HONORS AND AWARDS:

- 1980 Garner Award for Outstanding Student Presentation, Indiana Branch Meeting of American Society for Microbiology, Gary, IN.
- 1993 Named Head of *Office International des Epizooties* Reference Laboratory for Equine Influenza.
- 1996 Named Socio Correspondiente del Asociacion Argentina de Microbiologia.
- 2004 Faculty Futures Award, Univ. KY College of Agriculture.



PROFESSIONAL SOCIETY MEMBERSHIPS:

American Society for Microbiology  
American Association for the Advancement of Science  
American Society for Virology

COMMUNITY ACTIVITIES:

Second violinist in the Germantown (TN) Symphony Orchestra, 1988-1990.  
Second violinist in the Rhodes College (TN) Community Orchestra, 1990.  
Second violinist, Lexington Community Orchestra, 1991-2009.  
First violinist, Lexington Community Orchestra, 2009-present.  
Program annotator, Lexington Community Orchestra, 1993-2006.  
Kentucky Horse Council, Welfare and Research Committee member, 1997-1999.

## CURRICULUM VITAE.

- Name:*** Richard Frank Cook
- Qualifications:*** BSc (Hons) Biochemistry (Class Iii) University of Sussex, United Kingdom.  
PhD Virology. University of Warwick, United Kingdom
- Nationality:*** United States of America (Naturalized).
- Employment:***
- 1998 – Present: Research Assistant Professor  
Department of Veterinary Science, 108, Gluck Equine Research Center,  
University of Kentucky, Lexington, Kentucky 40546
- 1991 - 1998: Research Specialist  
Department of Veterinary Science, 108, Gluck Equine Research Center,  
University of Kentucky, Lexington, Kentucky 40546
- 1989 - 1991: NIH Postdoctoral Researcher  
Laboratories of Molecular and Development Biology. Ohio Agricultural  
Research and Development Center. The Ohio State University,  
Department of Dairy Science 1680, Madison Avenue, Wooster, Ohio  
44691.
- 1983 - 1988: Virologist/Project Leader  
Equine Virology Unit, Animal Health Trust, Lanwades Park, Kennett,  
Newmarket, Suffolk, Great Britain.
- 1979 - 1983: Postdoctoral Research Fellow: Tumour Virus Research Group.  
University of Warwick, Department of Biological Sciences, Coventry,  
CV4 7AL Great Britain.

### ***Extramural Research Funding:***

#### **The development of an ISCOM vaccine against EHV-1.**

Principal Investigator: J .A. Mumford.  
**Co- Principal Investigators:** **R. F. Cook** and D. Hannant.  
Agency: The Horserace Betting Levy Board.  
Period: 1985-1988.

#### **Molecular analysis of antigenic and genetic variation in equid herpes virus type 1 (subtype 1 and 2) isolates in the United Kingdom.**

**Principal Investigator:** **R. F. Cook.**  
Agency: Equine Virology Research Foundation.  
Period: 1986-1988.

#### **Regulation of EIAV Replication And Disease.**

Principal Investigators: R. C. Montelaro, C. J. Issel  
**Co-Investigator:** **R. F. Cook**  
Agency: NIH/NIAID Type R01 CA49296.  
Period: 1996-2001.

#### **Immunologic Management of Lentivirus Infections :EIAV**

Principal Investigators: R. C. Montelaro, C. J. Issel  
**Co-Investigator:** **R. F. Cook**  
Agency: HIHNIAID Type R01 A125810.  
Period: 1998-2003.

#### **EIA Vaccine Project**

Principal Investigators: R. C. Montelaro, C. J. Issel  
**Co-Investigator:** **R. F. Cook**  
Agency: Bayer Animal Health.  
Period: 2000-2002.

#### **Prospective study of progeny from inapparent carriers of EIA in a herd of wild Indian horses in Southwest Oklahoma.**

Principal Investigator: C. J. Issel.  
**Co-Investigator:** **R. F. Cook.**  
Agency: College of Veterinary Medicine, Oklahoma State University.  
Period: 1997-2003.

#### **Development of Gene Delivery Approaches to Treat Equine Respiratory Diseases.**

Principal Investigator: D. W. Horohov.  
**Co-Principal Investigator:****R. F. Cook**  
Agency: Kentucky Science & Engineering Foundation.  
Period: January 1, 2006 to December 31, 2006.  
Amount: \$49,573.

**EIAV Envelope Variation and Vaccine Efficacy.**

Principal Investigator: R. C. Montelaro  
**Co-Investigator: R. F. Cook**  
Agency: NIH R01 AI25850.  
Period: January 1, 2007 to December 31, 2007.

**EIAV Envelope Variation and Vaccine Efficacy (March 2009 to February 2014).**

Principal Investigator: R. C. Montelaro  
**Co-Principal Investigator: R. F. Cook**  
Agency: NIAID/NIH R01A1025850-21A2  
Amount: UK 5 year budget proposed at \$1,737,500

***Intramural Research Funding:***

**Generation of infectious cDNA clones from biologically significant mutants of an equine lentivirus.**

Principal Investigator: C. J. Issel.  
**Co-Principal Investigator: R. F. Cook.**  
Agency: Research Committee Grant, University of Kentucky.  
Period: 1992-1993.

**Host Factors Involved in Equine Infectious Anemia.**

**Principal Investigator: R. F. Cook**  
Agency: Research Committee Grant, University of Kentucky.  
Period: 1999 to 2000.

**Concepts in HIV Vaccine Research: Enhanced Responses to Genetic Immunization with Lentiviruses.**

**Principal Investigator: R. F. Cook.**  
Agency: Research Support Grant, University of Kentucky.  
Period: December 1, 2005 to November 30, 2006.  
Amount: \$16,282.

**Comparative Genomics of Gamma-Herpesviruses of Equids.**

Principal Investigator: U. B. R. Balasuriya  
**Co-Principal Investigator: R. F. Cook**  
Agency: Paul Mellon Post-Doctoral Scholarship Fund  
Period: 2009-2011

**University of Kentucky, 2008-2009 Research Activity Awards (Purchase of peptides to investigate immune responses to DNA vaccines)**

**Principal Investigator: R. F. Cook**

Agency: University of Kentucky  
Amount: \$1318.40

**University of Kentucky, 2008-2009 Research Activity Awards** (Development of a universal qRT-PCR for EIAV)

**Principal Investigator: R. F. Cook**  
Agency: University of Kentucky  
Amount: \$1200.00

**University of Kentucky, 2009-2010 Research Activity Awards** (Development of an adenoviral vector expressing equine IL-15)

**Principal Investigator: R. F. Cook**  
Agency: University of Kentucky  
Amount: \$1648.00

**Molecular Epidemiology and Improved Diagnostics for Equine Infectious Anemia Virus (EIAV).**

**Principal Investigator: R. F. Cook**  
Agency: Gluck Equine Research Center  
Amount: \$5000.00

**Improved DNA Vaccines: Evaluating Cell Mediated Immune Responses**

**Principal Investigator: R. F. Cook**  
Agency: Gluck Equine Research Center (\$8,530)  
Amount: \$7500.00

***Other Funding:***

**Pathogenesis of Equine Infectious Anemia.**

**Principal Investigators:** C. J. Issel, **R. F. Cook.**  
Agency: CRIS/Kentucky Agricultural Experiment Station.  
Period: 2001-2006.

**Control of Equine Infectious Anemia.**

**Principal Investigators:** C. J. Issel, **R. F. Cook**  
Agency: CRIS/Kentucky Agricultural Experiment Station.  
Period: 2006-2011.

## ***Membership in Professional Societies:***

American Society for Microbiology

## ***Publications (Peer Reviewed):***

1. Infection of chicken erythrocytes with influenza and other viruses. **R. F. Cook**, R. J. Avery and N. J. Dimmock. (1979). *Infection and Immunity* 25, 396 - 402.
2. Differential distribution of influenza virus protein in nuclei of infected cells. **R. F. Cook**, R. J. Avery and N. J. Dimmock (1979). *FEMS Microbiology Letters* 6, 241 - 243.
3. Complementation with avian virus is required for synthesis of M protein of a human strain in chicken erythrocytes. **R. F. Cook**, R. J. Avery and N. J. Dimmock (1980). *Archives of Virology* 65, 319 - 324.
4. Infection of chicken erythrocytes with influenza and other viruses. **R. F. Cook** (1980). PhD Thesis, Dept. of Biological Sciences, University of Warwick, Great Britain.
5. Cellular and viral control processes affect the expression matrix protein during influenza virus infection of avian erythrocytes. (1981) N. J. Dimmock, **R. F. Cook**, W. J. Bean and J. M. Wignall. In: "The Replication of Negative Strand Viruses" D.H.L. Bishop and R. W. Compans (Eds.) Elsevier North Holland Inc. pp 345 -351.
6. Expression of Kirsten murine sarcoma virus in transformed non-producer and revertant NIH 3T3 cells: Evidence for cell mediated resistance to viral oncogene in phenotypic reversion. J. D. Norton, **R. F. Cook**, P.C. Roberts, J. P. Clewley and R. J. Avery. (1984). *J. Virol* 50, 439 - 444.
7. Revertant cells are resistant to the action of the Kirsten sarcoma virus oncogene. R. J. Avery, P.C. Roberts, J. P. Clewley, **R. F. Cook** and J. D. Norton. (1984). *Proc. Soc. for Cancer Research* 25, 391 - 399.
8. Mouse and rat cells undergo rapidly inducible changes in polypeptide secretion following infection with Kirsten murine sarcoma virus. **R. F. Cook**, S. J. Gardner and R. J. Avery. (1987). *Biochemistry International* 14, 1133 - 1141.
9. Serological and virological investigations of an EHV-1 abortion storm on a stud farm in England. J. A. Mumford, P. D. Rosedale, S. J. Gann, D. M. Jessett, J. Ousey and **R. F. Cook**. (1987). *J. Reprod. Fert. Suppl.* 35, 509 - 518.
10. Detection of influenza nucleoprotein antigen in nasal secretions from horses infected with equine influenza (H3N8) viruses. **R. F. Cook**, R. Sinclair and J. A. Mumford. (1988). *J. Virol. Methods* 20, 1 - 12.
11. The influence of the host cell on the antigenic properties of equine influenza (H3N8) virus. **R. F. Cook**, J. A. Mumford, A. Douglas and J. M. Wood. (1988). *Proc. of the 5<sup>th</sup> International Conference on Equine Infectious Diseases.* 60 -65.
12. The production and use of monoclonal antibodies to equine arteritis virus. E. D. Churnside, **R. F. Cook**, M. W. Lock and J. A. Mumford. (1988). *Proc. of the 5<sup>th</sup> International Conference on Equine Infectious Diseases.* 262 - 267.

13. The characterization of neutralizing and non-neutralizing monoclonal antibodies against equine herpes virus type 1. R. Sinclair, **R. F. Cook** and J. A. Mumford (1989). *J. of General Virology* 70, 455 - 459.
14. The effects of vaccination with tissue culture derived viral vaccines on the serological detection of equine arteritis virus (EAV) by enzyme linked immunosorbant assay (ELISA). **R. F. Cook**, S. J. Gann and J. A. Mumford. (1989). *Veterinary Microbiology* 20, 181 - 189.
15. Protection against lethal equine herpesvirus type 1 (subtype 1) infection in hamsters by immune stimulating complexes containing the major viral glycoproteins. **R. F. Cook**, T. O'Neill, R. Sinclair, B. Sundqvist and J. A. Mumford. (1990). *Vaccine* 8, 491 - 496.
16. Uptake of DNase 1 susceptibility of foreign DNA by chicken sperm cells. **R. F. Cook**, S. J. Cook and C. P. Hodgson. (1990) *Poultry Science* 69, 856 - 859.
17. Differences in sensitivity in haemagglutination inhibition assays between egg and mammalian cell isolated A/equine/H3N8 viruses is linked to cleavage of the haemagglutinin molecule. **R. F. Cook** and S. J. Cook. (1991) *Veterinary Microbiology* 27, 253 - 261.
18. Retrotransposon gene engineering. **R. F. Cook**, S. J. Cook and C. P. Hodgson. (1991). *Nature Biotechnology* 9, 748 - 751.
19. Effect of age on fetal response to experimental infection with a cell-adapted strain of equine infectious anemia virus. C. J. Issel, **R. F. Cook**, W. V. Jr. Adams, L. D. Foil, J. J. McClure, P. F. Haynes, and J. R. McClure. *Proc. of the 6<sup>th</sup> International Conference on Equine Infectious Diseases*. 249 - 252.
20. A non-radioactive micro-assay for released reverse transcriptase activity of a Lentivirus.(1992). **R. F. Cook**, S. J. Cook and C. J. Issel. *Biotechniques* 13, 380 - 386.
21. Liver-specific expression of a phosphoenopyruvate carboxykinase-*neo* gene in genetically modified chickens. (1993). **R. F. Cook**, S. J. Cook, S. Savon, M. McGrane, M. Hartitz, R. W. Hanson and C. P. Hodgson. *Poultry Science* 72 : 554 - 567.
22. Responses of ponies to equid herpesvirus-1 ISCOM vaccination and challenge with virus of the homologous strain. (1993). D. Hannant, D. M. Jessett, T. O'Neill, C. A. Dolby, **R. F. Cook** and J. A. Mumford. *Res. in Vet. Sci.* 54 : 299 - 305.
23. A review of techniques for the serologic diagnosis of equine infectious anemia. (1993). C. J. Issel and **R. F. Cook**. *J. Vet. Invest.* 5 : 137 - 141.
24. Enhancement of EIAV replication and disease by immunization with a baculovirus-expressed recombinant envelope surface glycoprotein. (1993). S. Z. Wang, K. E. Rushlow, C. J. Issel, **R. F. Cook**, S. J. Cook, M. L. Raabe, Y. H. Chong, L. Costa and R. C. Montelaro. *Virology* 199 : 247 - 251.
25. Cycle dideoxy fingerprinting (CddF) : A technique for rapid screening of potentially heterogeneous populations of PCR amplified products. (1994). J. L. Langemeier, **R. F. Cook**, C. J. Issel and R. C. Montelaro. *Biotechniques* 17 : 484 - 490.
26. Antigenicity and immunogenicity of experimental equine influenza ISCOM vaccines. (1994) J. A. Mumford, D. Jessett, U. Dunleavy, J. Wood, D. Hannant, B. Sunqusit and **R. F. Cook**. *Vaccine* 12 (9) 857- 863.
27. Direct Transfection of Equine Infectious Anemia Virus (EIAV) proviral DNA in ponies : Efficiency of replication *in vivo* of dUTPase<sup>+</sup> and dUTPase<sup>-</sup> infectious molecular clones. (1995) **R. F. Cook**, S. J. Cook, D. L. Lichtenstein, K. E. Rushlow, J. L. Langemeier, R. C. Montelaro and C. J. Issel. *Proceedings of the 7<sup>th</sup> International*

- Conference on Equine Infectious Diseases. Edited by H. Nakajima and W. Plowright R & W Publications (Newmarket Ltd.). pp 95 - 103.
28. Responses of ponies to challenge with Equine Infectious Anemia Virus following exposure to recombinant gp90 or viral p26 immunogens. (1995) L. R. Costa, C. J. Issel, R. C. Montelaro, S. J. Cook, **R. F. Cook**, K. E. Rushlow, C. Grund and S. Z-S. Wang. Proceedings of the 7<sup>th</sup> International Conference on Equine Infectious Diseases. Edited by H. Nakajima and W. Plowright R & W Publications (Newmarket Ltd.). pp 85 - 94.
  29. Enhanced sensitivity to neutralizing antibodies in a variant of Equine Infectious Anemia Virus (EIAV) is linked to amino acid substitutions in the surface unit (SU) envelope glycoprotein. (1995). **R. F. Cook**, S. L. Berger, K. E. Rushlow, J. J. McManus, S. J. Cook, S. Harrold, M. L. Raabe, R. C. Montelaro and C. J. Issel. J. Virol. 69 : 1493 - 1499.
  30. Replication *in vitro* and *in vivo* of an equine infectious anemia virus (EIAV) mutant deficient in deoxyuridine triphosphate (dUTPase) activity. (1995). D. L. Lichtenstein, K. E. Rushlow, **R. F. Cook**, M. L. Raabe, C. J. Swardson, G. J. Kociba, C. J. Issel, and R. C. Montelaro. J. Virol. 69 : 2881 - 2888.
  31. Characterization of protective and enhancing immune responses to equine infectious anemia virus resulting from experimental vaccines. (1996) R. C. Montelaro, C. Grund, M. Raabe, B. Woodson, **R. F. Cook**, S. J. Cook and C. J. Issel. AIDS Research and Human Retroviruses 12 : 413 - 415.
  32. Detection of Equine Infectious Anemia Viral RNA in plasma samples from recently infected and long term inapparent carrier animals by PCR. (1996). J.L. Langemeier, S. J. Cook, **R. F. Cook**, K. E. Rushlow. R. C. Montelaro, and C. J. Issel. J. Clin. Microbiology 34 (6) : 1481 - 1487.
  33. Development and characterization of an *in vivo* pathogenic molecular clone of equine infectious anemia virus. (1998). **R. F. Cook**, C. Leroux, S. J. Cook, S. L. Berger, D. L. Lichtenstein, N. N. Ghabrial, R. C. Montelaro and C. J. Issel. J. Virol. 72 (2) : 1383-1393.
  34. Immunization with a recombinant envelope protein (rgp90) of EIAV produces a spectrum of vaccine efficacy ranging from lack of clinical disease to severe enhancement. (1998) M. Raabe, C. J. Issel, S. J. Cook, **R. F. Cook**, B. Woodson and R. C. Montelaro. Virology 245 : 151-162.
  35. Optimal paradigms for the serologic diagnosis of equine infectious anemia. (1999). C. J. Issel, S. J. Cook, **R. F. Cook**, and T. R. Cordes. J. Equine Veterinary Science 19: 728-732.
  36. Effects of long terminal repeat sequence variation on equine infectious anemia virus replication *in vitro* and *in vivo*. (1999). D. L. Lichtenstein, J. K. Craigo, C. Leroux, K. E. Rushlow, **R. F. Cook**, S. J. Cook, C. J. Issel and R. C. Montelaro. Virology 263 : 408-417
  37. Tissue sites of persistent and active replication of equine infectious anemia virus during acute and asymptomatic infection in experimentally infected equids.(2000) S. M. Harrold, S. J. Cook, **R. F. Cook**, K. E. Rushlow, C. J. Issel and R. C. Montelaro. J. Virol 74 (7) : 3112-3121



38. Predictive methods to define infection with equine infectious anemia virus in foals out of reactor mares. (2000). R. S. McConnico, C. J. Issel, S. J. Cook, **R. F. Cook**, C. Floyd, and H. Bison. *J. Equine Veterinary Science* 20 : 387-392.
39. Differential responses of *Equus caballus* and *Equus asinus* to infection with two pathogenic strains of equine infectious anemia virus. S.J. Cook, **R.F. Cook**, R.C. Montelaro and C.J. Issel (2001). *Veterinary Microbiology*, 79, (2):93-109
40. Multiple RNA splicing and the presence of cryptic RNA splice donor and acceptor sites may contribute to low expression levels and poor immunogenicity of potential DNA vaccines containing the env gene of equine infectious anemia virus (EIAV). W. Zhou, **R. F. Cook**, S. J. Cook, S. A. Hammond, K. Rushlow, N. N. Ghabrial, S. L. Berger, R. C. Montelaro, and C. J. Issel, (2002). *Veterinary Microbiology*, 88 : 127-151.
41. Development of a multiplex real-time reverse transcriptase-polymerase chain reaction for equine infectious anemia virus (EIAV). **R. F. Cook**, S. J. Cook, F. Li, R. C. Montelaro and C. J. Issel, (2002). *Journal of Virological Methods*, 105 : 171-179.
42. Enhancement of equine infectious anemia virus (EIAV) virulence by identification and removal of sub-optimal nucleotides. (2003). **R. F. Cook**, S. J. Cook, S. I. Berger, C. Leroux, N. N. Ghabrial, M. Gantz, P. S. Bolin, M. R. Mousel, R. C. Montelaro and C. J. Issel. *Virology*, 313 : 588-603.
43. Genetic immunization with codon-optimized equine infectious anemia virus (EIAV) surface unit (SU) envelope sequences stimulates immune responses in ponies. (2005). **R. F. Cook**, S. J. Cook, P. S. Bolin, L. J. Howe, R. C. Montelaro and C. J. Issel. *Veterinary Microbiology*, 108: 23-37.
44. Evidence of an oscillating peripheral clock in an equine fibroblast cell line and adipose tissue, but not in peripheral blood. (2006) B. A. Murphy, M. M. Vick, D. R. Session, **R. F. Cook**, and B. P. Fitzgerald. *Journal of Comparative Physiology A*. 192: 743-751.
45. Acute inflammation transiently synchronizes clock gene expression in equine peripheral blood. (2007). B. A. Murphy, M. M. Vick, D. R. Sessions, **R. F. Cook** and B. P. Fitzgerald. *Brain Behavior Immunity*. 21: 467-476.
46. Relationship between inflammatory cytokines, obesity and insulin sensitivity in the horse. (2007). M.M. Vick, A.A. Adams, B.A. Murphy, D.R. Sessions, D.W. Horohov, **R.F. Cook**, B.J. Shelton and B.P. Fitzgerald. *Journal of Animal Science* 85: 1144-1155.
47. Real-time quantitative RT-PCR and PCR assays for a novel virulent field isolate of equine infectious anemia based on gag gene sequence determination. (2007). M. Quinlivan, **R.F. Cook**, and A. Cullinane. *Veterinary Record*. 160: 611-618.
48. Systemic inflammation influences insulin resistance in the horse and increases inflammatory cytokine expression in equine adipose tissue. (2008). M.M. Vick, B.A. Murphy, D.R. Sessions, S.E. Reedy, E.L. Kennedy, D.W. Horohov, **R.F. Cook**, and B.P. Fitzgerald. *Amer. J. of Vet. Res.* 69: 130-139.
49. Full-length and internally deleted forms of interleukin-7 are present in horse (*Equus caballus*) lymph node tissue. (2008). **R. F. Cook**, S. J. Cook, D. L. Even, C. Schaffer and C. J. Issel. *Veterinary Immunology and Immunopathology* 125: 126-134.
50. Equine neutrophils respond to PGE<sub>2</sub> by activating expression of core circadian clock genes. (2008). B. R. Murphy, C. Merant, M. M. Vick, **R. F. Cook**, S. A. Brooks, D. W. Horohov and B. P. Fitzgerald. *The Open Veterinary Science Journal*. 2: 96-103.

51. Equine infectious anaemia. (2009). **R. F. Cook**, S. J. Cook and C. J. Issel. Equine Veterinary Education Manual: Infectious Diseases of the Horse Ed T. S. Mair and R. E. Hutchinson 56-71.
52. Approccio biomolecolare alla diagnosi di anemia infettiva equine. (2009). F. Passamonti, K. Cappelli, S. Capomaccio, M. Felicetti, M. L. Marenzoni, G. Coppola, A. Testa, **R. F. Cook**, A. Verini Supplizi and M. Coletti. Ippologia (1120-5776), 4, 20, 27-32
53. The increased prevalence of neuropathogenic strains of EHV-1 in equine abortions. (2010). K. L. Smith, G. P. Allen, A. J. Branscum, **R. F. Cook**, M. L. Vickers, P. J. Timoney, and U. B. R. Balasuriya. Veterinary Microbiology. 141: 5-11.

### ***Book Chapters And Articles:***

Diagnostic Brief: Equine herpesvirus type 1. **R. F. Cook** (1988). Clinical Insight 3, 323.

Equine Infectious Anemia Virus. **R. F. Cook**, C. J. Issel and R. C. Montelaro. (1996). Virus Infections of Equines. pp 295-323. Ed. by M. J. Studdert. Elsevier Science B.V.

Equine Infectious Anemia. **R. F. Cook** and C. J. Issel. (2002) 9<sup>th</sup> Edition of the McGraw-Hill Encyclopedia of Science and Technology Volume 6 pp 640-641.

Infectious diseases of livestock with special reference to Southern Africa. Second Edition. Equine infectious anaemia. **R. F. Cook** and C. J. Issel. (2005) Ed. By J. A. W. Coetzer and R. C. Tustin Volume 2 Chapter 62 pp 747-751 Oxford University Press-Southern Africa.

Commentary: Nucleic acid based tests in disease diagnosis. C. J. Issel and **R. F. Cook**. (2003). Equine Disease Quarterly Volume 12(1) University of Kentucky.

From petunias to a worm, to horses: the Nobel Prize in Medicine and siRNA. **R. F. Cook** and D. W. Horohov. Research Today Grayson-Jockey Club Foundation Newsletter (2006) Volume 23 No 4 p1-4.

### ***Teaching, Student Training and Advising:***

1998-present Associate Member of the Graduate Faculty at the University of Kentucky.

Graduate Student Major Advisor:  
Chithra Perumal, MS program (graduated 2004)

Graduate student Co-Advisor:  
Deborah L. Even (PhD Program)

**Graduate Committee Member**

Weisong Zhou, PhD program (co-advisor graduated 2000)

Morgan McCoy, PhD program (graduated 2004)

Samantha Brooks, PhD program (graduated 2006)

Jianqiang Zhang, PhD program (graduated 2005)

Rajshekhar Y. Gaji, PhD program (graduated 2006)

Barbara A. Murphy, PhD program (graduated 2007)

Mandi Vick, PhD program (graduated 2007)

Raksha Tiwari, PhD program (graduated 2007)

Tracy Sturgill-Wright, PhD program (graduated 2009)

Saikat Boliar, PhD Program (graduated 2009)

Zhengchun Lu, PhD Program

Stephen Coleman, PhD Program

Lingshuang Sun, PhD Program

Kathryn Smith, PhD Program

Chong Liu, PhD Program

*Outside Examiner for the Final Doctoral Examination* of Yuri Klyachkin, Department of Microbiology, Immunology and Molecular Genetics, University of Kentucky, College of Medicine. November, 2007.

***Undergraduate Student Advising:***

Co-advisor for Zachary Willand

- 1991-1998. Informal advisor to graduate and undergraduate students in the laboratories of Dr C. J. Issel.
1990. Assisted in the organization of a Molecular Biology Workshop designed for graduate students and faculty of The Ohio State University. Lectured on the analysis of polypeptides and assisted in the supervision of laboratory classes.
- 1986 - 1988. Co-advisor to Robert Sinclair, PhD student. Graduated in 1990.
- 1980 – 1983. Postdoctoral tutor for Microbiology majors. University of Warwick
- 1976 - 1979. Demonstrator for undergraduate laboratory course in virology and immunology. University of Warwick

***Faculty Assignments:***

Standing Committee Membership: Animal Resources Advisory Committee (1998-2005)

Paul Mellon Postdoctoral Scholarship Advisory and Selection Committee (2000-2005)

Communications Advisory Committee (2005-2008)

Faculty Performance Advisory Committee (2005-2008)

Advisory & Strategic Planning Committee (2008-present)

Animal Resources Advisory Committee (2008-present)

Ad Hoc Faculty Committee: Janet H. Koller Bequest (2005)

Organizer for the Departmental Seminar Series 1999-2003 (Graduate course 770)

***Peer Review Service:***

*November 11, 2008:* The Porcine Reproductive and Respiratory Syndrome (PRRS) Coordinated Agricultural Project (CAP) Grant Review Panel Member.

*April 2006-present:* Review Committee Member for USDA funded Special Grants in Advanced Genetic Technologies.

*Ad Hoc Reviewer :* USDA National Research Initiative Competitive Grants Program.  
USDA-CSREES Special Grants in Advanced Genetic Technologies.  
Grayson Jockey Club Research Foundation, Inc.  
National Institutes of Health (NIAID)  
Bill and Melinda Gates Foundation (Global HIV Vaccine Enterprise)

***International Professional Service:***

At the request of the Irish Thoroughbred Breeders' Association and Dr A. Cullinane, Head of Virology at the Irish Equine Center advised and instructed (July 26 to August 2, 2006) Center and Irish Ministry of Agriculture personnel in the latest diagnostic techniques for EIA in response to the 2006 outbreak of this disease in Ireland.

Collaboration with Drs Fabrizio Passamonti Stefano Capomaccio and Katia Cappelli (Section of Infectious Disease, Dept. of Veterinary Pathology, Diagnostics and Clinic Faculty of Veterinary Medicine, University of Perugia, Italy) on the molecular characterization of EIAV strains isolated in Italy.

Provided consultation with Dr Graeme Cooke (Department for Environment, Food and Rural Affairs (DEFRA), International Animal Health, London who at the request of the European Union is designing a management plan to control EIAV in Romania where the virus is endemic (number of infected carrier horses estimated at 12,000).

Collaboration with Dr G. Luca Autorino, Centro di Referenza Nazionale per le Malattie degli Equini, Rome Italy on EIAV diagnostics and EIAV infections in mules.

Collaboration with Dr J.K.P. Reis, Universidade Federal de Minas Gerais, Brazil on the molecular characterization of South American EIAV Strains.

### ***Editorial Service:***

***Editorial Board Member: The Open Virology Journal***

***Reviewer service for:***

*Journal of General Virology*

*Vaccine*

*Biotechnology Progress*

*Veterinary Immunology & Immunopathology*

*CAB Reviews: Perspectives in Agriculture, Veterinary Science, Nutrition and Natural Resources*

*Journal Immunological Methods*

*Equine Veterinary Journal*

*Archives of Virology*

*Journal of Equine Veterinary Science*

*Turkish Journal of Veterinary and Animal Sciences*

*Journal of Virological Methods*

### ***Posters and Presentations:***

The use of monoclonal antibodies in the diagnosis of equine influenza virus (H3N8). R. F. Cook, R. Sinclair and J. A. Mumford. 1st International Veterinary Immunology Symposium, University of Guelph, Canada 1986.

The evaluation of antigen presentation and adjuvants for the enhancement of antigenicity and the immunogenicity of equine influenza vaccines. J. . Mumford, R. F. Cook, D. Hannant, D. Jessett, J. Wood and B. Sundqvist. 1st International Veterinary Immunology Symposium, University of Guelph, Canada 1986.

Production and characterization of monoclonal antibodies to subtype 1 and subtype 2 viruses of equid herpes type 1. R. F. Cook, R. Sinclair and J. A. Mumford. 7th International Congress of Virology, Edmonton, Canada. 1987.

The influence of the host cell on the antigenic properties of equine influenza H3N8 virus. R. F. Cook, J. A. Mumford and A. Douglas. 5th International Conference on Equine Infectious Diseases. Kentucky, USA. 1987.

Production and evaluation of an experimental equid type 1 (EHV-1)ISCOM vaccine. R. F. Cook, D. Hannant, J. A. Mumford, B. Sundqvist and B.Klingebourne. 5th International Conference on Equine Infectious Diseases. Kentucky, USA. 1987.

Congenitally infected mosaic transgenic chickens as an *in vivo* model for foreign gene expression. S. Savon, M. D. Hartitz, M. C. McGrane, R. F. Cook, R. Z. Fisk, S. J. Cook, R. W. Hanson and C. P. Hodgson. ICSU Short Reports 10:223. Miami Biotechnology Winter Symposia 1990.

Miami Biotechnology Winter Symposia 1991.

Stability of chimeric gene sequences introduced into poultry using replication competent retroviral vectors. R. F. Cook, S. J. Cook, R. Z. Fisk and C. P. Hodgson. Miami Short Reports 1: 45. Miami Biotechnology Winter Symposia 1991.

Gene expression with retrotransposon vectors. C. P. Hodgson, R. F. Cook and S. J. Cook. Miami Short Reports 1: 44. Miami Biotechnology Winter Symposia 1991.

A hybridization estrogenicity test for xenobiotics. S. J. Cook, R. F. Cook, R. Z. Fisk, S. A. Hines and C. P. . Hodgson. Miami Short Reports 1: 91. Miami Biotechnology Winter Symposia 1991.

Enhancement of disease in Shetland ponies after vaccination with a recombinant baculovirus-expressed glycoprotein subunit antigen. S. Wang, M. Raabe, R. F. Cook, S. Cook, C. Issel., R. Montelaro and K. Rushlow. 11th Annual Meeting of the American Society for Virology. 1992

Molecular characterization of the surface unit (SU) protein from a neutralization sensitive mutant of equine infectious anemia virus (EIAV). R. F. Cook, S. Berger, S. J. Cook, S. Harold, K. E. Rushlow and C. J. Issel. IXth International Congress of Virology, Glasgow, Scotland. 1993.

Direct transfection of equine infectious anemia virus (EIAV) proviral DNA in ponies. Efficiency of replication *in vivo* of dUPTase<sup>+</sup> and dUTPase<sup>-</sup> infectious molecular clones. R. F. Cook, S. J. Cook, D. Lichtenstein, K. E. Rushlow, R. C. Montelaro and C. J. Issel. Oral Presentation. 7th International Conference on Equine Infectious Diseases, Japan. 1994.

Enhanced sensitivity to neutralizing antibodies in a variant of equine infectious anemia virus (EIAV) is linked to amino acid substitutions in the SU protein. R F. Cook, S. Berger, S. J. Cook, S. Harrold, K. E. Rushlow, R. C. Montelaro and C. J. Issel. Poster Presentation. 7th International Conference on Equine Infectious Diseases, Japan. 1994.

Immunity to equine infectious anemia virus. The veritable double edged sword. C. J. Issel, R. F. Cook, S. J. Cook, C. Grund, Z. S. Wang, K. E. Rushlow and R. C. Montelaro. 7th International Conference on Equine Infectious Diseases, Japan. 1994.

The application of PCR to the Diagnosis and control of equine infectious anemia. J. L. Langemeier, R. F. Cook, S. J. Cook and C. J. Issel. 7th International Conference on Equine Infectious Diseases, Japan. 1994.

Genetic determinants of neutralization sensitivity and pathogenesis in equine infectious anemia virus. R. F. Cook. Department of Veterinary Science Seminar Series, University of Kentucky. December, 1994.

*In vitro* and *in vivo* correlates of antibody dependent enhancement of EIAV resulting from baculovirus-expressed glycoprotein subunit vaccines. R., Montelaro, C. Grund, M. Raabe R Cook and C. Issel. Annual Meeting Lab. Tumor Cell Biology NCI/NIH 1995

Characterization of protective and enhancing immune responses resulting from experimental EIAV vaccines. R. C. Montelaro, C. H. Grund, R. F. Cook and C. J. Issel. Comparative Approach to Retroviral Vaccines Foundation Marcel Merieux, Annecy France 1995.

Sensitivity to neutralizing antibodies (nabs) is conferred by interdependent amino acid (aa) substitutions in the surface unit (SU) protein of equine infectious anemia virus (EIAV). R. F. Cook, S. L. Berger, S. J. Cook, R. C. Montelaro and C. J. Issel. American Society for Virology 16th Annual Meeting, Montana State University, Bozeman, Montana. 1997

Differential pathogenicity of equine infectious anemia virus (EIAV) in equids. S. J. Cook, R. F. Cook and C. J. Issel. American Society for Virology 16th Annual Meeting, Montana State University, Bozeman, Montana. 1997

Induction of disease in horses and ponies by molecularly cloned equine infectious anemia virus. R. F. Cook, C. Leroux, S. L. Berger, S. J. Cook, N. N. Ghabrial, R. C. Montelaro and C. J. Issel. 8th International Conference on Equine Infectious Diseases, Dubai, United Arab Emirates. 1998.

Differential pathogenicity of equine infectious anemia virus (EIAV) in equids. S. J. Cook, R. F. Cook and C. J. Issel. 8<sup>th</sup> International Conference on Equine Infectious Diseases, Dubai, United Arab Emirates. 1998.

Molecular approaches to determine mechanisms of pathogenesis and cell tropism in equine infectious anemia virus. R. F. Cook Course V770 Seminar, Gluck Equine Research Center, University of Kentucky. 1999.

RT-PCR in real time: Available instrumentation and a Taqman based assay for the quantitation of EIAV RNA. R. F. Cook. Course V770 Seminar, Gluck Equine Research Center, University of Kentucky. 2001.

Equine clock genes: the horse as a potential model for investigation of human peripheral circadian systems. B. A. Murphy, R.F. Cook and B. P. Fitzgerald. 9<sup>th</sup> Meeting of the Society for Research on Biological Rhythms, Whistler, British Columbia, Canada. 2004.

Oscillating expression of core clock genes in the horse. B. A. Murphy, R. F. Cook, M. M. Vick, D. R. Sessions and B. P. Fitzgerald. Society for Neuroscience 35<sup>th</sup> Annual Meeting, Washington DC, November 2005 Online

Investigation of the equine molecular clock in a fibroblastic cell line, adipose tissue and peripheral blood. B.A. Murphy, M. M. Vick, D. R. Sessions, R. F. Cook, B. P. Fitzgerald. Program Number P600. San Diego, CA: Plant & Animal Genomes XIV Conference, 2006.

Acute systemic inflammation induces upregulation of circadian clock genes *Per2* and *Bmal1* in equine peripheral blood. (2006) B.A. Murphy, M. M. Vick, D. R. Sessions, R. F. Cook, B. P. Fitzgerald. Proc. Soc. Res. Biol. Rhythms Tenth Mtg. Abstr. 221

Equine Infectious Anaemia (Swamp Fever). Update for Veterinary Surgeons-Research Perspectives. Organised by the Irish Thoroughbred Breeders' Association and Veterinary Ireland. R. F. Cook. Killashee House Hotel, Naas, Co. Kildare, Ireland. July 28. 2006

Strategies to enhance efficacy of DNA vaccination in the horse. (2007) D. Even, C. J. Issel and R. F. Cook. The Third International Conference DNA Vaccines. Malaga, Spain.

Equine infectious anemia: Lessons to be learned from Ireland. (2007) R. F. Cook (presented instead of C. J. Issel). Hagyard Bluegrass Equine Symposium. Lexington, Kentucky (October 24-27).

Equine Infectious Anemia: update of the pathogenic, clinical and diagnostic aspects and present epidemiological situation. (2008). C. J. Issel and R. F. Cook. Workshop on Equine Diseases and Surveillance Related Problems. March 17. Rome, Italy.

Gag gene variability of equine infectious anemia (EIA) virus. (2008). K. Cappelli, F. Passamonti, S. Capomaccio, M. Felicetti, M. L. Marenzoni and R. F. Cook. CNBX National Biotechnology Congress. Perugia, Italy. #2.15 September 17-19.

*In vitro* characterization of equine arteritis chimeras derived from infectious cDNA clones. (2009). Y. Y. Go, J. Zhang, P. J. Timoney, D. W. Horohov, R. F. Cook and U. D. R. Balasuriya. The American Society for Virology. 28<sup>th</sup> Annual Meeting. The University of British Columbia, Vancouver, BC. July 11-15.

*In vitro* analysis of virulent and avirulent strains of equine arteritis virus infection in equine peripheral blood mononuclear cells. (2009) Y. Y. Go, P. J. Timoney, D. W. Horohov, R. F. Cook and U. D. R. Balasuriya. The American Society for Virology. 28<sup>th</sup> Annual Meeting. The University of British Columbia, Vancouver, BC. July 11-15.

Increased prevalence of neuropathogenic strains of EHV-1 in equine abortions. K. L. Smith, G. P. Allen, A. J. Branscum, R. F. Cook, M. L. Vickers, P. J. Timoney, and U. B. R. Balasuriya (2009). Increased prevalence of neuropathogenic strains of EHV-1 in equine abortions. 52<sup>nd</sup> Annual AAVLD/USAHA Meeting, October 7<sup>th</sup>-14<sup>th</sup>, 2009, San Diego, CA.



Major and minor envelope proteins of equine arteritis virus determine tropism for peripheral blood mononuclear cells. Y. Y. Go, J. Zhang, P. J. Timoney, R. F. Cook, D. W. Horohov, and U. D. R. Balasuriya (2009) Conference of Research Workers in Animal Disease, December 6<sup>th</sup>-8<sup>th</sup>, Chicago, Illinois.

***GenBank Submission:***

*AF016316*. Equine infectious anemia virus EIAVuk, complete genome. R. F. Cook, C. Leroux, S. J. Cook, S. L. Berger, D. L. Lichtenstein, N. N. Ghabrial, R. C. Montelaro and C. J. Issel.

*AY462242*. Equus caballus leptin mRNA, partial cds. S. E. Reedy, R. F. Cook, M. R. Mousel, and B. P. Fitzgerald.

*AY682849*. Equus caballus interleukin 15 mRNA, partial cds. R. F. Cook, S. J. Cook and K. Stanmyer.

***Patents:***

Following review by the University of Kentucky Intellectual Property Committee patent protection is currently being pursued for:

*An enhanced expression construct encoding equine interleukin 15 (EIL15) as a vaccine adjuvant for stimulating proliferation of horse (Equus caballus) peripheral blood mononuclear cells.*

*An enhanced expression construct encoding horse (Equus caballus) interleukin 7 (EIL-7) as a vaccine adjuvant and general immunotherapy agent.*

**Roberta M. Dwyer, DVM, MS**  
**Diplomate, American College of Veterinary Preventive Medicine/Epidemiology**  
**Associate Professor: 60% Instruction, 30% Extension, 10% Research**

Department of Veterinary Science  
Maxwell H. Gluck Equine Research Center  
University of Kentucky  
Lexington, KY 40546-0099  
(859) 257-4757 x 81122  
rmdwyer@uky.edu

**EDUCATION**

M.S. 1990 University of Kentucky, Lexington, KY  
Thesis: A Three Year Epizootiologic Study of Infectious Diarrhea in Foals in Central Kentucky

DVM 1985 Iowa State University, Ames, IA  
Undergraduate studies 1980-1981 Iowa State University, Ames IA  
1978-1980 Mt. St. Clare College, Clinton, IA

**BOARD SPECIALTY**

Diplomate, American College of Veterinary Preventive Medicine, 1993  
Board Certified Veterinary Epidemiology, 2003 (*This board certification testing is only allowed for eligible Diplomates of ACVPM.*)

**VETERINARY LICENSURE**

Kentucky, Iowa

**AWARDS/HONORS**

General and Command Staff; Planning Section Chief; able to respond to state and regional disasters as a Type II National Incident Management Team member (2008)  
American Horse Publication 2<sup>nd</sup> place award for Service to the Reader, "Horse Diseases and Humans," The Horse, September 2008 edition.  
Gamma Sigma Delta Society Member, 1992-present  
Elected as U.S. representative to the International Society for Animal Hygiene's Extended Board of Directors (2003-2008) [over 40 countries represented]  
Selected in the top six applicants for the University of Kentucky Provost's Outstanding Teaching Award, 2004 and 2005  
Elected Distinguished Practitioner of The National Academies of Practice, 1999  
Iowa State University Distinguished Young Alumnus, 1998  
Association for Women Veterinarians Outstanding Woman Veterinarian Award, 1998  
Kentucky Veterinary Medical Association's Veterinarian of the Year Award, 1997  
Gamma Sigma Delta Master Teacher Award, April 1997

**PROFESSIONAL EXPERIENCE**

**Academic**

7/2005-present Professor, Department of Veterinary Science,  
University of Kentucky.

7/1998-7/2005 Associate Professor, Department of Veterinary Science, University of Kentucky.

2/1992-7/1998 Assistant Professor, Department of Veterinary Science, University of Kentucky.

1992-present Director of Undergraduate Studies, Department of Veterinary Science, University of Kentucky.

1992-present Associate Member, Graduate Faculty, University of Kentucky.

1989-present Pre-Veterinary Advisor for the University of Kentucky and Community Colleges.

1988-1992 Instructor in Veterinary Science Department, University of Kentucky.

November 1986-  
March 1989 Research Veterinarian, Lloyd's of London Foal Enteric Disease Project, University of Kentucky, Gluck Equine Research Center.

**Veterinary/Medical**

1986-1992 Veterinary staff for Rolex International Three-Day Event, Lexington, KY, 1986-1992. Nashville Three-Day Event, 1987-1988.

August 1986-  
November 1986 Relief veterinarian, Pontiac Veterinary Hospital, Pontiac, IL, small animal/equine medicine and surgery.

July 1986 Field experience with Orr-Duff-Howat Associates, Ceres, Scotland; Troyhill Equine Hospital, Co. Kildare; Irish National Stud, Co. Kildare; Coolmore Stud, Co. Tipperary, Ireland.

June 1985-May 1986 Associate veterinarian, Loomis-Novak Veterinary Clinic, Ottawa, IL, small animal/equine medicine and surgery.

October 1984 Preceptorship with Hagyard-Davidson-McGee Associates, Lexington, KY, equine medicine and surgery.

August-September 1984 Preceptorship with S. Lynn Kittleson, DVM, Sherburn, MN, equine medicine and surgery and small animal practice.

Summers 1980-1983 Medical Assistant, Bluff Medical Center, Clinton, IA, for James Lehman, MD, Internal Medicine, also rotating in Surgery, Orthopedics, Otorhinolaryngology, and Family Practice.

**PROFESSIONAL MEMBERSHIPS**

American Veterinary Medical Association

American College of Veterinary Preventive Medicine  
American Association of Equine Practitioners  
American Association of Public Health Veterinarians  
Association for Women Veterinarians (1985-2003 when disbanded)  
Kentucky Association of Equine Practitioners  
Kentucky Veterinary Medical Association  
University of Kentucky Agriculture Alumni Association  
Kentucky Thoroughbred Farm Managers Association Honorary Member  
Lexington Professional Women's Forum member, Program Chair (1992); Chair (1993)

#### **INVITED PEER-REVIEWED PUBLICATIONS**

**R.M. Dwyer.** (2004) Environmental disinfection to control equine infectious diseases. In: *Veterinary Clinics of North America: Equine Practice*, S. Weese and F. Bain (eds.). W.B. Saunders Co., Philadelphia, 20:531-542.

**R.M. Dwyer.** (1995) Disinfectants: Actions and applications, equine facilities. *Rev. sci. tech. Off. int. Epiz.* 14, 403-418 (Official publication of the Office International des Epizooties [Paris]; published in English, French and Spanish).

**R.M. Dwyer.** Rotaviral diarrhea. In: *Veterinary Clinics of North America: Equine Practice*, pp 311-319, J. Traub-Dargatz (ed), 1993, W.B. Saunders Co., Philadelphia.

#### **INVITED PEER-REVIEWS NATIONAL GUIDELINES**

**R.M. Dwyer.** "Biosecurity" and "Diarrheal Diseases" in the American Association of Equine Practitioners' Guidelines on Infectious Disease Control ([www.aaep.org](http://www.aaep.org)). 2006.

#### **INVITED BOOK CHAPTERS**

**R.M. Dwyer.** Equine Rotavirus. In: *Equine Infectious Diseases*. M. Long and D. Sellon (eds), 2007 Elsevier, Philadelphia.

**R.M. Dwyer.** Control of Infectious Disease Outbreaks. In: *Equine Infectious Diseases*. M. Long and D. Sellon (eds), 2007 Elsevier, Philadelphia.

**R.M. Dwyer.** Control of Salmonella and nosocomial infections. In: *Current Therapy in Equine Medicine*, 6th edition. N.E. Robinson and K.A. Sprayberry (eds), 2009 Elsevier, Philadelphia.

**R.M. Dwyer.** Salmonellosis and nosocomial infections. In: *Current Therapy in Equine Medicine*, 6<sup>th</sup> edition, E. Robinson (ed), 2009, Elsevier, Philadelphia.

**R.M. Dwyer.** Control of infectious disease outbreaks. In: *Equine Infectious Diseases*, M. Long, D. Sellon (eds), 2007, Elsevier, Philadelphia, 539-549.

**R.M. Dwyer.** Rotavirus. In: *Equine Infectious Diseases*, M. Long, D. Sellon (eds), 2007, Elsevier, Philadelphia, 181-183.

**R.M. Dwyer.** Foal management, disinfection and hygiene. In: *The Health of Horses*, pp. 234-261, D.G. Powell and S.G. Jackson (eds), 1992, Longmans, London. This book is also published in Spanish, *El Caballo, Salud y Cuidados*.

## **REFEREED PUBLICATIONS**

O. Agricola, C.N. Carter, J.W. Riley, J.L. Smith, **R.M. Dwyer**. (2009) Application of an automated surveillance data-analysis system in a laboratory-based early-warning system for detection of an abortion outbreak in mares. *Am J Vet Res*, 70:247-256.

A. Husband, R. Yeargan, **R. Dwyer**, M. Newman, et al. (2008) Participant manual and instructor notes for the national 2-day program "Strengthening Community Agrosecurity Planning."

**R.M. Dwyer**. (2003) Fitting the pieces of the puzzle: mare reproductive loss syndrome update. *Eq Vet Ed*, 5:56-58.

**R.M. Dwyer**, L. Garber, J. Traub-Dargatz, B.J. Meade, D.G. Powell, M.P. Pavlick, A.J. Kane. (2003) Case-control study of factors associated with excessive proportions of early fetal losses associated with mare reproductive loss syndrome in central Kentucky during 2001. *J Am Vet Med Assoc*, 222:613-619.

H.C. Schott, S.L. Ewart, R. D. Walker, **R.M. Dwyer**, S. Dietrich, S. Eberhart, J. Kusey, J. Stick, F. Derksen. (2001) An outbreak of salmonellosis among horses at a veterinary teaching hospital. *J Am Vet Med Assoc*, 218:1152-1159. (*Was the outside consultant for this outbreak which closed the large animal and equine clinics at Michigan State University. Developed disinfection and management protocols which were successfully utilized in the cleanup.*)

S.L Ewart, H.C. Schott, R.L. Robison, **R.M. Dwyer**, S.W. Eberhart, R.D. Walker. (2001) Identification of sources of *Salmonella* organisms in a veterinary teaching hospital and evaluation of the effects of disinfection on detection of *Salmonella* organisms on surface materials. *J Am Vet Med Assoc*, 218:1145-1151. (*Refer to Schott paper above; researched literature review.*)

D.G. Powell, **R.M. Dwyer**, J.L. Traub-Dargatz, R.H. Fulker, J.W. Whalen, J. Srinivasappa, W.M. Acree, H. Chu. (1997) A field safety, immunogenicity and efficacy study of an inactivated equine rotavirus vaccine. *J Am Vet Med Assoc*, 211, 193-198. (*Performed 50% of all field investigations, sampling of 150 mares and foals; data analysis.*)

M.E. Hardy, G.N. Woode, Z.C. Xu, J.D. Williams, M.E. Conner, **R.M. Dwyer**, D.G. Powell. (1991) Analysis of serotypes and electropherotypes of equine rotaviruses isolated in the United States. *J. Clin. Microbiol.*, 29:889-893. (*Collected and cataloged samples in central Kentucky for analysis.*)

**R.M. Dwyer**. (1991) Rotavirus diarrhea outbreaks in foals: Recommended controls and management. *Vet. Med.*, 86:198-202.

**R.M. Dwyer.** (1990) Methods of environmental disinfection and sanitation during foal diarrhea outbreaks. *Proc. American Association of Equine Practitioners*, pp. 691-694. (Note: The *Proceedings* were refereed in 1990.)

**R.M. Dwyer, D.G. Powell, W. Roberts, M. Donahue, E.T. Lyons, M. Osborne, G.N. Woode.** (1990) A study of the etiology and control of infectious diarrhea among foals in central Kentucky. *Proc. American Association of Equine Practitioners*, pp 337-355. (Note: The *Proceedings* were refereed in 1990.)

D.G. Powell, J.M. Donahue, K. Ferris, M. Osborne, **R.M. Dwyer.** (1988) An epidemiological investigation of equine salmonellosis in central Kentucky during 1985 and 1986. *Equine Infectious Diseases V, Proceedings of the 5th International Conference on Equine Infectious Diseases*, pp 231-235. (Note: This is a refereed *Proceedings*.) (*I performed data organization and analysis.*)

#### **INVITED EDITORIAL IN REFEREED PUBLICATION**

**R.M. Dwyer.** (1991) Expanding knowledge on the etiologies of infectious foal diarrhea. (editorial) *Eq. Vet. J.*, 23:397-398.

#### **INTERNATIONAL PRESENTATIONS and POSTERS**

##### **\*Indicates invited presentations**

##### **Presentations**

**R. Dwyer.** "Agroterrorism and veterinarians." St. George's School of Veterinary Medicine, April 2008.

D.C. Hall, J.M. Donahue, B.J. Smith, **R.M. Dwyer.** Leptospira-induced abortions in Thoroughbred mares. World Equine Veterinary Association Congress, Marrakech, Morocco, January 2005. Presenter of paper. [**Abstract:** *Proceedings.*]

**\*R.M. Dwyer.** "Equine Infectious Disease Prevention and Control" and "Epidemiology of Selected Equine Diseases." Veterinary Certification Program for Equine Ranch Herd Health Review, Wyeth Organics. Four sets of lectures in Manitoba, Saskatchewan and Alberta, Canada during October 2003. These lectures were part of a full day course required to be attended by veterinarians serving pregnant mare urine farms in Canada and North Dakota.

**R.M. Dwyer.** "What's the Latest on MRLS?" 6<sup>th</sup> International Conference on Equine Exercise Physiology, Lexington, KY, September 2002.

**R.M. Dwyer, L. Garber, J. Traub-Dargatz, B. Meade, M. Pavlick, J. Walker.** "An Epidemiological Investigation of Mare Reproductive Loss Syndrome: Breaking Ground on a New Disease." Society for Veterinary Epidemiology and Preventive Medicine Annual Conference, Cambridge, England, April 2002. [**Abstract:** *Proceedings* pp 44-47.]

**\*R.M. Dwyer.** "Mare reproductive loss syndrome update" and "Clostridial Diarrhea in Foals." Newmarket, England, April 2002.

\***R.M. Dwyer.** "Update on Mare Reproductive Loss Syndrome." Jockey Club of America presentation for Caribbean and Central American Racing Officials. Lexington, KY, July, 2001.

**R.M. Dwyer.** "Animal Hygiene and Effective Disinfection in Equine Facilities." Xth International Congress on Animal Hygiene, Maastricht, Netherlands, July 2000. [Abstracts: *Proceedings* pp 254-257.]

D.G. Powell, **R.M. Dwyer.** "Vaccination, Hygiene and Management." Equine infectious diseases, Post-Graduate Foundation in Veterinary Science, University of Sydney, Australia, February 1998; presentation by D.G. Powell. [*Proceedings* pp 71-85.]

**R.M. Dwyer,** D.G. Powell, R.H. Fulker, J. Whalen, J. Traub-Dargatz. "Safety and Efficacy Studies on an Equine Rotavirus Vaccine." British Equine Veterinary Association 36th Congress, Harrogate, Great Britain, September 1997.

**R.M. Dwyer.** "Rotavirus Epidemiology, Prevention and Control." World Equine Veterinary Association Congress, Padova, Italy, September 1997.

L.J. Saif, **R.M. Dwyer,** F. Fernandez. "Update on Equine Rotavirus and Serum Antibody Responses in Infected Foals." XIII Pan American Congress of Veterinary Services, Santiago, Chile, October 1992, presented by L.J. Saif. [Abstract: *Proceedings*, p C19.]

**R.M. Dwyer.** "Epidemiology of Infectious Foal Diarrhea." Second International Conference on Veterinary Perinatology, Cambridge, England, July 1990. [Abstract: *Proceedings*, p 48.]

**R.M. Dwyer.** "Epidemiology of Equine Rotavirus." International Equine Rotavirus Workshop, Lexington, KY, June 1989.

**R.M. Dwyer.** "A Three Year Investigation into the Epizootiology of Foal Enteric Disease in Central Kentucky." Irish Veterinary Centenary Congress, Dublin, Ireland, September 1988. [Abstract: *Proceedings*, p U.]

### Posters

**R.M. Dwyer,** D.G. Powell, R.H. Fulker, J. Whalen, J. Traub-Dargatz. "Results of an Equine Rotavirus Vaccine Field Trial" poster. World Equine Veterinary Association Congress, Padova, Italy, September 1997.

**R.M. Dwyer,** J.M. Donahue, K.E. Ferris, M.E. Petrites-Murphy. "Review of Equine Salmonellae Serotypes Causing Outbreaks of Disease: Disinfection and Management Protocols for Use in Equine Disease Outbreaks" poster. IX International Society for Animal Hygiene Congress, Helsinki, Finland, August 1997. [Abstract: *Proceedings*, pp 770-773.]

**R.M. Dwyer.** "Post Mortem Diagnoses of Foals One Day to 6 Months of Age in Central Kentucky During 1987." First International Veterinary Perinatology Conference, Orlando, FL, January 1988.

**R.M. Dwyer.** "An Investigation of the Etiology of Diarrhea Among Foals in Central Kentucky." First International Veterinary Perinatology Conference, Orlando, Florida, January 1988; and Fifth International Conference on Equine Infectious Diseases, Lexington, KY, October 1987.

**R.M. Dwyer.** "Evaluation of Two Commercially Available Kits for the Detection of Rotavirus in Feces of Healthy and Diarrheic Foals." First International Veterinary Perinatology Conference, Orlando, FL, January 1988; and Fifth International Conference on Equine Infectious Diseases, Lexington, KY, October 1987.

### **INVITED KEYNOTE SPEAKER**

"The Real World of Veterinary Medicine." Auburn University College of Veterinary Medicine Fall Fest, Auburn, AL, September 1999.

"Rotavirus," "Infectious Disease Outbreak Investigation," "Control and Prevention: Vaccination Strategies." 13th Annual Equine Medicine Symposium, North Carolina College of Veterinary Medicine, Raleigh, NC, February 1997. [**Abstracts; Proceedings,** pp 1-2, 31-34.]

"Diagnosis and Treatment of Foal Diarrhea," "Disease Outbreaks: Control and Management," "Disease Outbreaks: Prevention/Case Studies," "Practical Pros and Cons of Disinfectants Used on Horse Facilities." 1996 Michigan Veterinary Conference, Lansing, MI, January 1996. [**Abstracts: Proceedings,** pp 93-100.]

### **NON-REFEREED/EXTENSION PUBLICATIONS**

**R.M. Dwyer** (April 2010) Commentary. *Lloyd's Equine Disease Quarterly*.

**R.M. Dwyer** (April 2010) Rabies in the US and Puerto Rico. *Lloyd's Equine Disease Quarterly*.

**R.M. Dwyer, et. al.** (2010) Horse Transmitted Diseases brochure. UK HealthCare/Saddle Up Safely Consortium.

**R.M. Dwyer, et. al.** (2009) Horseback Riding Safety/Saddle Up Safely brochure. UK HealthCare/Saddle Up Safely Consortium.

**R.M. Dwyer, D. Bixby-Hammett** (July 2009) Horse-Related Human Injuries. *Lloyd's Equine Disease Quarterly*.

**R.M. Dwyer** (July 2009) Risk Reduction. *Lloyd's Equine Disease Quarterly*.

**R.M. Dwyer, M. Newman.** (April 2009) Anatomy of a Disaster. *Lloyd's Equine Disease Quarterly*.

**R.M. Dwyer** (January 2009) Commentary. *Lloyd's Equine Disease Quarterly*.

**R.M. Dwyer.** (September 2008) Horse diseases and humans. *The Horse* pp 28-32.

Camargo-Stutzman, F., Coleman, R., **Dwyer, R.** (2008) Equine emergency and disaster preparedness. Extension publication ID 173.

S. Higgins, **R. Dwyer.** (2008) Using dry lots to conserve pastures and reduce pollution potential. Extension publication ID 171.

**R.M. Dwyer** (April 2008) Commentary. *Lloyd's Equine Disease Quarterly*.

**R.M. Dwyer** (January 2008) Glanders fast facts. *Lloyd's Equine Disease Quarterly*.

**R.M. Dwyer** (October 2007) Commentary. *Lloyd's Equine Disease Quarterly*.

**R.M. Dwyer** (October 2007) Disinfection is Not a Dirty Word. *The Horse*, pp 67-73.



- R.M. Dwyer** (July 2007) Commentary. *Lloyd's Equine Disease Quarterly*.
- R.M. Dwyer** (July 2007) Wildfires. Droughts and Lightning. *Lloyd's Equine Disease Quarterly*.
- R.M. Dwyer** (April 2007) Commentary. *Lloyd's Equine Disease Quarterly*.
- R.M. Dwyer** (April 2007) Earthquake Preparations. *Lloyd's Equine Disease Quarterly*.
- R.M. Dwyer** (January 2007) Commentary. *Lloyd's Equine Disease Quarterly*.
- R. Gimenez, **R.M. Dwyer**. Emergency Training Emphasizes Horse Handling Skills, Practical Equipment. *The Horse* on-line news, article 7611, 3/29/06 (distribution of 100,000+ subscriptions).
- R.M. Dwyer**. (April 2005) Risk reduction. *Lloyd's Equine Disease Quarterly*.
- R.M. Dwyer**. (April 2004) Commentary. *Lloyd's Equine Disease Quarterly*.
- R.M. Dwyer**. (January 2004) Rotavirus Vaccination in Foals. *Lloyd's Equine Disease Quarterly*.
- R.M. Dwyer**. (September 2003) Disaster preparedness: I never thought it would happen to me. *The Horse*, pp 73-77.
- R.M. Dwyer**. (July 2003) Commentary. *Lloyd's Equine Disease Quarterly*.
- R.M. Dwyer**. American Association of Equine Practitioners (2002) Emergency and Disaster Preparedness Guidelines. "Resource Links for Disaster and Emergency Management."
- R.M. Dwyer**, J.M. Donahue (October 2002) Equine Salmonellosis in the US and Kentucky. *Lloyd's Equine Disease Quarterly*.
- R.M. Dwyer**. (November 2001) The Making of a Veterinarian. *The Horse*, pp 52-64.
- R.M. Dwyer**. (October 2001) MRLS Epidemiological Study. *Lloyd's Equine Disease Quarterly*.
- R.M. Dwyer**, M. Auslander. (July 2001) Equine Rabies 1999. *Lloyd's Equine Disease Quarterly*.
- R.M. Dwyer**. (October 2000) Drugs and Show Horses. *Lloyd's Equine Disease Quarterly*.
- R.M. Dwyer**. (August 2000) Bits and Pieces [preventive medicine tips]. *The Horse Journal*, p 10.
- R.M. Dwyer**. (July 2000) Nurse Mares. *Lloyd's Equine Disease Quarterly*.
- R.M. Dwyer**. (June 2000) When Should I Call the Vet? *The Horse*, p 122.
- R.M. Dwyer**. (April 2000) Botulism: A Shaky Proposition. *The Horse Journal*, p 14.
- R.M. Dwyer**. (April 2000) Equine Rabies: Old Disease, New Risks. *Lloyd's Equine Disease Quarterly*.
- R.M. Dwyer**. (March 2000) So You Want to Be an Equine Veterinarian? *The Horse Journal*.
- R.M. Dwyer**. (March 2000) Foal Diarrhea. *The Horse*, pp 57-62.
- R.M. Dwyer**. (February 2000) An Ounce of Prevention...[article on preventive medicine]. *The Horse Journal*, p 14.
- R.M. Dwyer**. (November 1999) Lots of Elbow Grease for Disinfection Project. *The Horse*, pp 67-80.
- R.M. Dwyer**. (October 1999) Horse Barn Fires in Kentucky. *Lloyd's Equine Disease Quarterly*.
- R.M. Dwyer**. (April 1999) Equine Rabies, 1997. *Lloyd's Equine Disease Quarterly*.
- R.M. Dwyer**. (January 1999) EEE/WEE Update. *Lloyd's Equine Disease Quarterly*.
- R.M. Dwyer**. (November 1998) 2012 Summer Olympics; Alphavet Soup (article on veterinary educational degrees) 2 articles in *The Horse*, pp 15, 74.
- R.M. Dwyer**. (October 1998) Veterinary Disaster Preparedness. *Lloyd's Equine Disease Quarterly*.
- R.M. Dwyer**. (October 1998) Fall Cleaning (article on disinfection). *The Horse Journal*, p 6.

- R.M. Dwyer.** (August 1998) Responsible Drug Use. *The Horse*, pp 35-42.
- R.M. Dwyer.** (May 1998) Major Disasters-1997. *KVMA News*, p 945.
- R.M. Dwyer.** (May 1998) If One Pill is Good...(article on over-the-counter drugs). *The Horse*, p 10.
- R.M. Dwyer.** (March 1998) 'Tis the Season...for Rotavirus. *AAEP Report*, p 12.
- R.M. Dwyer.** (February 1998) Foal Diarrhea: An Ever Present Threat. *The Horseman's Journal*, p 1.
- R.M. Dwyer.** (September 1997) Nuggets of Knowledge: The 1997 AVMA Convention. *The Horse*, p 15.
- R.M. Dwyer.** (July 1997) Rabies--A Threat in Kentucky. *The Horseman's Journal*, p 14.
- R.M. Dwyer.** (July 1997) Vesicular Stomatitis Alert. *The Horseman's Journal*, p 1.
- R.M. Dwyer.** (July 1997) When it Rains it Pours: Dealing with the Aftermath of Flooding. *The Horse*, pp 8,10.
- R.M. Dwyer.** (July 1997) Survey Results. *Lloyd's Equine Disease Quarterly*.
- R.M. Dwyer.** (July 1997) Commentary. *Lloyd's Equine Disease Quarterly*.
- R.M. Dwyer.** (July 1997) How Well Are Veterinarians Prepared? (article on disaster preparedness) *Kentucky Veterinary News*, p 897.
- R.M. Dwyer, M.L. Vickers.** (January 1997) Ophthalmic Disease Outbreak. *Lloyd's Equine Disease Quarterly*.
- R.M. Dwyer.** (October 1996) *Rhodococcus equi*: A Killer That Lurks in the Dust. *The Horse*, pp 33-36.
- R.M. Dwyer, M. Donahue.** (October 1996) Equine Salmonellosis: Central Kentucky and US. *Lloyd's Equine Disease Quarterly*.
- R.M. Dwyer.** (October 1996) Commentary. *Lloyd's Equine Disease Quarterly*.
- R.M. Dwyer.** (September 1996) Equine Rotavirus Vaccine. *Standardbred Breeders Newsletter*.
- R.M. Dwyer.** (August 1996) American College of Veterinary Internal Medicine Forum Report. *The Horse*, p 11.
- R.M. Dwyer.** (July 1996) Disinfection of Equine Facilities. *Lloyd's Equine Disease Quarterly*.
- R.M. Dwyer.** (April 1996) Rotavirus Vaccine. *Lloyd's Equine Disease Quarterly*.
- R.M. Dwyer.** (March 1996) On the Road Again. (article on equine transportation) *The Horse*, p 70.
- K. Herbert, R.M. Dwyer, T. Brockhoff, K. Ingwell.** (January 1996) 1996 AAEP Convention Roundup. *The Horse*, pp 49-54.
- R.M. Dwyer.** (January 1996) VEE: The Current Outbreak. *Lloyd's Equine Disease Quarterly*, Volume 4.
- R.M. Dwyer.** (December 1995) Veterinary-Client-Patient Relationship. *The Horse*, p 62.
- R.M. Dwyer.** (August 1995) Veterinary Involvement in Human Health Care Education. *Kentucky Medical News*.
- R.M. Dwyer.** (July 1995) Diarrhea Among Young Foals. *Lloyd's Equine Disease Quarterly*.
- R.M. Dwyer.** (July 1995) Cutting the Apron Strings: Weaning Safety for Foals and Mares. *The Horse*, pp 30-31. Also reprinted in *Canadian Thoroughbred Times*, February 1996.
- R.M. Dwyer.** (June 1995) Accurate Advice for Immunocompromised Clients. *Kentucky Veterinary News*, p 811.
- R.M. Dwyer.** (May 1995) The Veterinary Alphabet. (explanation of veterinary and academic degrees) *The Horse*, p 9.
- R.M. Dwyer.** (May 1995) A Sharp Predicament. (article on the safe disposal of needles and sharps by horse owners) *The Horse*, p 38.
- R.M. Dwyer.** (April 1995) Disasters: Advanced Planning is the Key. *The Horse*, pp 34-35.
- R.M. Dwyer.** (January 1995) Botulism: A Continuing Threat. *Lloyd's Equine Disease Quarterly*.

- R. M. Dwyer.** (October 1994) 1993 EEE/WEE Update. *Lloyd's Equine Disease Quarterly*.
- D. Powell and **R.M. Dwyer.** (October 1994) The 1994 Foaling Season. *Lloyd's Equine Disease Quarterly*.
- R. M. Dwyer** and M. Donahue. (October 1994) Salmonella Update. *Lloyd's Equine Disease Quarterly*.
- R. M. Dwyer.** (October 1994) Fatal Salmonellosis in Two Foals. *Lloyd's Equine Disease Quarterly*.
- M. Petrites-Murphy and **R.M. Dwyer.** (April 1994) Anaphylactic Reactions: Rare, but Sometimes Lethal. *Lloyd's Equine Disease Quarterly*.
- R.M. Dwyer.** (January 1994) Rabies Update. *Lloyd's Equine Disease Quarterly*.
- R.M. Dwyer.** (October 1993) Yew Poisoning in Horses. *Lloyd's Equine Disease Quarterly*.
- R.M. Dwyer,** L. Harrison. (October 1993) Post Partum Deaths of Mares. *Lloyd's Equine Disease Quarterly*.
- R.M. Dwyer,** M. Petrites-Murphy. (July 1993) Septicemic Foals. *Lloyd's Equine Disease Quarterly*.
- R.M. Dwyer.** (July 1993) Commentary. *Lloyd's Equine Disease Quarterly*.
- R.M. Dwyer.** (April 1993) Equine Encephalomyelitis: Fewer cases in 1992. *Lloyd's Equine Disease Quarterly*.
- T. Swerczek, **R.M. Dwyer.** (January 1993) Botulism: A Threat to Foals. *Lloyd's Equine Disease Quarterly*.
- M. Donahue, **R.M. Dwyer.** (January 1993) Salmonellosis: A Cyclical Disease. *Lloyd's Equine Disease Quarterly*.
- R.M. Dwyer.** (October 1993) Equine Encephalomyelitis: Few Cases in 1992. *Lloyd's Equine Disease Quarterly*.
- R.M. Dwyer.** (1993) Squeaky Clean Stalls. *Large An Vet*, 48:8-10.
- R.M. Dwyer.** (1993) Preventing Disease: A practical Protocol. *Modern Horse Breeding* pp 17-22.
- R.M. Dwyer.** (1992) Rabies - A Continued Threat from Wildlife. *Lloyd's Equine Disease Quarterly*.
- R.M. Dwyer.** (1992) Rotavirus - Foals Remain at Risk. *Lloyd's Equine Disease Quarterly*.
- R.M. Dwyer.** (June 1992) An Ounce of Prevention. *Kentucky Thoroughbred Farm Manager's Newsletter*, p 3.

## **LECTURES, POSTERS AND PRESENTATIONS**

### **\*Indicates invited presentations**

#### **National meetings**

##### **\*Indicates invited presentations**

**\*R. Dwyer,** A. Husband, R. Yeagan, M. Newman, co-presenters of a 2-day national program, "Strengthening Community Agrosecurity Planning." Las Cruces, NM, Kalamazoo, MI, Lancaster, PA (2009), Honolulu and Hilo, HI (2010).

\* T. Chambers, **R. Dwyer.** Equine Influenza webinar sponsored by The Horse Magazine (2008).

**\*R. Dwyer,** A. Husband, R. Yeagan, M. Newman, co-presenters of a 2-day national program, "Strengthening Community Agrosecurity Planning." Las Cruces, NM, Kalamazoo, MI, Lancaster, PA (2009), Honolulu and Hilo, HI (2010).

A. Husband, \***R. Dwyer**. “EDEN Agrosecurity course and extension education” (2.5 hour presentation) National Association of County Agriculture Agents, Greensboro, NC July 2008

**R. Dwyer** presented the paper “Trace” benzoylecgonine identifications in post-race urines: Probable sources and regulatory significance of such identifications” for Dr. Fernanda Camargo at the 2006 American Association of Equine Practitioners Convention, San Antonio, TX.

\***R.M. Dwyer** and N. Slovis. “Community Disaster Planning Table Topic” discussion. American Association of Equine Practitioners Convention, Seattle, WA, December 2005.

\***R.M. Dwyer** and J. Hamilton. “Community Disaster Planning for Equine Practitioners Table Topic” discussion. American Association of Equine Practitioners Convention, Denver, CO, December 2004.

\***R.M. Dwyer**. “Physical Examination of the Horse.” American Association of Equine Practitioners Owner Education Conference, Lexington, KY, May 2005.

\***R.M. Dwyer** and J. Hamilton. “Veterinary Disaster Preparedness Table Topic” discussion. American Association of Equine Practitioners, New Orleans, LA, November 2003.

\***R.M. Dwyer**. “Footbaths: Do They Work or Not?” Dorothy R. Havemeyer Workshop: Nosocomial Infections and Biosecurity for Equine Hospitals, Lexington, KY, October 2003. (*This workshop is a group of ~14 experts in the field who are invited to share knowledge and determine the status of research in the area.*)

**R.M. Dwyer**. “Epidemiological Correlates of the 2001 and 2002 Episodes of Mare Reproductive Loss Syndrome.” First Workshop on Mare Reproductive Loss Syndrome, Lexington, KY, October 2002. [**Abstract:** *Proceedings*, pp 34-36.]

**R.M. Dwyer**. “MRLS Update.” American Veterinary Medical Association, Nashville, TN, July 2002.

**R.M. Dwyer**. “Epidemiologic Investigation of Mare Reproductive Loss Syndrome.” American College of Veterinary Internal Medicine Convention, Houston, TX, May 2002. [**Abstract:** *Proceedings* on ACVIM CD.]

**R.M. Dwyer**. “Control and Prevention of Foal Diarrhea Outbreaks.” American Association of Equine Practitioners Convention, San Diego, CA, December 2001. [**Abstract:** *Proceedings*, pp 472-475.]

L.R. Harrison, D.C. Bolin, J.M. Donahue, **R.M. Dwyer**, R.C. Giles, J.H. Hemming, C.B. Hong, K.J. McDowell, K. Newman, K.B. Poonacha, D.G. Powell, J.F. Roberts, M.M. Sebastian, S.F. Sells, B.J. Smith, R.A. Smith, T.W. Swerczek, T. Tobin, R.R. Tramontin, M.L. Vickers, N.M. Williams. Kentucky Equine Abortion Storm and Related Conditions.

American Association of Veterinary Laboratory Diagnosticians 44<sup>th</sup> Annual Meeting, Hershey, PA, October 2001. [**Abstract:** *Proceedings*, p 90.] Presented by L. Harrison.

\***R.M. Dwyer.** "Stall/Animal Disinfection." The Commission Veterinarian/Equine Medical Director 2001: A Short Course. Louisville, KY, May 2001. [**Abstract:** *Proceedings*, pp 11-12.]

**R.M. Dwyer.** "How to Deal with a Raging, Out of Control Equine Infectious Disease Outbreak." Student Chapter of the American Veterinary Medical Association, Ames, IA, March 2001.

**R.M. Dwyer.** "Corralling Strangles Outbreaks" "Disinfection Protocols for Disease Prevention" "Practical Disease Control: Case Presentations." North American Veterinary Convention, Orlando, FL, January 2001. [**Abstracts:** *Proceedings*, pp 1-5].

**R.M. Dwyer.** "Outbreak: Controlling Salmonellosis, Strangles, and Other Contagious Diseases," "Equine Infectious Disease Update," "Etiologies of Foal Diarrhea." 2000 American Veterinary Medical Association Convention, Salt Lake City, UT, July 2000. [**Abstracts:** *Proceedings*, pp 505-510].

\***R.M. Dwyer** and T. Cordes. "Infectious Diseases, What's Hot, What's Not." American Association of Equine Practitioners, Albuquerque, NM, December 1999.

\***R.M. Dwyer.** "Foal Vaccination," "Diagnosis of Foal Diarrhea," "Prevention and control of Strangles," "Contagious Disease Control on the Farm," "Equine Infectious Disease Update (EIA, Rabies, EEE/WEE, etc)," "Practical Disinfection Techniques to Use on the Farm." Central Veterinary Convention, Kansas City, MO, August, 1999. [**Abstracts:** in *Proceedings*, pp 454-468.]

\***R.M. Dwyer.** "Animals in Disasters." American Society of Public Administrations' Annual Convention, Orlando, FL, April, 1999.

\***R.M. Dwyer.** "Disinfectants in Equine Facilities," "Equine *Salmonella* Outbreaks," "Rotavirus Disease and Vaccination," "EEE, WEE and Rabies," "Dealing with *S. equi* Outbreaks," and "Dealing with Difficult and Dangerous People." 1999 Western Veterinary Conference, Las Vegas, NV, February 1999.

\***R.M. Dwyer.** "Foal Diarrhea--Diagnosis and Management." Invited Presenter for shortcourse co-sponsored by The International Committee on Equine Reproduction and Hagyard-Davidson-McGee, Lexington, KY, October 1997.

**R.M. Dwyer,** D.G. Powell, R.H. Fulker, J. Whalen, J. Traub-Dargatz. "Safety and Initial Results of an Equine Rotavirus Vaccine." American Association of Equine Practitioners Convention, Denver, CO, December 1996. [**Abstract:** *Proceedings*, pp 316-317.]

**R.M. Dwyer.** "OUTBREAK! Controlling Contagious Diseases," and "A New Viral Cause of Foal Diarrhea?" American College of Veterinary Internal Medicine Forum, San Antonio, TX, May 1996. [**Abstracts:** *Proceedings ACVIM*, pp 422, 543.]

- \*R.M. Dwyer.** "The Changing Role of Women in Veterinary Medicine." Student Chapter of the American Veterinary Medical Association 1995 Symposium, Urbana, IL, March 1995.
- \*R.M. Dwyer.** "Overview of Mammalian Diseases." First Eastern Nuisance Wildlife Control Operators' Shortcourse, Lexington, KY, February 1994.
- R.M. Dwyer.** "Practical Management of Disinfection of Horse Facilities." American Veterinary Medical Association Convention, Minneapolis, MN, July 1993.
- R.M. Dwyer.** "Epidemiology of Foal Diarrhea." American Veterinary Medical Association Convention, Minneapolis, MN, July 1993.
- R.M. Dwyer, F. Fernandez, K. Gadfield, L. Saif.** "A Survey of Antibody Titers to Rotavirus in Acute and Convalescent Serum of Infected Foals." American Association of Equine Practitioners Convention, Orlando, FL, December 1992. [**Abstract:** *Proceedings*, p 175.]
- R.M. Dwyer.** "Practical Methods of Disinfection and Management During Infectious Disease Outbreaks." American Association of Equine Practitioners Convention, Orlando, FL, December 1992. [**Abstract:** *Proceedings*, pp 381-388.]
- T.C. Chambers, R.M. Dwyer, D.G. Powell, K. Franklin.** "Vaccine Efficacy Against Equine Influenza." American Society for Virology, Cornell University, Ithaca, NY, July 1992. Presented by T. Chambers.
- R.M. Dwyer.** "A Study of the Etiology and Control of Infectious Diarrhea Among Foals in Central Kentucky." American Association of Equine Practitioners Convention, Lexington, KY, December 1990.
- \*R.M. Dwyer.** "Epidemiologic Survey of Foal Diarrhea Outbreaks - Methods of Environmental Disinfection and Sanitation." Panel discussion, American Association of Equine Practitioners Convention, Lexington, KY, December 1990.
- R.M. Dwyer.** "Infectious Foal Diarrhea: A Three Year Study of Epidemiology and Prevention." American College of Veterinary Internal Medicine Forum, Washington, DC, May 1990. [**Abstract:** *Proceedings*, pp 569-571.]

### **State/Regional Meetings**

- R. Dwyer, A. Husband, R. Yeargan, M. Newman.** Strengthening Community Agrosecurity Planning 2-day workshop presentations.  
2008 Las Cruces, NM  
2009 Kalamazoo, MI and Lancaster, PA  
2010 Honolulu, HI and Hilo, HI

**R. Dwyer.** Biosecurity and Salmonellosis (Jan. 2007) Gluck Equine Research Center and LDDC joint seminar series.

**R. Dwyer.** Practical Biosecurity for Horse Farms (2007). KY Equine Management Internships.

**R.M. Dwyer.** "Update on Salmonellosis and Biosecurity," Kentucky Thoroughbred Farm Mangers Club, Lexington, KY, February 2004.

**R.M. Dwyer.** "Practical Biosecurity for Equine Facilities," "Disaster Planning and Emerging Diseases" and "Old Diseases that Won't Go Away: Rabies, Strangles and More." Iowa Veterinary Medical Association, Ames, IA, September 2003.

**R.M. Dwyer.** Panel Discussion on Mare Reproductive Loss Syndrome. Mid America Veterinary Convention, Louisville, KY, October 2002.

**R.M. Dwyer.** "What Do We Now Know About Mare Reproductive Loss Syndrome?" Morehead State University Field Days, Morehead, KY, October 2002.

**\*R.M. Dwyer.** Topics in veterinary medicine: Mare reproductive loss update. 2 presentations sponsored by Northwestern Wisconsin Veterinary Medical Association and Marshfield Medical Research Foundation. Baldwin, WI and Waukesha, WI, September 2002.

**R.M. Dwyer.** "Veterinary Perspectives on Animals in Disasters." Scott County Emergency Management and KY Veterinary Medical Association co-sponsored ½ day workshop, Georgetown, KY, October 2000. I was lead organizer of the event.

**\*R.M. Dwyer.** "Rotavirus Update" and "Dealing with Difficult and Dangerous People: Responsibility vs Response Ability." Mid-America Veterinary Convention, Louisville, KY, October 2000. (**Abstracts:** *Proceedings*, pp 185-187.)

**\*R.M. Dwyer.** "Equine Vaccination Protocols: An Ever Changing Phenomenon," "Foal Diarrhea: Etiology and Prevention," "The Hot Zones: Equine Infectious Diseases Update," and "Prevention and Control of Salmonellosis and Strangles Outbreaks." Purdue University's 88<sup>th</sup> Fall Annual Conference, West LaFayette, IN, September 2000. [**Abstracts:** *Proceedings*.]

**\*R.M. Dwyer.** "Veterinary Perspectives on Bioterrorism." Governor's 2000 Emergency Management Workshop, Lexington, KY, June 2000.

**\*R.M. Dwyer.** "Update on Kentucky's Veterinary Disaster and Emergency Response Plan." Mid-America Veterinary Convention, Covington, KY, October 1998.

**\*R.M. Dwyer.** "Rotavirus Diarrhea Prevention: A New Vaccine." Chester County, Pennsylvania Equine Practitioners meeting, West Chester, PA, November 1996.

**\*R.M. Dwyer.** "Equine Infectious Disease Update." 1996 Mid-America Veterinary Conference, Lexington, KY, October 1996. [**Abstract:** *Proceedings*, pp 20-23.]

**\*R.M. Dwyer.** "Equine Rotavirus Vaccine Field Trial: A 10-Year Endeavor." Fort Dodge Laboratories Administration Conference, Fort Dodge, IA, March 1996.

**\*R.M. Dwyer.** "Rotavirus Diarrhea in Foals." University of Tennessee College of Veterinary Medicine, Student Chapter of the American Association of Equine Practitioners, Knoxville, TN, October 1993.

**\*R.M. Dwyer.** "Things That No One Teaches You in Veterinary School." University of Tennessee College of Veterinary Medicine, Student Chapter of the American Veterinary Medical Association, Knoxville, TN, October 1993.

**\*R.M. Dwyer.** "Disinfection and Control of Infectious Disease Outbreaks." Department of Veterinary Science/Kentucky Equine Practitioners Association joint meeting, Lexington, KY, February 1992.

**\*R.M. Dwyer.** "Rabies and Salmonellosis: Zoonotic Diseases of Concern." Kentucky Chapter of the American Association of Laboratory Animal Science, Lexington, KY, March 1991.

**\*R.M. Dwyer.** "The Thoroughbred Industry in Central Kentucky." Lecture and Gluck tour. Southern Section of the American Society of Plant Physiologists, Lexington, KY, February 1991.

**\*R.M. Dwyer.** "Hygiene and Immunization Program to Minimize Disease in Young Horses." Kentucky Quarter Horse Breeders' Association Annual Meeting, Bowling Green, KY, January 1991.

### **Local Meetings**

**R.M. Dwyer.** Epidemiologic Studies of Mare Reproductive Loss Syndrome. Two presentations at the Keeneland Pavilion to open public forums which were nationally and locally televised, Lexington, KY, May 2001.

**\*R.M. Dwyer.** Presentation for invited farm managers organized by Lane's End Farm on eastern tent caterpillar control, October 2001.

**\*R.M. Dwyer.** "Disease Prevention and Management." Kentucky Equine Management Institute (KEMI) program, Lexington, KY, March 2000.

**\*R.M. Dwyer.** "Management of Foal Diarrhea." Invited Presenter for shortcourse co-sponsored by The International Committee on Equine Reproduction and Hagyard-Davidson-McGee, Lexington, KY, October 1997. This presentation was made for farm managers.

**R.M. Dwyer, D.G. Powell.** "Safety and Efficacy of a New Equine Rotavirus Vaccine." Kentucky Association of Equine Practitioners and Thoroughbred Farm Managers Club joint meeting, Lexington, KY, February 1996.

**\*R.M. Dwyer.** "Safety and Efficacy Results of an Equine Rotavirus Vaccine Trial." Presented twice to the equine veterinarians of Hagyard-Davidson-McGee, and Rood and Riddle Equine Hospitals, Lexington, KY, January 1996.

**\*R.M. Dwyer.** "The Basics of Disease Recognition in Horses." Kentucky Pony Club, Lexington, KY, January 1995

**\*R.M. Dwyer.** "Equine Emergency Medicine." Kentucky Equine Institute Seminar Series, Lexington, KY, August 1993.

**\*R.M. Dwyer.** "The Veterinary-Client-Patient-Relationship and Equine Emergencies." Horseman's Short Course, Kentucky Horse Park, Lexington, KY, August 1992.

**\*R.M. Dwyer.** "Care of the Newborn Foal." Kentucky Horseman's School, Lexington, KY, February 1991.

**\*R.M. Dwyer.** "Aspects of the Thoroughbred and Standardbred Industries." Elderhostel Continuing Education, Lexington, KY (7 presentations, 1990-1993).

**\*R.M. Dwyer.** "The Role of Disinfection in the Prevention of Equine Contagious Diseases." Kentucky Equine Institute, Lexington, KY (5 presentations, 1990-1992).

**\*R.M. Dwyer.** "Horse Health and Sanitation," "Recognizing a Sick Horse," "Prevention and Treatment of Common Equine Diseases and Injuries." Vocational Agriculture Workshop in Equine Science, University of Kentucky, Lexington, KY, July 1990.

**R.M. Dwyer.** "Rabies in Domestic Animals." Poster presentation for the University of Kentucky All Commodity Field Day, Princeton, KY, July 1990.

**\*R.M. Dwyer.** "Proper Hygiene and Sanitation." Kentucky Horseman's School, Lexington, KY, February 1990.



### **Television/Media presentations**

Invited speaker for a one hour radio talk show on pre-veterinary medicine, WLXO 96.1 FM with Dr. Butch Schroyer (2007).

Interview for UK television media on the 2005 Kentucky Commissioner of Agriculture's Bioterrorism All Agency Disaster Drill, June 2005.

Multiple television, radio and personal interviews regarding Mare Reproductive Loss Syndrome, May 2001-2003.

"Equine Health Management." Video on safety around the horse, taking health parameters. Directed by Dr. Robert Coleman, April 2001.

"Equine Rotavirus Vaccine." Produced by Jeff Franklin, UK Agricultural Communications. Aired on the national broadcast of AgDay on January 17, 1997; Kentucky Educational Television "UK News" on April 21, 1997.

"A New Foal Vaccine." Produced by Greg Stottlemeyer, WTVQ Channel 36, Lexington, KY as part of a pre-Kentucky Derby equine news series. Aired April 30, 1996.

"Prevention and control of infectious equine diseases through effective farm disinfection techniques." Criterion Productions, Inc., Television Production. Narration and appearance for "On the Right Track," a weekly nationwide Thoroughbred industry news program. January 1990.

### **EXTENSION RELATED ACTIVITIES/TRAINING**

#### **Animals in Disasters & Community Emergency Planning/Training**

- Kentucky Office of Homeland Security (2005-present) staff worker and planner for local, regional and state disaster exercises, including the Spills of National Significance (SONS '07).
- Requested to be Fayette County's Emergency Operations Center Agriculture Coordinator (2008-09).
- Lexington/Fayette Urban County Government Emergency Operations Center volunteer (2003-2009) and participate in bi-annual training workshops and provide animal/veterinary considerations to Fayette County Emergency Management.
- Invited participant in 5 day workshop IS 420 General and Command Staff; Planning Section Chief; able to respond to state and regional disasters as a Type II National Incident Management Team member (2008).
- Department of Homeland Security course Agriculture and Food Vulnerability Assessment Training Course (3 days) 2008
- Completed the following Federal Emergency Management internet courses (August 2008-2009): IS 100 Incident Command System; IS 200 Incident Command System; IS 300 Incident Command System; IS 700 National Incident Management System (NIMS); IS 800b National Response Framework. These above are required for first responders.
- Homeland Security Exercise and Evaluation Program training (2 days); Train the Trainer training (1 day) and HSEEP computer toolkit course (1 day) (Aug./Sep. 2008). Disaster exercises conducted with federal funds must be HSEEP compliant.
- Attended the First Annual International Symposium on Agroterrorism sponsored by the Federal Bureau of Investigation, 5 day symposium of law enforcement, first responders and veterinarians discussing agroterrorism. Kansas City, MO, May 2005, 2008.

- National Disaster Animal Response Team (DART) training, Humane Society of the United States, 3-day training, Dayton, OH, 2006.
- Louisiana State University National Center for Biomedical Research and Training's Preparedness and Response to Agricultural Terrorism 3-day Department of Homeland Security Certified course . Followed by being invited as an equine Subject Matter Expert to assist in their development of an Equine Agroterrorism module (1.5 days). Final module to be shared with the College of Agriculture has not been produced yet by LSU. Lexington, KY, 2006.
- Center for Disaster Preparedness/Department of Homeland Security "Ag Emergency Response Team" training: agroterrorism and hazardous materials response for animals. Four-day training at the Center for Disaster Preparedness, Anniston, AL, 2006. Was approved for the course through the KY Department for Homeland Security.
- Assistant instructor for first responders: Large Animal Emergency Rescue Training 30-hour course at Eastern Kentucky University, 2006.
- Completed the following Federal Emergency Management internet courses (2006):  
IS 275 The EOC's Role in Community Preparedness, Response and Recovery Activities  
IS 317 Introduction to Community Emergency Response Teams
- Certified Community Emergency Response Team (50+ hours of training with the Fayette County Fire Department) 2006.
- Lexington/Fayette County Citizen's Fire Academy training (10 sessions, 35 hours training) 2005.
- Large Animal Emergency Rescue Training 30-hour course completed at Eastern Kentucky University, 2005.

**Other extension activities** (not listed elsewhere):

Lectures on disease prevention and disinfection practices for the Veterinary Science Department farm employees (yearly), 1992-present.

Invited reviewer for equine facility disinfection and biosecurity protocols for the Center for Food Security and Public Health, Iowa State University, July 2004. This chapter will be used in "Train the Trainer" workshops throughout the U.S.

Co-organized the meeting "Salmonellosis: Fact versus Fiction" for the Kentucky Association of Equine Practitioners. Speakers: Dr. Robert Stout (KY State Veterinarian); Dr. J. Michael Donahue (Livestock Disease Diagnostic Laboratory); Dr. Bill Bernard (Rood and Riddle Equine Hospital); Dr. Nathan Slovis (Hagyard-Davidson-McGee Associates) and Dr. Michael Ward (Epidemiologist, Purdue University College of Veterinary Medicine). July 2004 in the Gluck Equine Research Center.

Obtained funding and organized "Animals in Disasters" for the University of Kentucky, state and regional organizations (Charles Barnhart Fund for Excellence). Speaker: Dr. Sebastian Heath, Pan American Health Organization. October 2003, Seay Auditorium, UK College of Agriculture.

Organized the "West Nile Virus Workshop" for the Department of Veterinary Science, presented to all interested veterinarians and researchers. Speakers: Dr. Maureen Long (University of Florida); Dr. Sue Billings (KY Department of Public Health); Mr. Rusty Ford (State Veterinarian's Office-Equine Coordinator); Dr. Rob Keene (Fort Dodge Animal Health). March 2003 in the Gluck Equine Research Center.

Invited reviewer for the Federal Emergency Management (FEMA) Independent Study Course, Livestock and Disasters, Unit 15: "Disease Outbreak/Public Concern" January 2002.

Chair/member of the Kentucky Veterinary Medical Association's Disaster and Emergency Preparedness Committee (1998-2001) which involves coordinating efforts of the Kentucky Division of Emergency Management, the State Veterinarian, USDA and Public Health veterinarians and private practitioners, as well as multiple other state agencies, including University of Kentucky personnel and the Red Cross.

Co-organizer with the Scott County Emergency Services for an "Animals in Disasters" program for veterinarians, animal control, emergency managers and other industry personnel. October 2000, Georgetown, KY.

Participated at the American Society for Public Administration's Annual Convention, Disaster Preparedness Section and Wildfire Disaster Workshop, Orlando, FL, April 1999.

Attended the annual Kentucky Disaster Emergency Services 3-day conference, Lexington, KY, June 1998.

Attended the 3-day seminar "Preparing Rural Communities for Disaster Events" in Indianapolis, IN sponsored by Purdue University, May 1998.

Consultant to the US Army, Fort Knox, KY Veterinary Services, Major P. Chumley on equine vaccination and biosecurity issues (1997-1998).

Invited participant in the US Department of Interior's Bureau of Land Management's Strangles Task Force. Presented information and recommendations on disease prevention and control of this and other contagious equine diseases for use in the national BLM Adopt-a-Horse Program; made specific recommendations on the future adoption process at the Kentucky Horse Park; reviewed and revised a final report to be submitted to the US Department of the Interior. July 1996-1998. In June 1997 I was asked to serve on the BLM Wild Horse and Burro Advisory Board; being a state employee prohibited my serving.

Invited participant to two focus group meetings of veterinarians to determine research priorities for the National Animal Health Monitoring System, Equine '98, funded by USDA-APHIS-VS (1995, 1996); NAHMS draft reviewer (1998).

Consultant to the Michigan State University College of Veterinary Medicine, June 1996-1998. Included on-site decision making regarding control and containment of a salmonellosis outbreak resulting in the closure of the food animal and equine hospitals; continued monitoring for further salmonellosis cases and infectious disease management protocols.

Reviewer for Utah State University Interdisciplinary Competitive Grant (1997).

Field testing of equine rotavirus vaccine for safety and immunogenicity in mares, co-investigator with D.G. Powell (1992, 1994-1995).

Spokesperson on videotape for the Gluck Equine Research Center's 10th Anniversary (1994).

### **PEER REVIEWER/PUBLICATIONS**

Peer Reviewer for The Horse publication, 1994-present

Peer-reviewer for *Equine Veterinary Education*, Newmarket, England (2002-2004).

Co-editor with D. Powell, N. Williams: *Lloyd's Equine Disease Quarterly*, international distribution of >17,500, translated into Spanish and Japanese (1992-2004).

Editorial Advisory Board member for *The Horse* publication, 1994-2003. Peer reviewer of articles 1994-present.

Invited reviewer for a Federal Emergency Management Agency (FEMA) Independent Study Course "Livestock and Disasters" chapter on public health. Editor, Dr. Sebastian Heath. January 2002.

Invited peer-reviewer for the National Animal Health Monitoring Service Equine '98 Project summaries, 1998.

Peer-reviewer for *Journal of Equine Veterinary Science*, 1996-1998.

Reviewer for Utah State University Interdisciplinary Competitive Grant, 1997.

Peer-reviewer for the Office International des Epizooties (Paris) *Disinfectants: actions and applications*, 1994-1995.

Peer-reviewer for *Equine Veterinary Journal* and *Veterinary Medicine* publications. 1990-1993.

"Care and Management of the Newborn Foal," videotape reviewer, Land O' Lakes, Inc. production, 1990.

**PUBLICATIONS (Proceedings/Scientific Abstracts)** not listed elsewhere

**R.M. Dwyer.** (1994) Disinfection and management for the prevention and control of equine diseases. *Proceedings of the VIIIth International Congress for Animal Hygiene*, pp DD6-9.

**R.M. Dwyer, D.G. Powell, M. Osborne, A.W. Roberts, J.M. Donahue, E.T. Lyons.** (1989) Epidemiology of infectious diarrhea among foals in central Kentucky. *Clinical Research*, 5(1):59A.

**R.M. Dwyer.** (1988) Post mortem diagnoses of foals under six months of age in central Kentucky during 1987. *Equine Veterinary Journal Supplement* 5:59.

**R.M. Dwyer, D. Powell, E. Lyons, J.M. Donahue, A.W. Roberts, M. Osborne.** (1988) The aetiology of infectious diarrhoea in Thoroughbred foals in central Kentucky. *Equine Veterinary Journal Supplement* 5:59-60.

**R.M. Dwyer, D. Powell, M. Osborne, A.W. Roberts.** (1988) Evaluation of two commercially available kits for the detection of rotavirus in faeces of healthy and diarrhoeic foals. *Equine Veterinary Journal Supplement* 5:60.

**TECHNICAL REPORTS**

**R.M. Dwyer.** (1999, 2<sup>nd</sup> edition; 1992, 1<sup>st</sup> edition) Pre-Veterinary Advising Handbook for the Kentucky Council on Higher Education (88 pp).

**R.M. Dwyer, D.G. Powell.** (1989) Lloyd's of London Foal Enteric Disease Project 1988 Year End Report (26 pp).

**R.M. Dwyer, D.G. Powell.** (1988) Lloyd's of London Foal Enteric Disease Project 1987 Year End Report (20 pp).

### **GRANTS/FUNDING**

Publication and maintenance of *Lloyd's Equine Disease Quarterly*, co-editor with P. Timoney and N. Williams. Funded by Lloyd's of London Underwriters, Brokers and their Kentucky agents, \$800,000 (1992-present).

2009-2010 – Strengthening Community Agrosecurity Planning (S-CAP) Train-the-Trainer Project: Phase 2 grant awarded by CSREES/EDEN, \$101,000. PI: A. Husband. Co-PI: R. Yeargan, **R. Dwyer**, M. Newman.

2008-2009 – Strengthening Community Agrosecurity Planning (SCAP) grant awarded by CSREES/EDEN – Funds awarded to UK College of Agriculture - \$38,500. PI: A. Husband. Collaborators B. Dictson (NMSU), B.A. Dictson (NMSU), J. Witte (NMSU), R. Yeargan, M. Newman, **R. Dwyer**. I am involved in the organization of a 2.5 day workshop, writing the Power Point and instructor notes for one section and editing the entire program. I will also be involved in teaching the course in the eastern US in 2009.

2008 – Maintenance of Animal Agrosecurity Emergency Management Course awarded by CSREES/EDEN – Funds awarded to UK College of Agriculture: \$15,000. PI: R. Yeargan. **R. Dwyer** consultant for updating information.

2008 – Addressing Animal Agriculture Issues in Community Emergency Planning awarded by USDA Smith Lever Special Needs Program – Funds awarded to University of Kentucky College of Agriculture: \$43,941. PI: A. Husband. **R. Dwyer** project consultant for animal biosecurity and emergency planning issues.

2007 – Animal Agrosecurity and Emergency Management Course grant awarded by CSREES/Extension Disaster Education Network (EDEN) - \$60,000 PI: Ricky Yeargan. Writers of this 8 hour Internet course are: M. Newman, Andrea Husband, R. Burris, R. Maurer, C. Thompson, S. McMurry, P. Scharko, **R. Dwyer**, R. Coffey, W. Crist, S. Hayes, T. McLean. I wrote 2 full hour sections, 60% of a third hour section and 25% of the last hour scenario section including Power Points, photos, teacher notes, and resources. Reviewed and edited the entire course.

2006/2007 – Preparing Health Professionals to Respond to Bioterrorism grant awarded by Assistant Secretary for Preparedness and Response – Funds awarded to UK College of Agriculture: \$106,037. PI: J. Henning.. **R. Dwyer** wrote an internet course on Biosecurity Issues for Farms including Power Point, photographs, instructor notes, resources.

2006 – Development of Guidelines for a State Agriculture Response Team grant awarded by Kentucky Department of Agriculture – Funds awarded to University of Kentucky College of Agriculture: \$10,000. PI: Ricky Yeargan, M. Newman. **R.M. Dwyer** project consultant.

Co-Principle investigator with D.G. Powell on surveillance of central Kentucky equine contagious respiratory infections, private sector funding, \$15,000 (2005-2006).

Albert Clay Fellowship \$1800 grant to attend a 5-day training at the 40<sup>th</sup> Graduate Summer Session in Epidemiology, University of Michigan School of Public Health in Ann Arbor Michigan, July 2005.

In-kind services of state and federal USDA veterinarians and staff and the KY Department of Agriculture State Veterinarian's Office staff in the salaries, housing and expenses of multiple employees who diligently worked on the Mare Reproductive Loss Syndrome epidemiologic study which I orchestrated, \$55,000.

Kentucky Thoroughbred Association \$5000 grant to perform a survey on early fetal loss and eastern tent caterpillar control measures on Central Kentucky Thoroughbred horse farms, June 2002. Performed in cooperation with the Kentucky Thoroughbred Farm Manager's Club.

Foreign travel grant of \$1000 from the Office of UK Vice President to present a paper at the Society for Veterinary Epidemiology and Preventive Medicine, Cambridge, England, April 2002.

Private Sector Funding of \$24,620 for "Safety, immunogenicity and efficacy evaluation of an equine rotavirus vaccine in foals (2001-2002).

Private Sector Funding of \$3000 and supplemental funding of \$430 from the UK Vice President's Office and the Office of the Vice Chancellor for Research and Graduate Studies for attendance and poster presentation at the IX International Society for Animal Hygiene Congress, Helsinki, August 1997.

Private Sector Funding of \$5000 obtained for attendance, two papers and poster presentations at the World Equine Veterinary Association Congress, Padova, Italy and British Equine Veterinary Association Congress, Harrogate, Great Britain, September 1997.

Co-principal investigator with David Powell, FRCVS for field safety and efficacy trial of an equine rotavirus vaccine (private sector funding), \$67,500 (1992, 1994-1995).

The seroprevalence of antibodies to the H1 and H2 serotypes of equine rotavirus in mares and foals and an analysis of their passive transfer, co-investigator with L.J. Saif, PhD, The Ohio State University. Funded by Grayson-Jockey Club Research Foundation, Inc., \$40,822 (1990).

## **RESEARCH INTERESTS**

Agrosecurity/agroterrorism preparedness and response; epidemiology of equine infectious diseases; Mare Reproductive Loss Syndrome; preventive medicine for horses including vaccination and biosecurity.

## **SPECIAL PROJECTS**

In late April/early May 2001, increased numbers of early fetal losses and late term abortions occurred in Central Kentucky. Part of my role in this costly outbreak investigation was to lead field epidemiological studies. An initial survey of farms to determine an estimate of early fetal losses and late term abortions was faxed on May 7 and conclusions were delivered to an Open Information Meeting at Keeneland on May 10. At a second Keeneland meeting on May 24 I was tasked with directing epidemiological field trials to determine risk factors related to what was now termed mare reproductive loss syndrome (MRLS). In concert with the USDA on a national and state basis, the State Veterinarian's Office and a core organizing committee, this survey was developed, field tested and implemented by May 30, with results published on the web site ([www.ca.uky.edu](http://www.ca.uky.edu)) on September 14. The sophisticated survey involved 23 volunteers, 133 farms and many hours of organization. An individual animal survey was also undertaken by me and a USDA veterinarian on six farms in July 2001. Other responsibilities included:

- Serving as a liaison with the KAEP Emerging Disease Committee,
- Providing communications about MRLS and the epidemiological study via media, e-mails, and multiple telephone calls,
- Attending multiple meetings to communicate with farm managers and veterinarians,
- Working with University General Council on formation of confidentiality forms and issues;
- Researching the problem and possible solutions.

This endeavor consumed 12-14 hour days from May to mid-July, and full time until the beginning of Fall semester, when it still assumed more than 40% of my time. The individual mare study was completed with results of this epidemiologic study published in the *Journal of the American Veterinary Medical Association* and was presented at multiple international, national and state veterinary and lay meetings.

Spring 2002 involved individual farm visits at the request of veterinarians to document MRLS losses, and make recommendations to farms. A survey was also designed to enumerate the early fetal losses on farms as of June 1, as well as steps taken to reduce mares' exposure to eastern tent caterpillars. The results of this survey were posted to the web site, and were presented at the First Workshop on Mare Reproductive Loss Syndrome in August 2002. I also coordinated veterinary continuing education and catering services for this 2-day workshop.

## **RESEARCH ACTIVITIES**

Investigation of equine infectious disease outbreaks in central Kentucky as requested by private practitioners 1990-present; 15-30 consultations per year. Many telephone consultations (20/day) during MRLS and West Nile outbreaks (2001-2002); average is 7 telephone consultations per week.

Epidemiology of equine leptospiral abortions in central Kentucky (2003-2004) [David Hall, graduate student].

Epidemiology of Mare Reproductive Loss Syndrome and other abortion outbreaks (2001-2003).

Maintain surveillance on cases of rabies and *Salmonella* serotypes from horses in central Kentucky (1989-2001).

Immunogenicity of the equine rotavirus vaccine in foals (2001-2003).

Developing a veterinary disaster and emergency plan for Kentucky (1996-1999).

Collaboration with L.J. Saif, PhD, The Ohio State University, on serotyping of equine rotaviruses isolated from foals in central Kentucky (1995-1996).

Completed a field efficacy research trial with co-investigator D.G. Powell on the first commercially available equine rotavirus vaccine (1993-1995). The vaccine was released for use in Kentucky in January 1996, later to be conditionally approved by USDA in 48 other states.

Collaboration with E.N. Ostlund, DVM, PhD, National Institutes of Health, on serotyping equine rotaviruses isolated from foals in central Kentucky (1994).

Veterinary support services for equine influenza infectivity trials in the Veterinary Science Department, Fall 1992; Spring 1992.

Field testing of biologic product for safety and tolerance in 15 foals, University of Kentucky, Spring 1991.

Sampling of >200 central Kentucky horses for leptospirosis seroprevalence survey coordinated through the Livestock Disease Diagnostic Center, Lexington, KY, September 1990.

Field testing of biologic product for safety and tolerance in 15 foals, University of Kentucky, Spring 1991.

Sampling of >200 central Kentucky horses for leptospirosis seroprevalence survey coordinated through the Livestock Disease Diagnostic Center, Lexington, KY, September 1990.

### **TEACHING/ADVISING PROGRAM** (See Teaching Portfolio for full details)

#### **Teaching**

**VS 395 Special Problems in Veterinary Science** (3 credit hours; Summer Session I 2006 and 2008). **Equine Health and Management in Ireland** 2-week international study course, May 2006 and May 2008 in conjunction with the Cooperative Center for Study Abroad ([www.ccsa.cc](http://www.ccsa.cc)).

**VS 350 Introductory Anatomy, Physiology and Hygiene** (3 credits). Usually offered every Fall semester; usual class size of 40-50 students. Began teaching Fall 1988. *Average student evaluation is 3.6/4.0 since 1998; College of Ag average 3.4.*

**VS 351 Principles of Animal Hygiene and Disease Control** (3 credits). Usually offered every Spring semester; usual class size of 40-50 students. Taught Summer Session I in 2004. Began teaching Spring 1989. *Average student evaluation is 3.6/4.0 since 1998; College of Ag average 3.4.*

**VS 395 Special Problems in Veterinary Science** (variable credit). Offered Spring/Fall semesters. Assigned to be coordinator of this course in Fall 1995. Developed new course syllabus and learning contract to be used as guidelines for the student and faculty member for this experiential course.

**ABT 101 Introduction to Biotechnology** (1 lecture). Fall 2003, 2004, 2005. "Opportunities in Veterinary Medicine."



**VS 791 Techniques in Veterinary Microbiology** (1 credit). Fall 2000. One lecture on Equine Management, Hygiene and Infectious Disease Control (2 hours).

**GEN 103 Agriculture Pest and Disease Management.** Offered Spring semesters 1989-1995; course is no longer taught at UK. Number of students ranged from 15-35. Team taught with three other instructors; I was responsible for 1/3 of the course material.

**Kentucky International Thoroughbred Institute (KITI) lecture series.** 1995-1999. KITI was an equine education program for international students, particularly those from countries of the Pacific Rim. The objective is to provide hands-on experience and education in farm and racetrack management in Kentucky, an area known worldwide for its Thoroughbred industry. This program was discontinued after 1999.

**UK 101 Academic Orientation.** Offered Fall Semester only (8 weeks).

Guest lecturer for 2-3 classes (1998-2001) on Date Rape for other UK 101 instructors.

**Gee Whiz in Agriculture** 45 minute television video "Why Do Horses Run So Fast?" coordinated with Craig Wood and telecast by Kentucky Educational Network; funded by USDA Agricultural Telecommunications Grant, 1994. This is part of a satellite program designed for 4th and 5th grade elementary school students with science and math emphasis. The series has won several state and national telecommunications awards.

**ASC 410G Art and Science of Equine Production.** Offered Spring semester 1993-1996 via satellite to multiple networks nationwide. (one lecture)

### University Committee Work Involving Advising

Appointed by Associate Dean Phil Kraemer to the Senate Academic Advising Committee 9/00 and served until 5/01 when I had to resign due to the Mare Reproductive Loss Syndrome crisis.

### Advising activities

- ◆ Invited by the KY Council on Post-Secondary Education (CPE) to attend a meeting of CPE leadership, KY legislators, KY Department of Agriculture, and KY Veterinary Medical Association representatives at Auburn University College of Veterinary Medicine. This was a significant effort to educate the Kentucky leadership about the importance of retaining 34 seats at the veterinary school for Kentucky residents, October 2004.
- ◆ Answer telephone calls and e-mail inquiries; visit with parents and high school students; and evaluate all transfer students for their needs regarding the pre-veterinary program. Regularly work with UK, KY community colleges, and out-of-state students in meeting Auburn and Tuskegee requirements. This often necessitates writing letters to Auburn for clarification of requirements for students' special circumstances.
- ◆ Pre-veterinary advising director since 1989 (69 students); steadily increasing to 170 students in 1995; currently approximately 160+ individuals (1989-present)
- ◆ Pre-veterinary Club Faculty advisor, involving monthly meetings (2 hours in the evening), fund raising activities, special events, and overseeing and guiding the leadership of the organization with ~60 current members (1989-present).
- ◆ Write and update changes in Auburn and Tuskegee curriculum requirements; instructions for applications and other handouts to aid students in preparing for and applying to veterinary school. New handouts are prepared yearly (1989-present).
- ◆ Organized and maintain a closed listserv for pre-veterinary applicants to aid in rapid dissemination of application news (2002-present) [requires manual additional and deletion of students].

- ◆ Organized and maintain a state-wide e-mail listserve of Kentucky Pre-veterinary advisors and the Council on Postsecondary Education to facilitate communication, 1996-present.
- ◆ Collaborated extensively in efforts in educating Kentucky legislators of the need to retain 34 seats at Auburn University's College of Veterinary Medicine when the 2004-2005 state budget had 6 seats cut, with 11 being cut in the following year. Constant communication between other KY pre-veterinary advisors, the KY Veterinary Medical Association, the Council on Postsecondary Education and multiple veterinarians across the state was necessary in this effort, as well as communicating with UK students and Auburn students about the need to contact their legislator regarding this issue (Spring 2004).
- ◆ Liaison with the Veterinary Advisory Board of the Council on Post Secondary Education and the KY Veterinary Medical Association to evaluate the need for more Kentucky seats at Auburn's College of Veterinary Medicine (1999-present).
- ◆ Evaluate transcripts and advise approximately 45-50 Kentucky residents/year who have attended 1) University of Kentucky; 2) Kentucky schools which do not have pre-veterinary advisors; and 2) out-of-state schools. Also advise Kentucky and international students attending UK who apply to Tuskegee. This process involved answering over 300 student e-mails via the applicant listserve in 2003 alone.
- ◆ Initiated annual Mock Interviews for veterinary school applicants, Spring 1992-present. This involves organizing a date for three faculty who have been on Veterinary Schools Admissions Committees to volunteer their time one evening for 1-2 hours to question students in order to prepare them for veterinary school interviews.
- ◆ Liaison with Senator Elizabeth Tori representing Kentucky Pre-Veterinary Advisors in planning how to increase veterinarian populations in underserved areas of Kentucky (2001-2002).
- ◆ Organized and implemented the first attendance of the University of Kentucky Pre-Veterinary Club to the American Pre-Veterinary Medical Association National Symposium, Purdue University, March 1992. Also took 12 students to the APVMA Symposium, Ohio State University, March 2001. Students attended the 2003 symposium at Oklahoma State University. One UK student has received a scholarship from this organization which the UK PreVet Club has belonged to since 1992.
- ◆ Organized a workshop for science advisors at Lexington Community College to update faculty on pre-veterinary requirements to optimize students' schedules, August 2000.
- ◆ Wrote text and organized photographs for a recruitment brochure for the College of Agriculture, "*DISCOVER Pre-Veterinary Medicine*," 1996, update 1999.
- ◆ Organized and implemented a pre-veterinary student field trip to the Colleges of Veterinary Medicine at Tennessee, Auburn and Tuskegee, Fall 1990-1993, 1995, 1997.
- ◆ Held special meetings and constructed information sheets on several major changes regarding the application process to Auburn which started July 1995, including the Veterinary Medical Colleges Application Service, a new Graduate Records Exam requirement, and new grade point calculations.
- ◆ Developed informational handouts and grade point average calculation sheets for students since courses and GPA calculation requirements are different for Auburn than for University of Kentucky (1991).

**Teaching and Advising Improvement (Conferences Attended/Papers Presented)**

October 2004      National Academic Advising Conference, Cincinnati, OH. R.M. Dwyer, D. Hellwig. "Pre-veterinary Advising: The Next James and Jane Herriotts."

- September 2002 National Academic Advising Conference, Salt Lake City, UT. **R. M. Dwyer.** "Preparing the 'Other Family Doctor': Pre-veterinary Advising."
- October 2000 National Academic Advising Association Conference, Orlando, FL.  
Presentations: J.E. Preece, **R.M. Dwyer**, L.T. Stevens. "Disabilities Issues in Advisement in the 21<sup>st</sup> Century: What Have We Learned and What Can We Do Better?" **R.M. Dwyer.** "Pre-veterinary Advising the Jane and James Herriots of the 21<sup>st</sup> Century."
- March 2000 Student American Veterinary Medical Association Symposium, Blacksburg, VA. Presentations: "REAL LIFE 101: What They Didn't Teach You in Veterinary School."
- October 1999 National Academic Advising Association Conference, Denver, CO.  
Presentations: L.T. Stevens, **R.M. Dwyer**, J.E. Preece. "Ethical Issues in Health Professional Advising/Limited Enrollment Programs." J.E. Preece, L.T. Stevens, **R.M. Dwyer.** "Americans with Disabilities Act--An Examination of ADA Issues in Advisement."
- May 1999 Mid-South Regional NACADA Conference, Lexington, KY Program Co-Chair and UK faculty advisor representative. Was the only UK faculty on the organizational team to host this conference.
- November 1998 Selected to participate in the 3-day Lilly Conference on Teaching, Miami University, Oxford, OH.
- October 1997 National Academic Advising Association Conference, Kansas City, MO.  
Presentations: C.M. Flaga, L.T. Stevens, **R.M. Dwyer.** "Showing Each Other: Sharing Effective Practices of Health Professions Advising" and **R.M. Dwyer.** "Before Calling 9-1-1: Options for Personal Protection."
- August 1997 Participated in "*Peer Review of Teaching*" workshop sponsored by the UK Department of Agronomy.
- March 1997 Participant in "*Teaching and Learning in the Computer Age*" workshop sponsored by Virginia Tidewater Consortium for Higher Education (telecommunications program), Lexington, KY.
- June 1996 Participated in Internationalization of Veterinary Education Conference, Athens, GA.
- October 1995 National Academic Advising Association Convention, Nashville TN.  
Presented "Advising Pre-Veterinary Students: Beyond the James Herriot Legacy."
- June 1995 "*Writing Across the Curriculum*" Three-Day Workshop, sponsored by the Office of Undergraduate Studies and the UK English Department.
- June 1994 NACADA Summer Advising Institute, Williamsburg, VA.
- February 1994 "*Tools for Effective Teaching*" Two-Day Workshop, Lexington, KY.
- November 1993 "*Effective Instructional Techniques*" Three-Day workshop, sponsored by Teaching Improvement Project System (TIPS), Lexington, KY.
- October 1993 Developed advising evaluation forms for UK pre-veterinary student feedback and 1st and 2nd year Auburn Veterinary School students whom I advised.
- April 1993 Mid-South National Academic Advising Conference, Wyethsville, WV.  
Presented "Advising Pre-Veterinary Students: Beyond the James Herriot Legacy."
- October 1992 National Academic Advising Association Convention, Atlanta, GA.
- January 1992 University of Kentucky Workshop: "*Assisting the Whole Student: Non-Academic Problems.*"

### **Student Retention/Recruitment and Service**

College of Agriculture Encounter Days (2002-2004). Involved preparing a one-hour interactive workshop for high school seniors on two separate days, followed by an hour of answering advising questions. 2003-2004 Encounter Days were one day in length.

- ◆ Faculty reader for upperclassmen scholarships for the College of Agriculture, approximately 80-100/year (2000, 2003, 2004).
- ◆ Summers 1993-2004 Institute for Future Agricultural Leaders “discussion lunch” with prospective pre-veterinary students. Averages 10-15 students/year for pre-vet.
- ◆ January 2001-2009 College of Agriculture recruitment “Winter Event” with prospective college freshmen. Averages 10-15 students/year for pre-vet.
- ◆ March 2003. “Your Future in Veterinary Medicine.” Delta Tau Alpha Society, Berea College.
- ◆ October 2002 College of Agriculture Encounter Days, interactive workshop with high school seniors and prospective college students.
- ◆ April 2002. “Careers in Veterinary Medicine.” Central High School Minority Student event. 20 students participating.
- ◆ May 2002. Minority recruitment: Central High School, Louisville, KY: ½ day workshop for students and high school advisor on the pre-veterinary curriculum. Multiple other minority events coordinated through Dr. Zelia Holloway, Minority Services, College of Agriculture.
- ◆ January 1997-2004. Faculty advisor facilitator for the College of Agriculture's Academic Workshop for students on academic warning or probation. This involves one-two late afternoon meetings with pre-veterinary students who are in academic trouble to discuss their GPA and ways to get them back on track.
- ◆ October 7 and 14, 2002. UK Science and Agriculture Encounter Days. “Blood, Gore and Guts: Exploring Veterinary Medicine.” Presented a one-hour program to high school recruits on a career in veterinary medicine as a major student recruitment activity of the College of Agriculture.
- ◆ June 25-27, 2000. UK Science and Mathematics Accelerated Sophomore Honorary program (UKSMASH) co-faculty coordinator with Dr. Laurie Lawrence. Science project for honors sophomore high school students, “How can horses run so fast?”
- ◆ Spring 1998. BIO 425 Seminar in Molecular Virology. One hour video interview “Rotavirus in Animals and People” with Justin Moore.

1990-1998: 26 other presentations to groups about veterinary medicine, equine industry, and college recruitment.

### **Teaching and Advising Grants**

- ◆ UK Agricultural Alumni Association Faculty Grant \$1000 for a leadership workshop directed at Ag student club leaders, “Igniting the Flame.” Co-organizer, Dr. Deborah Witham. Completed November 2002.
- ◆ UK Agricultural Alumni Association Faculty Grant \$750 for enhancing student skills in scholarship applications, “Show Me the Money.” Co-organizer, Dr. Deborah Witham. Completed January 2000.
- ◆ Teaching and Learning Center \$350 grant to attend the Lilly Conference on Teaching, Miami University, Oxford, OH, November 1998.

- ◆ UK College of Agriculture Faculty/Student Grant for \$500 to develop a Pre-Veterinary Science Program display (1997-1998).
- ◆ Council for Higher Education Equine Trust and Revolving Fund Grant for \$5850 to purchase plastinated preserved equine anatomic specimens of the front and hind limbs, heart and lung for use in teaching and extension activities. Specimens prepared by Dr. Robert Henry, University of Tennessee (Spring 1998).
- ◆ UK Teaching and Learning Center: Faculty Associate Proposal, \$1027 to attend the National Academic Advising Association's Summer Institute. Williamsburg, VA June 27-July 1, 1994.
- ◆ Howard Hughes Medical Institute Education Initiative: Tutorial Assistance for Biological Science Majors from Underrepresented Groups, Committee Chair and responsible for administering program, \$40,800 (1992-1994).

### **Student Advising Committees**

#### **Graduate Students**

##### **Current students Graduate Committee member:**

Margaret Stickney, BS. EdD student (part time graduate student)

##### **MS student faculty advisor**

Shannon Tucker, DVM. MPH candidate (summer 2008 completion) Co-advisor for a coordinated MPH program with Iowa State University and University of Iowa.

Capt. David Hall, USAF. MS student, Veterinary Epidemiology (Fall 2003-January 2005); graduated May 2005.

Gamma Sigma Delta Society awarded David C. Hall with Outstanding MS Graduate Student, Spring 2005.

##### **Former students (Committee member):**

Fernanda Camargo, DVM. PhD, Veterinary Pharmacology (2007)

Jeff Boskin, BS. PhD, Veterinary Pharmacology (2003)

Michelle Ward, BS. MS, Reproductive Physiology (2001)

Maria Greis, BS. MS, Veterinary Virology. (1999)

Shelby Stamper, BS. MS, Veterinary Parasitology. (1997)

Sue Billings, DVM. MPH Degree, UK Department of Preventive Medicine and Environmental Health. (1997)

Lais Costa, DVM: MS, Veterinary Virology. (1993)

#### **Undergraduate Students**

Fall 2009. Siara Richardson: Special Problems in Veterinary Science VS 395. Creating an emergency evacuation plan for a veterinary clinic. 1 credit.

Fall 2002. Connie Hall: Special Problems in Veterinary Science VS 395. Animals in Disasters and Making a Disaster Plan. 2 credits.

Spring 2002. Kevin Chermak: Special Problems in Veterinary Science VS 395. Animals in Disasters. 1 credit.

Fall 2001. Rebecca Huber: Special Problems in Veterinary Science VS 395. Animals in Disasters. 1 credit.

Summer 2000. Leah Stern: Special Problems in Veterinary Science VS 395. Health and Welfare of Amphibians at the Cincinnati Zoo. 1 credit.

Spring 2000. Lydia Staggs: Special Problems in Veterinary Science VS 395. Mammalian Biology at Disney World. 5 credits.

Spring 1999. Ed Whitbread and Casandra Hetzel: Special Problems in Veterinary Science VS 395. Animals in Disasters. 1 credit.  
Summer/Fall 1998 Joe Clemons: Special Problems in Veterinary Science VS 395. Organization and implementation of a veterinary disaster plan for Kentucky. incomplete.  
Spring 1998 Kellee James: Experiential Education EXP 395. A study of professional training methods for show jumpers. (9 credits)  
Summer 1996 Tammy Perkins: Independent Work in Biology BIO 395. A study of *Salmonella* serotypes.  
Fall 1993 Amy Nash: Experiential Education EXP 396-201. Externship at the Cincinnati Zoo studying primate and wild feline behavior and nutrition (8 credit hours).  
May 2002-2004. Faculty evaluator for College of Agriculture upperclassmen scholarship applications. Approximately 100-125/year.

## **COMMITTEE APPOINTMENTS**

### **National**

American Association of Equine Practitioners

Requested to be AAEP Public Information Officer for Infectious Disease issues (2007-present)

Infectious Disease Committee (2006-2009)

Appointed to Biosecurity Task Force (2005-2006)

Board of Directors (2000-2003)

Elected by BOD to Executive Director Evaluation Committee (2003-2006)

Disaster and Emergency Preparedness Task Force (2002-2003)

Infectious Disease Committee (1997-1998)

Scholarship Committee (1996-1998)

Review applications for Pony Club and American Live Stock Insurance

Company scholarships from senior veterinary students

International Committee Chair (1992-1994)

Implemented the first simultaneous translation in Spanish at the 1993 Conference; coordinated the International breakfast, invitations and program which was attended by 250 international delegates for three years.

Ad hoc Membership Committee (1992)

Pediatric Committee Member (1988-1992)

Horse Show Committee Member (1987-1990)

Appointed American College of Veterinary Preventive Medicine Internal Affairs Committee (2005-2007; Chair 2008)

Association for Women Veterinarians Scholarship Selection Committee (1999, 2000)

National Academic Advising Association Health Professions Advisors Commission (1997-2000)

National Board Examination and Clinical Competency Test Preparation Committee (1991)

### **State**

Kentucky Veterinary Medical Association

Elected KVMA Secretary/Treasurer (2009-2010)

Initiated formation of the Kentucky Association of Public Practice and Corporate Veterinarians (2005-2008)

Public Health Committee (1993-present)

Job Placement Committee Chair (1990-1993); consultant (1993-present)

Designed and implemented a computerized job placement service through the KVMA for veterinarians looking for associates and those seeking positions.

Veterinary Disaster and Emergency Preparedness Committee Chair (1998-2000), committee member (2000-2001), a new committee charged with developing a state-wide disaster plan for animals through the State Veterinarian's Office.

Veterinary Medicine Advisory Committee to the Council on Higher Education, Frankfort, KY (1990-present)

Kentucky Association of Equine Practitioners Executive Board (1994-1996, 2000-2003)

Kentucky Horse Council Animal Welfare and Research Committee Chair (1998)

### **University/College of Agriculture**

Appointed to the Barnhart Fund for Excellence Grant Review Committee (2009-present)

Appointed to the Medical Center Area Committee (2007-2009)

College of Agriculture Curriculum committee (2006-2008)

Appointed to the University Senate Committee on Retroactive Withdrawals (9/02-present)

Elected to College of Agriculture Faculty Council (2003-2005)

Initiated and co-coordinated the first Promotion and Tenure Workshop for Non-tenured Professors (February 2004)

Elected University Senate member (1998-2000; committee responsibilities 2002-present)

Appointed to the University Senate Academic Advising Committee (2000-5/2001)

Re-appointed to University Senate 9/02 to complete the term of another College of Agriculture senator.

Appointed to College Promotion and Tenure Committee (2002-2004)

Chair of Committee 2003-2004

Elected to College of Agriculture Faculty Council (2000-2002)

Initiated and co-coordinated the first Promotion and Tenure Workshop for the College of Agriculture (2001)

Mid-South Regional National Academic Advising Conference Program Co-Chair, hosted by the University of Kentucky, May 1999.

Gamma Sigma Delta Master Teacher Award Committee Chair (1997-1998)

College of Agriculture Alumni Association Committee Member representing the Veterinary Science Department (1990-present)

College of Agriculture Roundup display coordinator for Pre-Vet Club (1993-present)

Search Committee for Associate Dean of Instruction, College of Agriculture (1993-1994)

University of Kentucky Undergraduate Biological Science Education Initiative, Howard Hughes Medical Institute: Chair of the Committee for Tutorial Assistance for Biological Science Majors from Underrepresented Groups (1992-June 1994)

College of Agriculture KET Teleconference Committee "Gee Whiz in Agriculture" (1992-1996)

College of Agriculture Student Phone-a-Thon Faculty Advisor (1989-1992)

College of Agriculture Roundup display coordinator for Veterinary Science Department (1990-1992)

College of Agriculture Library Campaign Captain (1991)

### **Veterinary Science Department**

Safety advisory committee, Isolation facilities advisory committee (August '08-present)

Search Committee for Ruminant Extension Veterinarian (2009)

Veterinary Science Department Infectious Disease Working group (2008-present)

Search Committee for Department Chair, Department of Veterinary Science (2006-2008)

Communications Committee (2005-2008)

Liaison communications with local veterinary clinics (2006-present)

Continuing education coordinator for VS 770 (2002-present). Involves coordinating paperwork for the KY Board of Veterinary Examiners and the KY Veterinary Medical Association so veterinarians can receive continuing education credit for appropriate seminars (~1/week).

Internal Periodic Review Committee Member (2002-2004)

Coordinated catering for the First Workshop on Mare Reproductive Loss Syndrome October 2002 and The Equine Placenta Workshop December 2003, both sponsored by the Veterinary Science Department.

Chair of Albert Clay Endowed Chair Search Committee (2000-2002)

Search Committee for Department Chair, Department of Veterinary Science (2001)

Periodic Review of the Department of Veterinary Science, ad hoc reviewer (1999)

Ad hoc Department of Veterinary Science Self-Study Committee (1999)

Strategic Planning Committee (1999)

Search Committee for Assistant/Associate Professor in Parasitology, Veterinary Science Department, (1997-1999).

Advisory and Strategic Planning Committee (1992-present)

Extension Advisory Program Committee (1992-present)

Department of Veterinary Science-KAEP/UKERF Liaison Committee (1991-present)

Veterinary Science Department Coordinator for the Central Kentucky Blood Center Blood Drive (1989-1991, 1993-1995, 1997, 1998, 1999)

Curriculum Planning Committee (1989-present)

1996 Winter Faculty Conference and 1994 Fall Faculty Conference coordinator with Mike Donahue, Carnahan House, Lexington.

## **PROFESSIONAL SERVICE**

### **Veterinary services**

Fayette County Health Department/Central Kentucky Small Animal Veterinary Medical Association Rabies Clinic Veterinarian, May 1990, 1992, 1994, 1996, 1997, 1999, 2000, 2002.

Kentucky Combined Driving Event Veterinary Staff, Lexington, KY, October 1991.

National Pony Club Rally Veterinary Official, Lexington, KY, June 1991.

### **Academics**

Lecturer on equine topics for other local horse associations, high schools, Explorer groups, Boy and Girl Scouts, grade school programs, 4-H clubs and children's educational programs, 1986-present.

Invited panel discussant for the UK Teaching and Learning Center seminar, "Tenure Issues," September 1998.

Participant in the Kentucky Academy of Science Mentors: Kentucky Women in Science, Engineering and Mathematics Program, April 1991 to present.

Member of the Vice Mayor's Committee for Sex and Race Equity in the Public Schools (1993-1997). Appointed by Teresa Isaac, Vice Mayor, Lexington, KY.

"Graduate and Undergraduate Studies in the Department of Veterinary Science." Joint meeting of Kentucky Association of Equine Practitioners and Thoroughbred Farm Managers, Lexington, KY, March 1991.

"Admission of Kentucky Students into Veterinary Schools." Kentucky Thoroughbred Media meeting, Lexington, KY, February 1991.



**Safety in the Veterinary and Academic Workplace Presentations/Publications**

**\*Indicates invited presentations**

- Co-author of self defense manual for UK Police Department Crime Prevention Unit to develop a new women's self defense course \*STARR\* (2002-2003); author of chapter on "Travel Safety."
- R.M. Dwyer.** Protecting yourself: safety at UK, home and while traveling. One-hour lecture for faculty, staff and students after a rash of armed burglaries and assaults on the UK campus, February 2004.
- \*R.M. Dwyer.** Reducing risk of violence in this workplace. Three-hour workshop for UK Central Advising Retreat, Lexington, KY, May 2003.
- Basic and Advanced Certified women's self defense instructor with the University of Kentucky Police Department. Teach 12 hour/week evening course for UK students, faculty and staff as well as other women in central Kentucky (3-6 courses/year). 1994-2000. (Program was cancelled for restructuring.) Taught approximately 400 women on a volunteer basis.
- R.M. Dwyer.** "Dealing with Difficult Students: From Anger to Danger." Kentucky Council on Postsecondary Education "Promoting Student Success Through Advising," Florence, KY, February 2003.
- R.M. Dwyer.** (December 2001) "Violence can happen anywhere." *Partners in Practice* 1:6.
- R.M. Dwyer.** "Dealing with the Epidemic of Violence Against Women." Healthy Women: Advancing the Agenda Seminar, sponsored by UK Women's Health Center, Lexington, KY, October 2000.
- \*R.M. Dwyer.** "Dealing with Difficult and Dangerous People, Part I and II." Central Veterinary Convention, Kansas City, MO, August 1999. (*Proceedings* pp 469-473)
- R.M. Dwyer.** "Dealing with Emotional Meltdowns." Rape Aggression Defense 1999 International Conference, Richmond, VA, July 1999.
- R.M. Dwyer.** "Gluck Equine Research Center Workplace Safety." One hour talk/discussion about personal safety issues in the workplace. March 1999.
- R.M. Dwyer.** "Dealing with Difficult and Dangerous People." Western States Veterinary Convention, Las Vegas, NV, February 1999.
- \*R.M. Dwyer.** "How safely do you live and work?" Iowa State University College of Veterinary Medicine students and faculty presentation. October 1998.
- \*R.M. Dwyer.** "Workplace Violence: Protecting Yourself and Employees." Iowa Veterinary Medical Association, Ames, IA, September 1998.
- \*R.M. Dwyer.** "Before Calling 9-1-1: Reducing the Risk of Violence in the Workplace and Everyday Life." Four-hour presentation for the American Association of Equine Practitioners Convention, Phoenix, AZ, December 1997.
- \*R.M. Dwyer, N. Frazer.** "How to Deal with Difficult and Dangerous People." American Veterinary Medical Association Annual Convention, Louisville, KY, July 1997. Organized and co-presented this day-long workshop co-sponsored by the AVMA and the Association for Women Veterinarians. [**Abstract:** *Proceedings*, pp 292-294.]
- R.M. Dwyer** (May 1997) Personal Security: How Safely Do You Work and Live? *Veterinary Technician*, 18:384-388.
- R.M. Dwyer.** "Violence in the Schoolplace." National Academic Advising Association, Washington, D.C., October 1996.
- \*R.M. Dwyer, N. Frazer, M.C. Toby.** "Self Defense for Veterinarians: Violence in the Workplace." American Veterinary Medical Association Annual Convention,

Louisville, KY, July 1996. Organized and co-presented this day-long workshop co-sponsored by the AVMA and the Association for Women Veterinarians.

**R.M. Dwyer.** Presentation for Gluck Equine Research Center employees, "Preventing purse-snatching and What to do if..." Safety talk after several thefts in the building during office hours, January 1995. Presentation for Gluck Equine Research Center employees, "Preventing purse-snatching and What to do if..." Safety talk after several thefts in the building during office hours, January 1995.

**R.M. Dwyer** (Winter 1995) Women's Self Defense. Association for Women Veterinarians' *Bulletin*, pp 5-6.

### **PROFESSIONAL SELF-IMPROVEMENT**

50+ hours per year of veterinary continuing education/year at international, national, state and local meetings.

Viewed a 12-hour teleconference on Bioterrorism sponsored by the Federal Emergency Management Agency and the Department of Defense, May 1999.

"Epidemiology and Prevention of Vaccine-Preventable Diseases" 14-hour satellite course offered by the Centers for Disease Control, February 1996.

### **COMMUNITY SERVICE**

Central Kentucky Blood Center blood/plasma pheresis donor 1987-present.

Department of Public Health Small Pox Vaccination Clinic for First Responders, volunteer, March 2003.

Instructor Trainer for Physical Defense Instructor's Program sponsored by the University of Kentucky Police Department, January 1996. Trained 11 police officers, including 6 from the UK Police Department, in Rape Aggression Defense (RAD) System.

Host with the University of Kentucky Police Department for the 1994 National Conference for the American Women's Self Defense Association, Lexington, KY, August 1994.

**CURRICULUM VITAE 2010  
KATHRYN TREMBICKI GRAVES, Ph.D.**

**Assistant Research Professor  
Department of Veterinary Science  
108 Gluck Equine Research Center  
University of Kentucky  
Lexington, KY 40546-0099  
(859) 257-4757 X81193  
ktgraves@uky.edu**

**Personal Data**

Date of Birth: 28 May 1958  
Place of Birth: Scotch Plains NJ

**Education**

1985 Ph.D., Cornell University, Ithaca, NY  
1980 BS, magna cum laude, Cook College, Rutgers University, New Brunswick, NJ

**Employment**

2005 to present- Director Animal Genetic Testing and Research Lab.  
1986 to 2005-, Supervisor-Red Cell Typing and Genetic Research Sections, Equine Parentage Laboratory (now Animal Genetic Testing and Research Lab).  
1986 to present- Assistant Research Professor, University of Kentucky  
1981-1983 Graduate Research Assistant, Cornell University

**Professional Society Membership**

International Society for Animal Genetics (ISAG)

**RESEARCH**

**Current Projects**

- Screening of candidate genes for hereditary cataracts in dogs.
- Linkage disequilibrium study of equine chromosome X markers for heart size in Thoroughbred horses
- Development of X chromosome tracking method in dogs
- Investigation of ASIP loci variants in Tennessee Walking Horses

## Publications

- Dietert, RR, MA Qureshi, **KA Trembicki**. Developmental expression of chicken fetal antigen on peritoneal macrophage: Implications for hematopoietic differentiation. *Proc. Soc. Exp. Biol. Med.* 172:84, 1983.
- Qureshi, MA, **KA Trembicki**, JV Jackson, PE Borenstein, RR Dietert. Quail fetal antigen (QFA): Identification and comparison with chicken fetal antigen. *Develop. Comp. Immunol.* 7:325, 1983.
- Trembicki, KA**, MA Qureshi, RR Dietert. Avian peritoneal exudate cells: A comparison of stimulation protocols. *Develop. Comp. Immunol.* 8:395, 1984.
- Trembicki, KA**, MA Qureshi, RR Dietert. Differentiation properties of avian tumor cell lines: Analysis using chicken fetal antigen and other markers. *Cancer Research* 44:2616, 1984.
- Trembicki, KA**, RR Dietert. Chicken developmental antigens: Analysis of erythroid populations with monoclonal antibodies. *J Exp. Zoo.* 235:127, 1985.
- Trembicki, KA**, MA Qureshi, RR Dietert. Monoclonal antibodies reactive to chicken peritoneal macrophages. *Proc. Soc. Exp. Biol.*, 183:28, 1986.
- Goodloe, RB, RJ Warren, EG Cothran, SP Bratton, **KA Trembicki**. Genetic variation and its management applications in Eastern United States feral horses. *J. Wildlife Manage.* 55(3):412, 1991.
- Cummings, JF, A deLahunta, HO Mohammed, TJ Divers, B Valentine, BA Summers, BJ Cooper, DF Holmes, **KA Trembicki**. Equine Motor Neuron Disease: A new neurologic disorder. *Equine Practice.* 13(9):15, 1991.
- Lear, TL, **KT Graves**, RB Ennis. Identification of equine chromosomes in horse-mouse somatic cell hybrids. *Cytogen. and Cell Genetics.* 61:58, 1992.
- Cummings, JF, A deLahunta, BA Summers, HO Mohammed, TJ Divers, BA Valentine, **K Trembicki-Graves**. Eosinophilic cytoplasmic inclusions in sporadic equine motor neuron disease: an electron microscopic study. *Acta Neuropath.* 85:291, 1993.
- Mohammed, HO, JF Cummings, TJ Divers, B Valentine, A deLahunta, B Summers, BRH Farrow, **KA Trembicki-Graves**. Risk factors associated with Equine Motor Neuron Disease: A possible model for human MND. *Neurology* 43:966, 1993.

Maury, WJ, S Carpenter, **KT Graves**, B Cheseboro. Cellular and viral specificity of Equine Infectious Anemia Virus Tat transactivation. *Virology* 200, 632-642, 1994.

Bailey, E.G., **KT Graves**, EG Cothran, R. Reed, TL Lear, RB Ennis. Synteny mapping horse microsatellite markers using heterohybridoma panel. *Animal Genetics* 26: 177-180, 1995.

Mellersh, CS, **KT Graves**, B McLaughlin, RB Ennis, L Pettitt, M Vaudin, KC Barnett. Mutation In *HSF4* Associated With Early But Not Late-Onset Hereditary Cataract In The Boston Terrier. *Journal of Heredity* 98(5):531-533, 2007.

**Graves, KT**, PJ Henney and RB Ennis. Partial Deletion of the *LAMA3* gene is responsible for hereditary junctional epidermolysis bullosa in the American Saddlebred Horse. *Animal Genetics* 40(1):35-41, 2009.

### **GenBank accessions**

*Canis familiaris* galactokinase gene (*GALK1*). Complete codons. GenBank Accession AY267338. **KT Graves** and RB Ennis. 2003.

*Equus caballus* laminin alpha3 (*LAMA3*) gene, intron 25  
gi|190684638|gb|EU780072.1|[190684638] **KT Graves** and PJ Henney.2008

*Equus caballus* laminin alpha3 chain (*LAMA3*) gene, exons 23 through 28 and partial cds  
gi|188535622|gb|EU704008.1|[188535622] **KT Graves** and PJ Henney. 2008.

*Equus caballus* chromosome 8 laminin alpha3 chain (*LAMA3*) gene, breakpoint region between intron 23 and intron 28 in JEB-affected Saddlebreds. LOCUS EU812567 5027 bp DNA linear MAM 19-JUN-2008. **KT Graves** and PJ Henney.

TPA\_exp: *Equus caballus* laminin alpha3 chain (*LAMA3*) gene, exons 23 through 28 and partial cds. LOCUS BK006617 13459 bp DNA linear MAM 22-JAN-2009. **KT Graves** and PJ Henney.

## Book Chapters

Dietert, RR, MA Qureshi, W Gause, **KA Trembicki**, J Marsh. Detection of macrophage populations in the thyroids of Obese Strain chickens using monoclonal antibodies. Avian Immunology; ed. WT Weber and DL Ewert. pp. 109-123: Alan R. Liss, Inc., NY, 1987.

Bailey, E, EG Cothran, **KA Trembicki**. Parentage Testing in Horses. Equine Reproduction; ed. JL Voss and AO McKinnon. pp. 626-630. Lea & Febiger, Malvern, Pa. 1993.

**Graves, KT**. Genetic Testing in Dogs. The Boston Terrier, by Michael and Beverly Staley. Howell Book Service, New York, NY 1995.

## Abstracts

Dietert, RR, **KA Trembicki**, MA Qureshi. Chicken fetal antigen as a differentiation marker on avian tumor cell lines. Oncodev. Bio. Med. AB2:A91, 1982.

**Trembicki, KA**, MA Qureshi, RR Dietert. Developmental restriction of chicken fetal antigen on activated peritoneal macrophage. Poult. Sci. 61:1557, 1982.

Qureshi, MA, **KA Trembicki**, RR Dietert. Chicken fetal antigen on normal and tumorigenic hematopoietic cells. Fed. Proc. 42(3):399, 1983.

**Trembicki, KA**, MA Qureshi, RR Dietert. Stimulation of avian peritoneal exudate cell populations: A comparative study. Poult. Sci. 62(7):1514, 1984.

**Trembicki, KA**, RR Dietert. Monoclonal antibody to an avian developmental antigen. Fed. Proc. 43(6):1772, 1984.

Dietert, RR, **KA Trembicki**, DP Hartwell, BF Sanders. Monoclonal antibodies to chicken fetal antigen: Identification of erythroid subpopulations. Tumor Biol. 1984.

**Trembicki, KA**, MA Qureshi, RR Dietert. Monoclonal antibodies to chicken macrophages: Identification of subpopulations. ISABR 20:114, 1986.

Cothran, EG, RB Goodloe, **KA Trembicki**, R Warren. Genetics of Barrier Island horses. ISABR 21:11, 1988.

Carroll, CS, EG Cothran, **KA Trembicki**. A BC phenotype in the Q blood group system in horses of feral origin. Animal Genetics 22:10, 1991.

- Graves, KT**, RB Ennis, TL Lear, N Raney. Isozyme production and enumeration of horse chromosomes in horse-mouse somatic cell hybrids. *Animal Genetics* 23:F17, 1992.
- Bailey, E, **KT Graves**, EG Cothran. Synteny mapping in the horse. *Proceedings of International Conference on Comparative Gene Mapping in Terrestrial and Aquatic Vertebrates*, 47, 1994.
- Bailey, E.G., **KT Graves**, E.G. Cothran, R. Reed, TL Lear, and RB Ennis, Gene mapping the horse using microsatellite markers and somatic cell hybrids. *Meeting on Genetic Diseases in the Horse*, Sept. 1994 Interlaken Switzerland (Poster presentation).
- Graves, KT**, N Raney, R Ennis, I Coogle, R Reid, E Bailey, L Van de Goor, EG Cothran, G Guerin, L Skow, M Breen, K Bell, Equine gene mapping: Synteny mapping DNA markers. *International Society for Animal Genetics*, C069, 1996, Tours, France.
- Raney, NR, **KT Graves**, EG Cothran, E Bailey, L Coogle. Synteny Mapping of the horse using a heterohybridoma panel. *International Conference on the Status of Plant and Animal Genome Research*. P325, San Diego, CA 1998.
- Graves, KT**, RB Ennis, P. Henney. Y. Long, L.B. Daugherty. Approaches to identifying a marker for juvenile cataracts in Boston Terriers. *International Society for Animal Genetics*, 1998, Auckland, New Zealand.
- Terry, R.R., NE Raney, **KT Graves**, LT Lieto, PJ Venta, SL Ewart, EG Cothran, EF Bailey, L. Coogle. Synteny mapping of the horse using universal mammalian sequence tagged sites of coding genes and a heterohybridoma panel. *International Conference on the Status of Plant and Animal Genome Research*. P219. San Diego, CA 1999.
- Graves, KT** and RB Ennis. Comparison of GALK1 exon sequences in four breeds of dogs affected by juvenile cataracts. E 004, pg. 103. *International Society for Animal Genetics*, 2000, Minneapolis, MN.
- Cothran, EG, **KT Graves** and R.Juras. Linkage disequilibrium analysis of Degenerative Suspensory Ligament Desmitis in the Peruvian Paso. 5<sup>th</sup> *International Equine Gene Mapping Workshop* conducted by the Dorothy Russell Havemeyer Foundation at Kruger National Park, South Africa, August 11-14, 2003.
- Cothran, EG, **KT Graves**, R Juras and D Strong. Linkage disequilibrium analysis of degenerative suspensory ligament desmitis in the Peruvian Paso horse.

D045, pg 91. International Society For Animal Genetics, 2004, Tokyo, Japan.

Mellersh, CS, **KT Graves**, L Pettitt, OP Forman, M Vaudin, KC Barnett.  
Different Mutations Within A Single Gene Are Associated With Recessive  
And Dominant Forms Of Hereditary Cataract In Different Breeds Of Dog.  
Presented by CS Mellersh at Advances in Canine and Feline Genomics  
Conference III, Davis, CA, 2006.

**Graves, KT**, RB Ennis, LB Daugherty, SA Brooks. A SNP in the horse KIT gene  
as a new marker for the tobiano spotting pattern. D218, pg 23.  
International Society For Animal Genetics, 2006, Porto Seguro, Brazil.

**Graves, KT**, PJ Henney and RB Ennis. A 6589 bp deletion in the *LAMA3* gene  
is associated with hereditary junctional epidermolysis bullosa (JEB) in the  
American Saddlebred Horse. 2229 International Society For Animal  
Genetics, 2008, Amsterdam, The Netherlands.

McGee RB, Lear TL, **Graves KT**, Bailey EP. XY Sex Reversal in Mares. P628  
Plant & Animal Genomes XVIII Conference, San Diego CA, 2010.

## **Other Publications**

**Graves, KT**, Searching for the Juvenile Cataract Gene, **American Kennel Club  
Gazette**, pp. 86-88, May 1994.

**Graves, KT**, Juvenile Cataracts. **The Frenchie Forum**, Official publication of the  
French Bulldog Club of America. 11:2, June 2003, pp 56-57.

**Graves, KT**, Genetic Disease In The Horse. Journal of Equine Veterinary  
Science, 26:6 p. 255.

**Graves, KT**, Producing Color, Kentucky Mountain Saddle Horse News, 12:2, p.  
22, 2006

**Graves, KT**, DNA Testing In Horses, The Friesian, Oct/Nov 2007 pp 25-27.

**Graves, KT**, Neonatal Isoerythrolysis. Equine Disease Quarterly 19:1, 2010



## Grant Proposals

### Extramural Funding

**Principal Investigator.** Canine Health Foundation. Genome-Wide Scan To Identify Candidate Genes For Inherited Cataracts In Dogs. Amount requested: **\$130,246.** 2005-2007. Not funded.

**Principal Investigator:** Canine Health Foundation. Exploration of a single nucleotide polymorphism in the GALK1 gene as a potential marker for juvenile cataracts in the Boston Terrier. Amount requested: **\$5397.00 Funded.**

**Principal Investigator:** Canine Health Foundation. Galactokinase 1: A Candidate Gene For Juvenile Cataracts In Dogs. 2002-2003. \$22,946. **\$20,946 Funded.**

**Co-Investigator:**The Jockey Club, Development and characterization of horse-specific Single Nucleotide Polymorphisms (SniPs). EG Cothran and **KT Graves.** 1998. Amount requested \$30,500. **Funded.**

**Co-Investigator:** Morris Animal Foundation-Syntenic Mapping of Coding Genes in New World Camelids, E.G. Cothran and **K.T. Graves.** 1997-99. \$57,000 requested. **\$28,500 Funded.**

**Principal Investigator:** University of Kentucky Research Committee Grant. Linkage Study to Identify a Microsatellite Marker for Juvenile Cataracts in the Boston Terrier. **K.T. Graves** \$4300 requested, **\$3000 Funded.** 1997-1998.

**Co-Investigator:** USDA National research Initiative Competitive Grants Program, Development of a 250 M arker Comparative Syntenic Map for the Horse. E. Bailey (PI) and **KT Graves.** 1996-1999. **\$360,465 requested.** Not funded.

Grayson Jockey Club Research Foundation, Gene Map of the Horse. E. Bailey (PI), **KT Graves,** EG Cothran, TL Lear, L Coogle, co-investigators. 1996-1998. **\$97,332 requested.**

Grayson Jockey Club Research Foundation, Gene Map of the Horse. E. Bailey (PI), **Kathryn T. Graves,** E.G. Cothran, Teri Lear, co-investigators. 1994-1996. **\$87,412. Funded.**

**Principal Investigator:** Morris Animal Foundation Identification of a genetic marker for the juvenile cataract gene in dogs using bulk segregant RAPD analysis 1994-1996, **\$50,000 (approved, not funded).**

## **Private Funding**

**Co-Principal Investigator:** Peruvian Paso Research Foundation. Genetics of DSLD (Degenerative Suspensory Ligament Desmitis). E.Gus Cothran and **Kathryn T. Graves**. 2003-2005. **\$200,000**.

**Co-Investigator:** Belgian Horse Society (\$30,000) and American Saddlebred Horse Association (\$32,000). Investigation of Laminin 5 as a Candidate Gene for Epitheligenesis Imperfecta. E. Gus Cothran and **Kathryn T. Graves**. 2002-2006. **\$62,000**.

**Principal Investigator:** Galactokinase as a candidate gene for cataracts in dogs. 1995-2000. Supported with private donations. **\$5791.00**

## **Professional Activities**

**Ad hoc grant reviewer-** Canine Health Foundation, 1997,1998, 2002, 2008, 2009.

**Ad Hoc reviewer-***Journal of Heredity* 2005

**Chair-** Dog Map Committee. International Society for Animal Genetics. 2004-2008.

**Reviewer-**Abstracts for International Society of Animal Genetics Conference XXX, 2006.

## **Meetings**

International Society for Animal Genetics XXXI, Amsterdam, The Netherlands. Poster presented, Dog Genome Map workshop Chair 2008.

International Society for Animal Genetics XXX, Porto Seguro, Brazil. Poster presented. Dog Genome Map workshop Chair. 2006.

International Society for Animal Genetics XXIX, Tokyo, Japan. Poster presented. 2004.

International Society for Animal Genetics, XXVII, Minneapolis, MN. Poster presented. 2000.

International Society for Animal Genetics, XXVI, Auckland, New Zealand. Poster presented. 1998.

International Society for Animal Genetics, XXV, Tours, France, 1996. Poster presented.

First International Workshop on Gene Mapping in the Horse, Lexington, KY. 1995.

Molecular Genetics and Canine Genetic Health Conference, Florham Park, N.J., 1994.

International Society for Animal Genetics, XXIII, Interlaken, Switzerland, 1992. Poster presented.

International Society for Animal Genetics, XXII, East Lansing, MI 1990. Poster presented.

International Society for Animal Genetics, XXI, Torino, Italy, 1988. Poster presented.

University of Pittsburgh Human Genetics Conference, Pymatuning, PA, 1986.

International Society for Animal Blood Group Research(ISABR) XX, Helsinki, Finland, 1986. Poster presented.

International Society of Oncodevelopmental Biology and Medicine, XII Annual meeting, Houston, TX, 1984. Poster presented.

American Association of Immunologists, FASEB, ST. Louis, MO, 1984. Poster presented.

Poultry Science Association, College Park, MD, 1983. Paper presented.

NE-60 Regional Meeting-Genetic Basis of Resistance to Avian Disease. Ithaca, NY, 1982.

Poultry Science Association, Davis, CA, 1982. Paper presented.

### **Interuniversity Collaboration**

Investigation of anti-red cell antibody involvement in stallion infertility. University of Pennsylvania, New Bolton Center, Kennett Square, PA. 1991.

Examination of potential genetic markers for Equine Motor Neuron Disease. John Cummings, PI. New York State College of Veterinary Medicine, Cornell University, Ithaca NY. 1991-1992.

Permissiveness of horse-mouse somatic cell hybrids for Tat transactivation by Equine Infectious Anemia Virus. Wendy Maury, PI. NIH, Rocky Mountain Labs, Hamilton, MT, 1993.

Permissiveness of horse-mouse somatic cell hybrids for infection and replication of Equine Infectious Anemia Virus. Susan Payne, PI. Case Western Reserve University, Cleveland, OH, 1993.

### **Committee Activity**

Graduate Faculty- Associate member, 1988 to present.

Member- Search committee for Warren Wright Sr.-Lucille Markey Chair in Immunology, 1988-1990.

Member-Department of Veterinary Science Animal Resources Committee, 1988 to 1995.

Member-Department of Veterinary Science Appointments and Promotions Committee, 1992 to 1999.

Member-Albert and Lorraine Clay Fellowship Award Committee, 1995 to present.

Chair-Department of Veterinary Science Animal Pathology Building Safety Committee, 1996 to 2009.

BEAC Floor Leader-Department of Veterinary Science 2009 to present.

Member- Department of Veterinary Science Advisory and Strategic Planning Committee 2008-Present.

Member- Department of Veterinary Science Communications Committee 2007-Present.

### **Student Advising**

Graduate- Nancy Raney, MS. Graduate, Major Advisor, 1994-1999.  
Teri Lear, Ph.D. candidate, Advisory Committee member, 1993-1997.  
Jennifer Leigh Myka, Ph.D.candidate, Advisory Committee member, 1994-1998.  
Diane Strong, MS candidate, Advisory Committee Member, 2004-2005.

### Undergraduates

Brian York, Biotechnology Program. Project Advisor "Identifying a DNA marker for cataracts in a family of horses". 1997-1999.  
Nancy Raney, Biotechnology Program. Project and academic advisor. 1990-1994. Recipient of the **1994 Oswald Research and Creativity program award in Biological Sciences** for the paper "Use of Horse-Mouse Somatic Cell Hybrids for Gene Mapping in the Horse"

**Pre-veterinary advisor**, 1994-present.

### **Public Service**

Presentation on "Horse Blood Typing at the University of Kentucky", to the Steward Accreditation class of the University of Louisville. 1990.

Officiating as judge at the State 4-H Horse Bowl Contest. University of Kentucky, Lexington, 1990.

1990 ITEC Conference-Presentation on Horse Blood Typing at the Kentucky Equine Research Foundation booth.

Officiating as judge at the State 4-H Horse Bowl contest, Louisville, 1992.

Presentation "Juvenile Cataracts-Potential for Genetic Testing" at the National Specialty Show of the Boston Terrier Club of America, 1993. Invited Speaker.

Elected Representative of the Boston Terrier Club of America at the AKC Parent Club Genetic Conference, Florham Park, NJ, 1995.

Officiated as a judge for the 4-H State Horse Demonstration Competition.  
Lexington, KY 1997.

Invited Speaker. Lexington Kennel Club. "Canine Genetics- Basic Tools for Dog Breeders". 1997.

Invited Speaker. Lexington Kennel Club. "The Dog Gene Map: Where is it Going?" 1999.

Officiating as judge at the State 4-H Horse Bowl contest, Lexington, KY 2004.

Presentation: Genetic Testing at the University of Kentucky Equine Parentage Lab. Presented to the Akhal-Teke Association of America, Lexington KY 2006.

Presentation: Genetic Testing at the University of Kentucky Equine Parentage Lab. Presented at the Horsemen Helping Horseman Education Event, Harrison County 4-H, Cynthiana KY 2007.

Presentation Genetic Testing at the University of Kentucky Equine Parentage Lab. Presented to the Gotland Pony Society of North America, Lexington KY 2007.

Presentation "The Quest for the EI Mutation: A Success Story" to the American Saddlebred Horse Association Board of Directors, Lexington KY 2007.

Presentation "Genetic Testing In Horses" at the Kentucky Breeders Short Course, Lexington KY 2010.

## **Outside Activities**

### Association Memberships

American Quarter Horse Association-Life Member  
American Paint Horse Association  
Pinto Horse Association of America  
Kentucky Quarter Horse Association  
Kentucky Paint Horse Breeders Association- Secretary/Treasurer  
Pinto Organization of Kentucky  
Boston Terrier Club of America  
Boston Terrier Club of Greater Cincinnati-past President  
Boston Terrier Club of Louisville  
Lexington Kennel Club

Maxwell H. Gluck Equine Research Center  
 Department of Veterinary Science  
 University of Kentucky  
 Lexington, KY 40546-0099  
 Phone: 859-257-4757 x81098  
 email: David.Horohov@UKy.edu

### Education

- Ph.D. 1985 University of Tennessee, Knoxville, TN 37996-0845
- M.S. 1981 Purdue University, West Lafayette, IN 47907
- B.S. 1978 Pennsylvania State University, University Park, PA 16802

### Academic and Professional Positions

- 8/03 – Present William Robert Mills Chair, Gluck Equine Research Center, Department of Veterinary Science, University of Kentucky, Lexington, KY 40546-0099.
- 7/95-7/03 Professor of Veterinary Immunology, Department of Pathobiological Sciences, School of Veterinary Medicine, Louisiana State University, Baton Rouge, LA 70808
- 7/99-12/99 Visiting Scientist, Sabbatical Leave, Animal Health Trust, Newmarket, UK
- 12/97 Visiting Professor, Department of Animal Sciences, Cook College, Rutgers University, New Brunswick, NJ.
- 7/91-6/95 Associate Professor of Veterinary Immunology, Department of Veterinary Microbiology and Parasitology, School of Veterinary Medicine, Louisiana State University, Baton Rouge, LA 70808
- 9/90-7/03 Director, School of Veterinary Medicine's Flow Cytometry Facility, Louisiana State University, Baton Rouge, LA 70808
- 6/88-6/91 Assistant Professor of Veterinary Immunology, Department of Veterinary Microbiology, and Parasitology, School of Veterinary Medicine, Louisiana State University, Baton Rouge, LA 70808
- 7/85- 6/88 Staff Fellow. Division of Cytokine Biology, Food and Drug Administration, Bethesda, MD

### Honors and Awards

- 2002 Pfizer Award for Research Excellence, LSU School of Veterinary Medicine
- 1997 Faculty Distinguished Scholar Award, LSU School of Veterinary Medicine
- 1995 University Award for Excellence in Teaching, Louisiana State University
- 1992 Smith Kline Beecham Research Award, LSU School of Veterinary Medicine
- 1992 Admitted to Gamma Sigma Delta
- 1991 Elected to membership in Phi Zeta
- 1989 LSU Student Government Award for Outstanding Graduate Teaching
- 1984 Outstanding student presentation, American Society of Microbiology, TN-KY Branch
- 1983 Elected to membership in Phi Kappa Phi

1978 Outstanding Senior in Entomology, Pennsylvania State University

## **Grants and Contracts**

### Prior

Signal requirement for memory cytotoxic T lymphocytes. National Institute of Allergy and Infectious Diseases (AI28542). September 1, 1989 through August 31, 1994. \$475,017 total.

Cellular and molecular biology of infectious disease. Louisiana Education Quality Support Funds Enhancement Component. \$225,000. October 1, 1988 - June 30, 1989. (T.R. Klei, PI).

The effect of exercise on cell-mediated immunity to equine influenza virus. School of Veterinary Medicine Equine Veterinary Research Program. \$66,300 total, September 1, 1989 - June 30, 1995.

Lymphatic lesion pathogenesis in *Brugia*-infected jirds. National Institute of Allergy and Infectious Disease. \$750,000, 1991 - 1996, (T.R. Klei, PI).

Characterization of exercise-induced alterations in lymphokine activated killer (LAK) cell function in horses. Grayson - Jockey Club Research Foundation, Inc. \$19,584/year, September 1, 1992 - August 30, 1994.

IL-2 production and IL-2 receptor expression in dogs with generalized demodicosis. Morris Animal Foundation. \$2,000. September 1, 1993 - August 31, 1994.

Flow Cytometry Computer Upgrade. Small Instrumentation Grants Program. National Institutes of Health. \$5,966. September 1, 1993 - August 31, 1994.

An investigation of equine helper T cell response to *Strongylus vulgaris*: Identification of TH1 and TH2 responses in infected ponies. USDA Formula Funds. \$4,000. January 1, 1993 - September 30, 1994.

Molecular Immunology and Toxicology. IdEA Program. National Institutes of Health. \$175,000. March 1, 1994 - February 27, 1997. (T.R. Klei, PI).

Development of an inflammatory research component of the Equine Veterinary Research Program. \$155,000. September 1, 1995 - August 31, 1996. (C. Short, PI).

Evaluation of peripheral and cutaneous immune response in dogs with generalized demodicosis. \$14,000. Morris Animal Foundation. February 1, 1996 - January 31, 1998.

The identification of equine T helper cell subsets. Grayson - Jockey Club Research Foundation, Inc. \$76,640. July 1, 1996 - September 30, 1998. 10% effort.

Equine T cell responses to nematode parasites. USDA-NRICGP. \$191,895. October 1, 1996 - September 30, 1998. (T.R. Klei, PI). 10% effort.

Lymphatic lesion pathogenesis in *Brugia*-infected jirds. National Institute of Allergy and Infectious Disease. \$1,200,000, 1991 - 1996, (T.R. Klei, PI). 5% effort.

Stress, Diet and Immune Function. US Army. #DAMD17-97-2-7013 \$1,400,000. April 1, 1997 - March 30, 2002, (D. Ryan, PI) 50% effort.

Equine influenza vaccine dose titration study. Heska Corporation, Fort Collins, CO. \$42,190. September 15, 1997 - November 15, 1997. 5% effort.

Molecular basis of stress-induced immune modulation. USDA-NRICGP. \$180,000. October 1, 1998 - September 30, 2000. 10% effort.

Investigations into age-associated immune dysfunction in horses, Home of Rest for Horses, UK\$10,870. July 1, 1999, (D. Hannant, PI).

The effect of aging on the immune response to influenza vaccination. Burroughs Wellcome Fund. Research Travel Grant. \$13,800. July 1, 1999 - December 30, 1999.

Does cytokine production correlate with reversible airway obstruction in SPAOPD horses? Grayson Jockey Club Research Foundation, Inc. April 1, 1999 - March 30, 2001.

The role of type 2 cytokines in equine recurrent airway obstruction (RAO). USDA-NRICGP. \$200,000. October 1, 1999 - September 30, 2001. 10% effort. Funded.

Does environmental tobacco smoke provoke a Th2 immune response? Phillip Morris Research Management Group. \$610,597. July 1, 2001 – June 30, 2003.

Respiratory immune response of young foals. Grayson Jockey Club Research Foundation, Inc. \$129,930, April 1, 2002-March 31, 2004.

Production of monoclonal antibodies to equine cytokines Grayson Jockey Club Research Foundation, Inc. 10% effort, \$74,998 April 1, 2004 – March 31, 2006

Progressive investigation of mare reproductive loss syndrome. Kentucky Thoroughbred Owners and Breeders. (K. McDowell, PI), 5% effort, \$27,116 immunology subcontract. April 1, 2004 – March 31, 2005

Analysis of Zylexis in Horses. Pfizer Animal Health. November 1, 2005 – October 31, 2006. \$49,035.



Effect of age on immunity to EHV-1. Pfizer. 5% effort. \$45,030. October 1, 2004 – September 30, 2005.

Molecular diagnostic and therapeutic approaches to chronic diseases resulting from inhaled toxicant exposure. Board of Regent's Governor's Biotechnology Initiative. (A. Penn, PI), \$695,827. October 27, 2002 – June 30, 2007.

Development of gene delivery approaches to treat equine respiratory disease. Kentucky Science & Engineering Foundation. \$49,756, January 8, 2006 – Dec 31, 2006.

Evaluation of the Immunological Response of Aged Horses to Vaccination with a Recombinant Equine Influenza Vaccine and Subsequent Influenza Challenge. Merial, Ltd. \$140,000. Dec 1, 2006 – November 31, 2007.

Evaluation of Sarcocystis neurona antigens for vaccines. (D. Howe, PI)., July 1, 2005 – June 30, 2007, \$30,000.

Analysis of Zylexis in Foals. Pfizer Animal Health. April 1, 2006 – March 30, 2008. \$64,305.

Immune response of young foals exposed to *Rhodococcus equi*. Grayson Jockey Club Research Foundation, Inc. \$145,382. April 1, 2005-March 31, 2007. PI.

U.S. Veterinary Immunology Reagent Network. USDA-NRI (C. Baldwin, PI) \$2,000,000. October 1, 2005 – September 30, 2009. Equine subcontract \$150,000.

Effect of Equiloid Innovator or Metastim on interferon-gamma production in the foal. Fort Dodge Animal Health, \$52,000, January 2007 – June 2008.

Immune response of young foals exposed to *Rhodococcus equi*. Grayson Jockey Club Research Foundation, Inc. \$145,382. April 1, 2007-March 31, 2009. PI.

### Current

EIAV Envelope Variation and Vaccine Efficacy. NIH, (R. Montelaro, PI) \$3,668,813.00, April 2009 – March, 2014 Co-PI.

The effect of a reversetrol-containing nutritional supplement on inflammatory cytokine production in aged horses. Biological Prospects, \$15,600. January 1 – June 30, 2009.

The effect of age on equine dendritic cell interactions with *Rhodococcus equi*. USDA AFRI. \$200,000. October 1, 2009 – September 30, 2011.

### **Membership in Professional Societies**

American Association of Immunologists  
American Association of Veterinary Immunologists  
Conference of Research Workers in Animal Diseases

## **Membership on Committees**

### University of Kentucky

Faculty Search Committee  
Department of Veterinary Science Resources  
Department of Veterinary Sciences Advisory and Strategic Planning Committee, Chair  
Clay Fellowship Selection Committee  
Equine Initiative Phase II committee  
University of Kentucky Tenure Review Area Committee (Medical Sciences)

### Louisiana State University

Faculty Senate (2001-2003)  
Program Review Council (2001-2003)  
Faculty Awards Committee (2000-2003)  
Institutional Animal Care and Use Committee (1990-2000), Chair (1995-2000)  
Dean of Graduate School Search Committee (1999)  
Board of Regents Enhancement Program Advisory and Review Committee (1998)  
Telecommunications/Distance Instruction Committee. (1996)  
Improvement of Instruction (1995-1996), Chair (1996)  
Division of Instructional Support and Development Advisory Council (1995-1999)  
Council of Policy Committees (1995)

### LSU School of Veterinary Medicine

Equine Veterinary Research Program Advisory Committee (1992-2000)  
Promotion and Tenure Committee. (1997- 1999)  
Faculty Policy Committee (1994-1995, 2000-2001)  
Educational Resources (1992-1994)  
Dean Search Committee (1993)  
Laboratory Animal Care and Use Committee (1991-1999), Chair (1995-1999)

### Other

American Association of Veterinary Immunologist Executive Committee.1996-present.

Equine Immunology Working Group of the International Union of Immunological Societies Education Committee, Pennington Biomedical Research Center. 1998- 1999.

### **Editorial Service**

American Journal of Veterinary Research, Editorial Board 1991  
Journal of Veterinary Internal Medicine, Referee  
Journal of American Veterinary Medical Association, Referee  
Veterinary Immunology and Immunopathology, Editorial Board  
Journal of Investigative Ophthalmology, Referee  
Equine Veterinary Journal, Guest Editor, Referee  
BMC Molecular Biology  
Vaccine  
Infection and Immunity

### **Peer Review Service**

Cornell University, Swiss National Science Foundation, Division of Biology and Medicine, Reviewer 2006.

National Institutes of Health. Lung Cellular, Molecular, and Immunobiology Study Section ad hoc reviewer. 2006.

Evaluator for University of Tennessee Higher Education Commission Centers of Excellence 2004

United States Department of Agriculture - National Research Initiative Competitive Grant Program. Panel member. 1997-1999, Ad hoc reviewer 1996-2006.

External Reviewer for Promotion, University of Edinburgh, Faculty of Veterinary Medicine, Edinburgh, Scotland. 2001.

External Reviewer. Phillip Morris Research Management Group, 2001-2006.

External Reviewer, Home of Rest for Horses, UK. 1999-2006.

External Reviewer, Ph.D. final exam. University of Guelph, Department of Microbiology, College of Veterinary Medicine, Guelph, Ontario, CA. 1999.

External Reviewer, Ph.D. general exam, Louisiana State University Medical School, Department of Microbiology and Immunology, Shreveport, LA. 1999.

United States Department of Agriculture Small Business Innovation Research. Ad hoc reviewer. 1997-1999.

External Reviewer for Tenure. Department of Medical Sciences, School of Veterinary Medicine, University of Wisconsin, Madison, WI. 1998.

External Reviewer for Tenure. Department of Veterinary Science, University of Kentucky, Lexington, KY. 1997.

Morris Animal Research Foundation. Ad hoc reviewer. 1995-1996.

### **Teaching Experience - LSU**

VMED 5217/5172 Veterinary Immunology. This course served as a general introduction to immunology and includes both basic and applied principles of cellular and humoral immune responses. Team taught with 3 other faculty. My responsibility was to cover the material on B and T cell ontogeny, receptor diversity, cytokines and cytokine signaling pathways, and immune regulation.

VMP 7413 Cellular and Molecular Immunology Laboratory. This laboratory techniques course was offered as three modules each emphasizing specific immunological techniques and procedures. I was responsible for the cell assays modules which feature laboratories on cell processing and handling techniques, proliferation assays, cytotoxicity assays, bioassays for detecting various cytokines, and RT-PCR procedures.

VMP 7417 Immune Response to Infectious and Parasitic Agents. This graduate level course provided an overview of immunological mechanisms involved in both protective and pathologic responses to bacteria, viruses, protozoans and metazoan parasites. The course was offered every other spring semester, alternating with VMP 7423. Team taught with 3 other faculty, I was responsible for the immunological overview and selected lectures on immunity to respiratory viruses and protozoan parasites.

VMP 7423 Cellular and Molecular Immunology. This course focused on the advanced principles of immunology. Emphasis was placed on the cellular and molecular basis of immune recognition and regulation. This course is offered every other spring semester, alternating with VMP 7417. Enrollment is around 20 students.

Z001 7800 Advanced Cell Biology: Signal Transduction. Guest lecturer on signal transduction pathways in the immune system. R. Bruch, coordinator.

VMED 5004 Introduction to Research. This course provided a general introduction to graduate education. Topics include selection, performance and analysis of the research

project; introduction to scientific literature and resources; and policies and procedures of graduate education at LSU.

VMED 7003 Nitric Oxide. Guest lecturer on the role of nitric oxide in regulating immune cell function. R. Moore, coordinator

## **Graduate Students**

### Master's Theses - Mentor

Madu Katepalli (2007) – “Telomere length and its relationship to immunosenescence in the horse.”

Daniel Fermaglich (2002). “The effect of aging on the immune response to an equine influenza virus vaccine.”

Kathy Clark (1992) "Cytokine production by influenza virus-stimulated CD4<sup>+</sup> T cells."

Christine Broussard-Diehl (1991) "Interleukin 4 production by influenza virus-stimulated CD8<sup>+</sup> T cells."

### Doctoral Dissertations - Mentor

Tracy Sturgill-Wright (Current) Characterization of the immune response of foals.

Shuliang Liu (Current) Undecided

Amanda Adams (2008) Inflamm-aging and immunosenescence in the aged horse.

Robert Folsom (1999). "The effect of exercise on immune function in equids"

Cyprianna Swiderski (1998) "Identification of TH1 and TH2 cells in the horse."

Sudhirdas Prayaga (1993) "Cytokines involved in memory cytotoxic T lymphocyte induction."

Deborah Lea (1992) "Cell-mediated immune response to Equine Infectious Anemia Virus."

Tammie Keadle (1992) "The effects of exercise on equine immune function."

### Post-doctoral Fellows

Kimberly Bowles (2001 – 2003). The effect of environmental tobacco exposure on asthma induction in a mouse model.

Cormac Breathnach (2004 – 2007). Induction of interferon-gamma expression in foals.

Catherine Merant (2006 – 2008) Development of equine immunologic reagents.

Amanda Adams (2008 – present)

Doctoral Dissertations – Committee Member (\* Graduated)

### **U K**

A. Verma (Vet Sci)

E. Chanem (Micro & Immunol)

M. Vick (Vet Sci)\*

L. Zhang (Vet Sci)

L. Palmer (Micro & Immunol)

A. Badstibner (Micro & Immunol)

### **LSU**

S. Barr (VMP)\*

T. Roth (AnSci)\*

S. Bosshardt (VMP)\*

B. Causey (VMP)\*

R. Vezeay (VP)\*

W. Reed (AnSci)\*

S. Rahmanian (Dy Sci)\*

J. Hawke (VMP)\*

Z. Mai (VMP)\*

J. Bu (VAN)\*

K. Choi (VMP)\*

L. Potla (VMP)\*

C. Madden (BCHM)\*

M. Lawrence (VMP)\* W. Swanson (AnSci)\*

M. Moore (VMP)\*

R. Hunter (VPPT)\*

H. Connelly (VPPT)\*

M. Edmond (VMP)\*

M. Hoyt (MICRO)\*

J. Zhou (PBRC)\*

M. Torrero (VMP)\*

B. Strom (ENTM)\*

J. Johnson (PBS)\*

R. Rouse (PBS)

### **Rutgers University**

P. Guirnalda\*

J. Strestlova\*

N. Liburt\*

E. Lamprecht

### **Prince Edward Island**

Julia Krause

## **BIBLIOGRAPHY – Refereed Publications**

1. Yeargan MR, Lyons ET, Kania SA, Patton S, Breathnach CC, Horohov DW, Howe DK. 2009. Incidental isolation of *Setaria equina* microfilariae in preparations of equine peripheral blood mononuclear cells. *Veterinary Parasitology* 161: 142-5
2. Shakya KP, Miller JE, Horohov DW. 2009. A Th2 type of immune response is associated with increased resistance to *Haemonchus contortus* in naturally infected Gulf Coast Native lambs. *Veterinary Parasitology* 163: 57-66

3. Merant C, Breathnach CC, Kohler K, Rashid C, Van Meter P, Horohov DW. 2009. Young foal and adult horse monocyte-derived dendritic cells differ by their degree of phenotypic maturity. *Veterinary Immunology and Immunopathology* 131: 1-8
4. Mealey RH, Leib SR, Littke MH, Wagner B, Horohov DW, McGuire TC. 2009. Viral load and clinical disease enhancement associated with a lentivirus cytotoxic T lymphocyte vaccine regimen. *Vaccine* 27: 2453-68
5. Lunn DP, Davis-Poynter N, Flaminio MJBF, Horohov DW, Osterrieder K, Pusterla N, Townsend HGG. 2009. Equine Herpesvirus-1 Consensus Statement. *Journal of Veterinary Internal Medicine* 23: 450-61
6. Chambers TM, Quinlivan M, Sturgill T, Cullinane A, Horohov DW, Zamarin D, Arkins S, Garcia-Sastre A, Palese P. 2009. Influenza A viruses with truncated NS1 as modified live virus vaccines: Pilot studies of safety and efficacy in horses. *Equine Veterinary Journal* 41: 87-92
7. Adams AA, Katepalli MP, Kohler K, Reedy SE, Stiliz JP, Vick MM, Fitzgerald BP, Lawrence LM, Horohov DW. 2009. Effect of body condition, body weight and adiposity on inflammatory cytokine responses in old horses. *Veterinary Immunology and Immunopathology* 127: 286-94
8. Wagner B, Hillegas JM, Brinker DR, Horohov DW, Antczak DF. 2008. Characterization of monoclonal antibodies to equine interleukin-10 and detection of T regulatory 1 cells in horses. *Veterinary Immunology and Immunopathology* 122: 57-64
9. Vick MM, Murphy BA, Sessions DR, Reedy SE, Kennedy EL, Horohov DW, Cook RF, Fitzgerald BR. 2008. Effects of systemic inflammation on insulin sensitivity in horses and inflammatory cytokine expression in adipose tissue. *American Journal of Veterinary Research* 69: 130-9
10. Marti E, Gerber V, Wilson AD, Lavoie JP, Horohov D, Cramer R, Lunn DP, Antczak D, Bjornsdottir S, Bjornsdottir TS, Cunningham F, Derer M, Frey R, Hamza B, Horin P, Hermann M, Kolm-Stark G, Olafsdottir G, Ramery E, Russell C, Schaffartzik A, Svansson V, Torsteinsdottir S, Wagner B. 2008. Report of the 3rd Havemeyer workshop on allergic diseases of the Horse, Holar, Iceland, June 2007. *Veterinary Immunology and Immunopathology* 126: 351-61
11. LeBlanc CJ, Horohov DW, Bauer JE, Hosgood G, Mauldin GE. 2008. Effects of dietary supplementation with fish oil on in vivo production of inflammatory mediators in clinically normal dogs. *American Journal of Veterinary Research* 69: 486-93
12. Katepalli MP, Adams AA, Lear TL, Horohov DW. 2008. The effect of age and telomere length on immune function in the horse. *Developmental and Comparative Immunology* 32: 1409-15
13. Horohov DW, Breathnach CC, Sturgill TL, Rashid C, Stiltner JL, Strong D, Nieman N, Holland RE. 2008. In vitro and in vivo modulation of the equine immune response by parapoxvirus ovis. *Equine Veterinary Journal* 40: 468-72
14. Adams AA, Breathnach CC, Katepalli MP, Kohler K, Horohov DW. 2008. Advanced age in horses affects divisional history of T cells and inflammatory cytokine production. *Mechanisms of Ageing and Development* 129: 656-64
15. Vick MM, Adams AA, Murphy BA, Sessions DR, Horohov DW, Cook RF, Shelton BJ, Fitzgerald BP. 2007. Relationships among inflammatory cytokines, obesity, and insulin sensitivity in the horse. *Journal of Animal Science* 85: 1144-55

16. Saulez MN, Godfroid J, Bosman A, Hinchcliff KW, Stiltner JL, Breathnach CC, Horohov DW. 2007. Effect of altitude on venous proinflammatory cytokine production in thoroughbred racehorses with exercise-induced pulmonary hemorrhage. *Journal of Veterinary Internal Medicine* 21: 668-9
17. Quinlivan M, Nelly M, Prendergast M, Breathnach C, Horohov D, Arkins S, Chiang YW, Chu HJ, Ng T, Cullinane A. 2007. Pro-inflammatory and antiviral cytokine expression in vaccinated and unvaccinated horses exposed to equine influenza virus. *Vaccine* 25: 7056-64
18. Penn AL, Rouse RL, Horohov DW, Kearney MT, Paulsen DB, Lomax L. 2007. In utero exposure to environmental tobacco smoke potentiates adult responses to allergen in BALB/c mice. *Environ Health Perspect* 115: 548-55
19. LeBlanc CJ, Dietrich MA, Horohov DW, Bauer JE, Hosgood G, Mauldin GE. 2007. Effects of dietary fish oil and vitamin E supplementation on canine lymphocyte proliferation evaluated using a flow cytometric technique. *Veterinary Immunology and Immunopathology* 119: 180-8
20. Fitzgerald BP, Horohov DW, Lang D, Christiansen DL, Hopper RM, Ryan PL. 2007. Perturbations in macrophage inflammatory cytokine mRNA expression in mares exposed to endophyte-infected tall fescue pastures. *Theriogenology* 68: 496-7
21. Slater JD, Lunn DP, Horohov DW, Antczak DF, Babiuk L, Breathnach C, Chang YW, Davis-Poynter N, Edington N, Ellis S, Foote C, Goehring L, Kohn C, Kydd J, Matsumura T, Minke J, Morley P, Mumford J, Neubauer T, O'Callaghan D, Osterrieder K, Reed S, Smith K, Townsend H, van der Meulen K, Whalley M, Wilson WD. 2006. Report of the equine herpesvirus-1 Havermeier Workshop, San Gimignano, Tuscany, June 2004. *Veterinary Immunology and Immunopathology* 111: 3-13
22. Pena MT, Miller JE, Horohov DW. 2006. Effect of CD4(+) T lymphocyte depletion on resistance of gulf coast native lambs to *Haemonchus contortus* infection. *Veterinary Parasitology* 138: 240-6
23. Lunn DP, Slater JS, Horohov DW. 2006. EHV-1 special edition. *Veterinary Immunology and Immunopathology* 111: 1-
24. Breathnach CC, Sturgill-Wright T, Stiltner JL, Adams AA, Lunn DP, Horohov DW. 2006. Foals are interferon gamma-deficient at birth. *Veterinary Immunology and Immunopathology* 112: 199-209
25. Miller J, Horohov D. 2005. Immunological aspects of nematode parasite control. *Journal of Dairy Science* 88: 128-
26. Miller J, Horohov D. 2005. Immunological aspects of nematode parasite control. *Journal of Animal Science* 83: 128-
27. Kleiber C, McGorum BC, Horohov DW, Pirie RS, Zurbriggen A, Straub R. 2005. Cytokine profiles of peripheral blood and airway CD4 and CD8 T lymphocytes in horses with recurrent airway obstruction. *Veterinary Immunology and Immunopathology* 104: 91-7
28. Horohov DW, Beadle RE, Mouch S, Pourciau SS. 2005. Temporal regulation of cytokine mRNA expression in equine recurrent airway obstruction. *Veterinary Immunology and Immunopathology* 108: 237-45
29. Horohov D, Gluck MH. 2005. Maturation of the neonate's immune response. *Journal of Equine Veterinary Science* 25: 366-
30. Bowles KS, Horohov DW, Paulsen DB, LeBlanc CJ, Littlefield-Chabaud MA, Ahlert T,



- Ahlert K, Pourciau SS, Penn A. 2005. Exposure of adult mice to environmental tobacco smoke fails to enhance the immune response to inhaled antigen. *Inhalation Toxicology* 17: 43-51
31. Tetens J, Moore RM, Hosgood GL, Eades SC, Keozven ML, Horohov DW. 2004. Effects of infusion of adenosine triphosphate-magnesium chloride on cardiopulmonary and clinicopathologic variables, cytokine activity, and endothelin concentration in horses administered a low dose of endotoxin. *American Journal of Veterinary Research* 65: 225-37
32. Jackson KA, Stott JL, Horohov DW, Watson JL. 2004. IL-4 induced CD23 (Fc(epsilon)RII) up-regulation in equine peripheral blood mononuclear cells and pulmonary alveolar macrophages. *Veterinary Immunology and Immunopathology* 101: 243-50
33. Hubert JD, Seahorn TL, Klei TR, Hosgood G, Horohov DW, Moore RM. 2004. Clinical signs and hematologic, cytokine, and plasma nitric oxide alterations in response to *Strongylus vulgaris* infection in helminth-naive ponies. *Canadian Journal of Veterinary Research-Revue Canadienne De Recherche Veterinaire* 68: 193-200
34. Soboll G, Horohov DW, Aldridge BM, Olsen CW, McGregor MW, Drape RJ, Macklin MD, Swain WF, Lunn DP. 2003. Regional antibody and cellular immune responses to equine influenza virus infection, and particle mediated DNA vaccination. *Veterinary Immunology and Immunopathology* 94: 47-62
35. Penn A, Paulsen D, Bowles K, Leblanc C, Littlefield-Chaubaud M, Ahlert T, Pourciau S, Ahlert K, Boykin E, Horohov D. 2003. Environmental tobacco smoke (ETS) elicits a time-dependent allergic airway response to inhaled antigen. *Toxicological Sciences* 72: 122-
36. Horohov DW. 2003. Is exercise bad for the immune system? *Equine Veterinary Journal* 35: 113-6
37. Horohov DW. 2003. Equine cytokines: Past, present and future (Reprinted from 21st Annual ACVIM Forum Proceedings). *Journal of Equine Veterinary Science* 23: 331-2
38. Cunningham FM, Vandergriff E, Bailey SR, Sepulveda MF, Goode NT, Horohov DW. 2003. Cloning, expression and biological activity of equine interleukin (IL)-5. *Veterinary Immunology and Immunopathology* 95: 63-72
39. LeBlanc MM, Giguere S, Brauer K, Paccamonti DL, Horohov DW, Lester GD, O'Donnell LJ, Sheerin BR, Pablo L, Rodgerson DH. 2002. Premature delivery in ascending placentitis is associated with increased expression of placental cytokines and allantoic fluid prostaglandins E-2 and F-2 alpha. *Theriogenology* 58: 841-4
40. Horohov DW, Kydd JH, Hannant D. 2002. The effect of aging on T cell responses in the horse. *Developmental and Comparative Immunology* 26: 121-8
41. Fermaglich DH, Horohov DW. 2002. The effect of aging on immune responses. *Veterinary Clinics of North America-Equine Practice* 18: 621-+
42. Bowles KS, Beadle RE, Mouch S, Pourciau SS, Littlefield-Chaubaud MA, Le Blanc C, Mistic L, Fermaglich D, Horohov DW. 2002. A novel model for equine recurrent airway obstruction. *Veterinary Immunology and Immunopathology* 87: 385-9
43. Beadle RE, Horohov DW, Gaunt SD. 2002. Interleukin-4 and interferon-gamma gene expression in summer pasture-associated obstructive pulmonary disease affected horses. *Equine Veterinary Journal* 34: 389-94
44. Lunn DP, Hussey S, Sebring R, Rushlow KE, Radecki SV, Whitaker-Dowling P, Youngner JS, Chambers TM, Holland RE, Horohov DW. 2001. Safety, efficacy and immunogenicity of a modified-live equine influenza virus vaccine in ponies after induction of

- exercise-induced immunosuppression. *Journal of the American Veterinary Medical Association* 218: 900-6
45. Lunn DP, Horohov DW. 2001. Immunology special issue. *Equine Veterinary Journal* 33: 627-
  46. Horohov DW, Pourciau SS, Mistic L, Chapman A, Ryan DH. 2001. Increased dietary fat prevents sleep deprivation-induced immune suppression in rats. *Comparative Medicine* 51: 230-3
  47. Guirnalda PD, Malinowski K, Roegner V, Horohov DW. 2001. Effects of age and recombinant equine somatotropin (eST) administration on immune function in female horses. *Journal of Animal Science* 79: 2651-8
  48. Folsom RW, Littlefield-Chabaud MA, French DD, Pourciau SS, Mistic L, Horohov DW. 2001. Exercise alters the immune response to equine influenza virus and increases susceptibility to infection. *Equine Veterinary Journal* 33: 664-9
  49. Edmonds JD, Horohov DW, Chapman MR, Pourciau SS, Antoku K, Snedden K, Klei TR. 2001. Altered immune responses to a heterologous protein in ponies with heavy gastrointestinal parasite burdens. *Equine Veterinary Journal* 33: 658-63
  50. Swiderski CE, Sobol G, Lunn DP, Horohov DW. 2000. Molecular cloning, sequencing, and expression of equine interleukin-6. *Veterinary Immunology and Immunopathology* 77: 213-20
  51. Lunn DP, Horohov DW. 2000. Equine practice - Immunology - Preface. *Veterinary Clinics of North America-Equine Practice* 16: Xi-Xii
  52. Horohov DW, Lunn DP, Townsend HGG, Wilson D. 2000. Equine vaccination. *Journal of Veterinary Internal Medicine* 14: 221-2
  53. Horohov DW. 2000. Equine T-cell cytokines - Protection and pathology. *Veterinary Clinics of North America-Equine Practice* 16: 1-+
  54. Gilger BC, Malok E, Stewart T, Horohov D, Ashton P, Smith T, Jaffe GJ, Allen JB. 2000. Effect of an intravitreal cyclosporine implant on experimental uveitis in horses. *Veterinary Immunology and Immunopathology* 76: 239-55
  55. Dohmann K, Wagner B, Horohov DW, Leibold W. 2000. Expression and characterisation of equine interleukin 2 and interleukin 4. *Veterinary Immunology and Immunopathology* 77: 243-56
  56. Benarafa C, Cunningham FM, Hamblin AS, Horohov DW, Collins ME. 2000. Cloning of equine chemokines eotaxin, monocyte chemoattractant protein (MCP)-1, MCP-2 and MCP-4, mRNA expression in tissues and induction by IL-4 in dermal fibroblasts. *Veterinary Immunology and Immunopathology* 76: 283-98
  57. Attia KA, Zaki AA, Eilts BE, Paccamonti DL, Hosgood G, Dietrich MA, Horohov DW, Blouin DC. 2000. Anti-sperm antibodies and seminal characteristics after testicular biopsy or epididymal aspiration in dogs. *Theriogenology* 53: 1355-63
  58. Swiderski CE, Klei TR, Horohov DW. 1999. Quantitative measurement of equine cytokine mRNA expression by polymerase chain reaction using target-specific standard curves. *Journal of Immunological Methods* 222: 155-69
  59. Swiderski CE, Klei TR, Folsom RV, Pourciau SS, Chapman A, Chapman MR, Moore RM, McClure JR, Taylor HW, Horohov DW. 1999. Vaccination against *Strongylus vulgaris* in ponies: Comparison of the humoral and cytokine responses of vaccinates and nonvaccinates. *Advances in Veterinary Medicine, Vol 41* 41: 389-404

60. Rao UR, Nasarre C, Coleman SU, Horohov DW, Klei TR. 1999. Short report: Granulomatous inflammatory response to recombinant filarial proteins of *Brugia* species. *American Journal of Tropical Medicine and Hygiene* 60: 251-4
61. Horohov DW, Dimock A, Guirnalda P, Folsom RW, McKeever KH, Malinowski K. 1999. Effect of exercise on the immune response of young and old horses. *American Journal of Veterinary Research* 60: 643-7
62. Hammond SA, Horohov D, Montelaro RC. 1999. Functional characterization of equine dendritic cells propagated ex vivo using recombinant human GM-CSF and recombinant equine IL-4. *Veterinary Immunology and Immunopathology* 71: 197-214
63. Gilger BC, Malok E, Horohov DW, Ashton P, Jaffe GJ, Allen JB. 1999. Effect of an intravitreal cyclosporine (CsA) implant on experimental uveitis in horses. *Investigative Ophthalmology & Visual Science* 40: S138-S
64. Gilger BC, Malok E, Cutter KV, Stewart T, Horohov DW, Allen JB. 1999. Characterization of T-lymphocytes in the anterior uvea of eyes with chronic equine recurrent uveitis. *Veterinary Immunology and Immunopathology* 71: 17-28
65. Gentry LR, Thompson DL, Fernandez JM, Smith LA, Horohov DW, Leise BS. 1999. Effects of chromium tripicolinate supplementation on plasma hormone and metabolite concentrations and immune function in adult mares. *Journal of Equine Veterinary Science* 19: 259-65
66. Gentry LR, Fernandez JM, Ward TL, White TW, Southern LL, Bidner TD, Thompson DL, Horohov DW, Chapa AM, Sahl T. 1999. Dietary protein and chromium tripicolinate in Suffolk wether lambs: Effects on production characteristics, metabolic and hormonal responses, and immune status. *Journal of Animal Science* 77: 1284-94
67. Bueno AC, Seahorn TL, Cornick-Seahorn J, Horohov DW, Moore RM. 1999. Plasma and urine nitric oxide concentrations in horses given a low dose of endotoxin. *American Journal of Veterinary Research* 60: 969-76
68. Mai ZM, Horohov DW, Klei TR. 1998. Hypoxanthine phosphoribosyltransferase cDNA in gerbils (*Meriones unguiculatus*). *Laboratory Animal Science* 48: 179-83
69. Veazey RS, Horohov DW, Krahenbuhl JL, Taylor HW, Oliver JL, Snider TG. 1996. Differences in the kinetics of T cell accumulations in C3H/HeN (Bcg-resistant) and C57BL/6 (Bcg-susceptible) mice infected with *Mycobacterium paratuberculosis*. *Comparative Immunology Microbiology and Infectious Diseases* 19: 289-304
70. Swanson WF, Roth TL, Graham K, Horohov DW, Godke RA. 1996. Kinetics of the humoral immune response to multiple treatments with exogenous gonadotropins and relation to ovarian responsiveness in domestic cats. *American Journal of Veterinary Research* 57: 302-7
71. Swanson WF, Graham K, Horohov DW, Thompson DL, Godke RA. 1996. Ancillary follicle and secondary corpora lutea formation following exogenous gonadotropin treatment in the domestic cat and effect of passive transfer of gonadotropin-neutralizing antisera. *Theriogenology* 45: 561-72
72. Rao UR, Nasarre C, Coleman SU, Baker M, Dennis VA, Horohov DW, Klei TR. 1996. Cellular immune responses of jirds to extracts of life cycle stages and adult excretory secretory products during the early development of *Brugia pahangi*. *Experimental Parasitology* 82: 255-66
73. Lunn DP, Schram BR, Vagnoni KE, Schobert CS, Horohov DW, Ginther OJ. 1996. Positive selection of EqCD8(+) precursors increases equine lymphokine-activated killing.

*Veterinary Immunology and Immunopathology* 53: 1-13

74. Lemarie SL, Horohov DW. 1996. Evaluation of interleukin-2 production and interleukin-2 receptor expression in dogs with generalized demodicosis. *Veterinary Dermatology* 7: 213-9
75. Horohov DW, Keadle TL, Pourciau SS, LittlefieldChabaud MA, Kammerling SG, Keowen ML, French DD, Melrose PA. 1996. Mechanism of exercise-induced augmentation of lymphokine activated killer (LAK) cell activity in the horse. *Veterinary Immunology and Immunopathology* 53: 221-33
76. Veazey RS, Taylor HW, Horohov DW, Krahenbuhl JL, Oliver JL, Snider TG. 1995. Histopathology of C57bl/6 Mice Inoculated Orally with Mycobacterium-Paratuberculosis. *Journal of Comparative Pathology* 113: 75-80
77. Veazey RS, Horohov DW, Krahenbuhl JL, Taylor HW, Oliver JL, Snider TG. 1995. Comparison of the Resistance of C57bl/6 and C3h/He Mice to Infection with Mycobacterium-Paratuberculosis. *Veterinary Microbiology* 47: 79-87
78. Swanson WF, Horohov DW, Godke RA. 1995. Production of Exogenous Gonadotropin-Neutralizing Immunoglobulins in Cats after Repeated Ecg-Hcg Treatment and Relevance for Assisted Reproduction in Felids. *Journal of Reproduction and Fertility* 105: 35-41
79. Byrne KM, Horohov DW, Kousoulas KG. 1995. Glycoprotein-B of Bovine Herpesvirus-1 Binds Heparin. *Virology* 209: 230-5
80. Vandergriff EV, Swiderski CE, Horohov DW. 1994. Molecular-Cloning and Sequencing of Equine Interleukin-4. *Veterinary Immunology and Immunopathology* 40: 379-84
81. Mai ZM, Kousoulas KG, Horohov DW, Klei TR. 1994. Cross-Species Pcr Cloning of Gerbil (*Meriones-Unguiculatus*) Interleukin-2 Cdna and Its Expression in Cos-7 Cells. *Veterinary Immunology and Immunopathology* 40: 63-71
82. Vandergriff EV, Horohov DW. 1993. Molecular-Cloning and Expression of Equine Interleukin-2. *Veterinary Immunology and Immunopathology* 39: 395-406
83. Prayaga SK, Horohov DW. 1993. Cytokine Regulation of Human Influenza Virus-Specific Cytotoxic T-Lymphocyte Induction. *Journal of Immunology* 150: A47-A
84. Potla L, Horohov DW, Keadle TL, Littlefieldchabaud MA, Kamerling SG, Melrose PA. 1993. Diurnal Changes in Specific Binding of Cortisol to Cytosolic and Nuclear Fractions from Equine Peripheral-Blood Mononuclear-Cells. *Journal of Equine Veterinary Science* 13: 578-81
85. Montelaro RC, Rushlow KE, Wang S, Issel CJ, Horohov DW. 1993. Pony Tales of the Immunological Management and Mismanagement of Infection and Disease by Experimental Vaccines to Equine Infectious-Anemia Virus. *Aids Research and Human Retroviruses* 9: S81-S
86. Melrose PA, Keadle TL, Kamerling SG, Horohov DW. 1993. Effect of Met-Enkephalin on the Proliferative Response of Equine Peripheral-Blood Mononuclear-Cells and Purified T-Lymphocytes. *Journal of Equine Veterinary Science* 13: 583-8
87. Melrose PA, Keadle TL, Kamerling SG, Horohov DW. 1993. Variable Effects of Proopiomelanocortin Peptides on the Proliferative Response of Equine Immune Cells. *Journal of Equine Veterinary Science* 13: 567-72
88. Keadle TL, Pourciau SS, Melrose PA, Kammerling SG, Horohov DW. 1993. Acute Exercise Stress Modulates Immune Function in Unfit Horses. *Journal of Equine Veterinary Science* 13: 226-31
89. Jonestiffany LA, Mehrotra PT, Horohov DW, Siegel J, Kozak RW. 1993. Low Versus High-Density of Immobilized Anti-Cd3 Influences Il-4 Regulation of T-Cell Immune-Responses.

*Cellular Immunology* 147: 425-37

90. Roth TL, White KL, Thompson DL, Rahmanian S, Horohov DW. 1992. Involvement of Interleukin-2 Receptors in Conceptus-Derived Suppression of T-Cell and B-Cell Proliferation in Horses. *Journal of Reproduction and Fertility* 96: 309-22
91. Roth TL, White KL, Thompson DL, Horohov DW. 1992. Pge2-Independent Immunosuppressive Activity of Horse Trophoblast Tissue. *Journal of Reproductive Immunology* 21: 87-95
92. Issel CJ, Horohov DW, Lea DF, Adams WV, Hagius SD, Mcmanus JM, Allison AC, Montelaro RC. 1992. Efficacy of Inactivated Whole-Virus and Subunit Vaccines in Preventing Infection and Disease Caused by Equine Infectious-Anemia Virus. *Journal of Virology* 66: 3398-408
93. Hormanski CE, Truax R, Pourciau SS, Folsom RW, Horohov DW. 1992. Induction of Lymphokine-Activated Killer-Cells of Equine Origin - Specificity for Equine Target-Cells. *Veterinary Immunology and Immunopathology* 32: 25-36
94. Roth TL, White KL, Horohov DW. 1991. Suppression of Sheep and Goat Lymphocyte-Proliferation by Sheep, Goat, and Sheep X Goat Hybrid Trophoblast Tissue-Cultures. *Journal of Animal Science* 69: 4563-9
95. Newman MJ, Issel CJ, Truax RE, Powell MD, Horohov DW, Montelaro RC. 1991. Transient Suppression of Equine Immune-Responses by Equine Infectious-Anemia Virus (Eiav). *Virology* 184: 55-66
96. Levandowski RA, Horohov DW. 1991. Rhinovirus Induces Natural Killer-Like Cytotoxic-Cells and Interferon-Alpha in Mononuclear Leukocytes. *Journal of Medical Virology* 35: 116-20
97. Horohov DW, Stocks NI, Siegel JP. 1988. Limiting-Dilution Analysis of Human Ctl Differentiation - Requirement for a Lymphokine-Mediated Differentiation Signal. *Immunology* 65: 119-24
98. Horohov DW, Crim JA, Smith PL, Siegel JP. 1988. Il-4 (B-Cell-Stimulatory Factor-I) Regulates Multiple Aspects of Influenza Virus-Specific Cell-Mediated-Immunity. *Journal of Immunology* 141: 4217-23
99. Horohov DW, Siegel JP. 1987. Lymphokines - Progress and Promise. *Drugs* 33: 289-95
100. Sims MH, Horohov JE. 1986. Effects of Xylazine and Ketamine on the Acoustic Reflex and Brain-Stem Auditory-Evoked Response in the Cat. *American Journal of Veterinary Research* 47: 102-9
101. Rouse BT, Horohov DW. 1986. Immunosuppression in Viral-Infections. *Reviews of Infectious Diseases* 8: 850-73
102. Moore RN, Joshi JG, Deana DG, Pitruzzello FJ, Horohov DW, Rouse BT. 1986. Characterization of a 2-Signal-Dependent, Ia+ Mononuclear Phagocyte Progenitor Subpopulation That Is Sensitive to Inhibition by Ferritin. *Journal of Immunology* 136: 1605-11
103. Horohov DW, Wyckoff JH, Moore RN, Rouse BT. 1986. Regulation of Herpes-Simplex Virus-Specific Cell-Mediated-Immunity by a Specific Suppressor Factor. *Journal of Virology* 58: 331-8
104. Horohov DW, Rouse BT. 1986. Virus-Induced Immunosuppression. *Veterinary Clinics of North America-Small Animal Practice* 16: 1097-127
105. Horohov DW, Moore RN, Rouse BT. 1985. Production of Soluble Suppressor Factors by Herpes-Simplex Virus-Stimulated Splenocytes from Herpes-Simplex Virus-Immune Mice.

*Journal of Virology* 54: 798-803

106. Horohov DW, Moore RN, Rouse BT. 1985. Regulation of Herpes-Simplex Virus-Specific Lymphoproliferation by Suppressor Cells. *Journal of Virology* 56: 1-6
107. Horohov DW, Moore RN, Rouse BT. 1985. Herpes-Simplex Virus-Specific Lymphoproliferation - an Analysis of the Involvement of Lymphocyte Subsets. *Immunobiology* 170: 460-73
108. Rouse BT, Horohov DW. 1984. Cyto-Toxic T Lymphocytes in Herpesvirus Infections. *Veterinary Immunology and Immunopathology* 6: 35-66
109. Moore RN, Larsen HS, Horohov DW, Rouse BT. 1984. Endogenous Regulation of Macrophage Proliferative Expansion by Colony-Stimulating Factor Induced Interferon. *Science* 223: 178-81
110. Larsen HS, Feng MF, Horohov DW, Moore RN, Rouse BT. 1984. Role of Lymphocyte-T Subsets in Recovery from Herpes-Simplex Virus-Infection. *Journal of Virology* 50: 56-9
111. Horohov DW, Dunn PE. 1984. Role of Hemocytotoxins in the Pathogenicity of *Pseudomonas-Aeruginosa* in Larvae of the Tobacco Hornworm, *Manduca-Sexta*. *Journal of Invertebrate Pathology* 43: 297-8
112. Horohov DW, Dunn PE. 1983. Phagocytosis and Nodule Formation by Hemocytes of *Manduca-Sexta* Larvae Following Injection of *Pseudomonas-Aeruginosa*. *Journal of Invertebrate Pathology* 41: 203-13
113. Moore RN, Horohov DW, Rouse BT. 1982. Enhanced Responsiveness to Colony-Stimulating Factor Induced In vitro with Murine Interferon and Lymphokine Preparations. *Immunobiology* 163: 289-
114. Horohov DW, Dunn PE. 1982. Changes in the Circulating Hemocyte Population of *Manduca-Sexta* Larvae Following Injection of Bacteria. *Journal of Invertebrate Pathology* 40: 327-39

## **BOOK CHAPTERS**

Lunn, D.P. and D.W. Horohov. (2009). The immune system. In "Equine Internal Medicine", S. Reed, W. Bayly, and D.C. Sellon; eds., Saunders Elsevier, St. Louis, p.1-56.

Horohov, D.W. (2008) Immunological response to exercise and training. In "Equine Sports Medicine and Training", K.W. Hinchcliff, K.W., Geor, R.J., and A.J. Kaneps, eds., Saunders Elsevier, Edinburgh, p. 410 -422.

Horohov, D.W. (2004) Immunological response to exercise and training. In "Equine Sports Medicine and Training", K.W. Hinchcliff, K.W., Kaneps, A.J., and Geor, R.J. eds., Saunders, Edinburgh, p. 1000-1010.

Fermaglich D.H. and D.W. Horohov. (2002) The effect of aging on immune responses. In "The Veterinary Clinics of North America Equine Practice: Geriatric Medicine", J.M. MacLeay, editor, W. B. Saunders Company, Philadelphia.

Horohov D.W. (2000) Equine T-cell cytokines. Protection and pathology. In: "The Veterinary

Clinics of North America Equine Practice: Equine Immunology". D.P. Lunn and D.W. Horohov, eds. W. B. Saunders Company, Philadelphia.

Horohov, D.W., Swiderski, C.E., Robinson, J.A. and T.R. Klei. 1998. Cytokine production in various equine disease settings. In: "Cytokines in Veterinary Medicine", M.C. Horzinek and V.E.C.J. Schilns, eds., CAB International, UK.

Lunn DP, Hannant D, and D.W. Horohov. 1998. Immunology of horses and donkeys. In: "Handbook of Vertebrate Immunology", P.P. Pastoret, H. Bazin, P. Griebel, and H. Govaerts, eds., Academic Press, London.

Horohov, D.W. 1997. Contemporary Immunology. In: "Equine Internal Medicine", S. Reed and W. Bayly, eds., W. B. Saunders & Co, Philadelphia, p.1-21.

## **PUBLISHED ABSTRACTS**

Moore, R.N., D.W. Horohov, and B.T. Rouse. 1982. Enhanced responsiveness to colony-stimulating factor induced in vitro with murine interferon and lymphokine preparations. Immunobiology 163: 289.

Horohov, D.W., R.N. Moore, and B.T. Rouse. 1984. Production of soluble suppressor factors by herpes simplex virus-immune splenocytes stimulated in vitro with HSV. Fed. Proc. 43:1608.

Nassisse, M.P., R.G. Russel, D.W. Horohov, and B.T. Rouse. 1984. Cellular mechanisms of herpetic keratitis in mice. Invest. Ophthalmol. Vis. Sci. ARVO suppl. 25:25.

Horohov, D.W., N.I. Stocks, and J.P. Siegel. 1986. Limiting dilution analysis of influenza A-specific cell mediated immunity in humans. 6th International Congress of Immunology, Toronto, Canada, Abstract 3.23.10.

Horohov, D.W., N.I. Stocks, and J.P. Siegel. 1987. Maturation of influenza virus-specific cytotoxic lymphocytes requires a lymphokine distinct from IL-2. Fed. Proc. 46:785.

Horohov, D.W. and J.P. Siegel. 1987. Different lymphokine requirements for maturation of cytotoxic T lymphocyte (CTL) precursors. Clin. Res. 35:476A.

Horohov, D.W. and J.P. Siegel. 1987. The 4B4 and 2H4 subsets of CD4 lymphocytes manifest distinct regulatory roles in the development of cytotoxic T lymphocytes. Clin. Res. 35:477A.

Horohov, D.W. and J.P. Siegel. 1988. Interleukin 4 (IL-4) affects both proliferative and differentiative phases of cytotoxic T lymphocyte (CTL) induction. FASEB J. 2:3515.

Horohov, D.W., J.A. Crim, and J.P. Siegel. 1988. Interleukin 4 induces both differentiation and suppression of cytotoxic T lymphocytes. *Clin. Res.* 36:575A.

Horohov, D.W., J. Mester, S. Pourcieau, A. Baghian, B.T. Rouse, and K.G. Kousoulas. 1989. Identification of a Cytotoxic T lymphocyte epitope on Herpes simplex virus glycoprotein B. International Herpes Conference, Copenhagen, Denmark

Kozak, R.W. D.W. Horohov, L. Jones, and J.P. Siegel. 1989. IL-4 regulation of the human anti-CD3 proliferative response. *FASEB J.* 3:1465.

Roth, T.L., K.L. White, D.W. Horohov, and D.L. Thompson. 1990. Characterization of horse conceptus-derived immunosuppressive activity. *Biol. Reprod.* (Suppl. 1) 42:75.

Hormanski, C.E., R. Truax, S.S. Pourciau, R.W. Folsom, and D.W. Horohov. 1991. Equine lymphokine activated killer (LAK) cells lyse allogeneic but not xenogeneic tumor cells. *FASEB J.* 5:1553

Lea, D.F., M.A. Dietrich, C.J. Issel, R.C. Montelaro and D.W. Horohov. 1991. The effect of vaccination on cell-mediated immunity to equine infectious anemia virus (EIAV). *FASEB J.* 5:7750.

Keadle, T.L., D.W. Horohov, and P.A. Melrose. Adrenocorticotrophic hormone (ACTH) fragments modify phytohemagglutinin-stimulated lymphocyte proliferation. *Soc. Neuroscience Abstract*, 1991.

Prayaga, S.K., K. Clark, C. Broussard-Diehl and D.W. Horohov. 1992. Cytokine production and responsiveness of influenza virus-specific T cells. *FASEB J.* 6:2794.

Keadle, T.L., S.S. Pourciau, P.A. Melrose, S.G. Kammerling, and D.W. Horohov. 1992. Acute exercise stress augments equine LAK activity. *FASEB J.* 6:6128.

Lea, D.F., R.C. Montelaro, C. J. Issel, and D.W. Horohov. 1992. T lymphocyte response to equine infectious anemia virus (EIAV) synthetic peptides. *FASEB J.* 6:1188.

Prayaga, S.K. and D.W. Horohov. 1993. Cytokine regulation of human influenza virus-specific cytotoxic T lymphocyte induction. *J. Immunol.* 150: 47A.

McClure, J.J. and D.W. Horohov. 1994. Update on Immunology. 40th Annual AAEP Convention Proceedings.

R.W. Folsom, S.S. Pourciau, M.A. Littlefield-Chaubaud, S.G. Kammerling, P.A. Melrose, D. D. French and D.W. Horohov. 1995. Exercise increases susceptibility to influenza virus infection in vaccinated ponies. Fourth International Veterinary Immunology Symposium, Davis CA.



Swiderski, C.E. and D.W. Horohov. 1995. Molecular cloning and sequencing of equine interleukin 10 (IL-10) and beta-actin. Conference of Research Workers in Animal Diseases Abstracts, Chicago, IL.

Swiderski, C.E., N. Rosin, R.E. Beadle, T.R. Klei, and D.W. Horohov. 1996. Cytokine mRNA concentrations from diseased equids support the existence of helper T-cell subsets. *Vet. Immunol. Immunopathol.* 54:73.

Horohov, D.W., Kamerling, S.G., Pourciau, S.S., Littlefield-Chabaud, M.A., Cowan, M., and D.D. French. Alprazolam augments exercise-induced immune modulation in horses. Conference of Research Workers in Animal Diseases, Chicago, IL, November 11-12, 1996.

Horohov, D.W. Swiderski, C.E., Pourciau, C.E., Chapman, M.R., McClure, J.R., Moore, R.M., Taylor, H.W., and T.R. Klei. Immune response to *Strongylus vulgaris* in vaccinated ponies. First International Veterinary Vaccine and Diagnostics Conference, Madison, WI, July 22, 1997

Horohov, D.W., Chapman, A., Pourciau, S.S., Chapman, M.R., and T.R. Klei. Proinflammatory cytokine response in *Strongylus vulgaris* challenged ponies. Conference of Research Workers in Animal Diseases, Chicago, IL, November 11-11, 1997.

Gilger, B.C., Neri, G., Cutter, K., Bond, A., Vanderheydan, C., Morgan, D., Horohov, D.W., Jaffe, G.I., and J.B. Allen. 1997. Immunologic evaluation of naturally-occurring recurrent uveitis in horses. Program of the 28th Annual Meeting of the ACVO, Santa Fe, NM.

Gilger, B.C., Cutter, K., Neri, G., Bond, A., Vanderheydan, C., Morgan, D., Horohov, D.W., Jaffe, G.I., and J.B. Allen. 1997. Clinical and immunologic evaluation of an experimental (S-antigen) model of equine recurrent uveitis. *ARVO supplement.*

Klei, T.R., U.R. Rao, D.W. Horohov and S.U. Coleman. 1997. Cytokine profiles in jird lymphoid tissues during early *Brugia pahangi* infections. *Proc. Am. Soc. Trop. Med. Hyg.* Orlando, FL, p. 149.

Horohov, D.W., R.B. Harris And S.S. Pourciau. 1998. A high fat diet exacerbates stress-induced changes in immune function. *FASEB J.* 12, 5044.

Swiderski, C.E., T.R. Klei, S.S. Pourciau, M.R. Chapman, R. Moore, J.R. McClure and D.W. Horohov. 1998. Cytokine responses to *Strongylus vulgaris* in infected and vaccinated ponies. *Proc. 16<sup>th</sup> ACVIM Forum.* San Diego, CA, #131.

Sobol, G., C.E. Swiderski, D.W. Horohov, M. McGregor, D. Larsen, C.W. Olsen, and D.P. Lunn. 1998. Development of an equine IL-6 plasmid for use as an adjuvant in DNA vaccination. *Proc. 16<sup>th</sup> ACVIM Forum.* San Diego, CA, #132.

Swiderski, C.E., T.R. Klei, and D.W. Horohov. 1998. Type 1 and Type 2 cytokine responses in horses. Proc. 16<sup>th</sup> ACVIM Forum. San Diego, CA, p.189.

Horohov, D.W., Vanderheyden, C., Pourciau, S., Chapman, M., and T.R. Klei. 1998. Immunity to equine nematodes involves a Type 2 cytokine response. 5<sup>th</sup> International Veterinary Immunology Symposium, Ludhiana, India.

Horohov, D.W., S.S. Pourciau, A. Chapman, L. Mistic and D. Ryan. 1999. Polyunsaturated fatty acids (PUFA) prevent sleep deprivation-induced immune suppression. FASEB J. 13:A587.

Horohov, D.W., K. Antoku, C. Vanderhayden, S.S. Pourciau, M. Chapman, R. Moore and T.R. Klei. 1999. Immunity to *Strongylus vulgaris* involves a Type 2 cytokine response. FASEB J. 13:A639.

Horohov, D.W. 1999. Cytokines in Equine Medicine. In: Equine Infectious Diseases VIII. U. Wernery, J.F. Wade, J.A. Mumford and O,-R. Kaaden (eds.). R&W Publications (Newmarket:) Ltd. p. 483.

Lunn, D.P., G. Sobol, C. Swideski, D.W. Horohov and C.W. Olsen. 1999. Equine cytokine-expressing plasmids: applications as DNA vaccine adjuvants and for generation of anti-cytokine monoclonal antibodies. In: Equine Infectious Diseases VIII. U. Wernery, J.F. Wade, J.A. Mumford and O,-R. Kaaden (eds.). R&W Publications (Newmarket:) Ltd. p. 484.

Benarafa, C., D.W. Horohov, A.S. Hamblin, F.M. Cunningham and M.E. Collins. 1999. Induction of the expression of equine CC-chemokine mRNAs in dermal fibroblasts by interleukin 4. Immunology 98: 47.

Pena, M.T., Miller, J.E., Horohov, D., Barras, S., and Pourciau, S., 2000. The effect of corticosteroid treatment on the immune response to *Haemonchus contortus* infections in neonatal Gulf Coast Native lambs. Proc 45<sup>th</sup> Ann Meeting Amer Assoc Vet Parasitol. p47.

LeBlanc, C., M. Dietrich, D. Horohov, G., Hosgood, and G. Mauldin. 2002. Evaluation of a flow cytometric method to determine lymphocyte proliferation in the canine. Vet Clin Path Vol. 31,153.

Penn, A., Paulsen, D., Bowles, K., Leblanc, C., Littlefield-Chaubaud, M., Ahlert, T., Pourciau, S., Ahlert, K., Boykin, E., and Horohov, D. (2003). Environmental tobacco smoke (ETS) elicits a time-dependent allergic airway response to inhaled antigen. Toxicol Sci 72, 122.

## **PUBLISHED GENE SEQUENCES**

<u>Sequence</u>	<u>GeneBank Accession Number</u>
Equine Interleukin 2	L06009
Equine Interleukin 4	L06010

Equine Interleukin 5	U91947
Equine Interleukin 6	U64794
Equine Interleukin 10	U38200
Equine Interleukin 13	DQ889711
Equine Beta Actin	AF035774
Equine CD3 $\zeta$	DQ885232
Equine MCP-1*	AJ251189
Equine MCP-2*	AJ251190
Equine MCP-4*	AJ251191
Equine eotaxin*	AJ251188
* Collaborator	

## INVITED LECTURES

"Cell-mediated immune responses to EIAV following vaccination and infection" Department of Molecular Genetics and Biochemistry, University of Pittsburgh, School of Medicine, Pittsburgh, PA. January 7, 1991.

"Set/Body/Closure" GTA Instructional Workshop. Louisiana State University, Baton Rouge, LA. February 1, 1991.

"Lecture Alternatives" GTA Instructional Workshop. Louisiana State University, Baton Rouge, LA. February 1, 1991.

"Lecture Organization" GTA Instructional Workshop. Louisiana State University, Baton Rouge, LA. September 14, 1991.

"Exercise-induced changes in equine immune function." Gluck Equine Research Center, University of Kentucky, Lexington, KY. June 15, 1992.

"Planning a Lecture" Teaching workshop. Louisiana State University, Baton Rouge, LA. September 26, 1992

"Exercise-Induced Changes In Equine Immune Function." University of Tennessee, Knoxville, TN. May 16, 1993.

"Use of Interleukin 2 as an adjuvant for equine influenza virus vaccine." Gluck Equine Research Center, University of Kentucky, Lexington, KY, June 4, 1993.

"The effect of exercise-induced stress on immune function in the horse." Department of Kinesiology, LSU, September 21, 1993.

"Planning a lecture." University Teaching Series, LSU, October 5, 1993.

"Immunological reagents for the study of disease in companion animals." The Wellcome Trust, London, UK, November 16, 1993.

"Exercise-induced changes in equine immune function." Animal Disease Research workers in Southern States Joint Meeting, Baton Rouge, LA, March 29, 1994.

"Cytokine mRNA production by equine T cells." Seventh Equine International Disease Conference, Tokyo, Japan, June 8, 1994.

"Biological characterization of recombinant equine interleukin-2 (IL-2) and interleukin-4 (IL-4). Second Equine Leukocyte Workshop, Squaw Valley, CA, July 14-16, 1995.

"Equine Immunology". British Equine Veterinary Association, Harrogate, UK, September, 23, 1995.

"Cytokine mRNA production by equine T cells" Animal Health Trust, Newmarket, UK, September 25, 1995.

"Equine cytokines - molecular cloning, expression and detection." *Rhodococcus equi* and Neonatal Immunology of the Foal Workshop. University of Guelph, August 1-2, 1996.

"Effect of exercise on immunity to equine influenza virus." Equine Exercise Physiology Research Meeting, Ohio State University, November 9-10, 1996.

"Effect of exercise on equine immune function." Department of Medical Sciences, School of Veterinary Medicine, University of Wisconsin, May 30, 1997.

"Antiparasite vaccine for the control of *Strongylus vulgaris*." International Veterinary Vaccine and Diagnostics Conference in Madison, WI on July 27 - 31, 1997.

"Stress, nutrition and immunity" Pennington Biomedical Research Center, August 28, 1997.

"Nutrition, stress and immune function in an animal model." US Army Research Institute of Environmental Medicine (USARIEM) Natick, MA, October 16, 1997.

"Exercise stress in an equine model." Department of Animal Sciences, Cook College, Rutgers University, December 12, 1997.

"T cell cytokine responses to *Strongylus vulgaris* in infected and vaccinated ponies." Eighth International Equine Infectious Disease Conference, Dubai, UAE, March 24, 1998.

"Equine cytokines, an update." Eighth International Equine Infectious Disease Conference, Dubai, UAE, March 26, 1998.

"Protective immunity to *Strongylus vulgaris* involves a Type 2 cytokine response." Department of

Medical Sciences, School of Veterinary Medicine, University of Wisconsin, Madison, WI, June 5, 1998.

“Immunity to *Strongylus vulgaris* involves a Type 2 cytokine response.” Keystone Symposium on Type 2 Cytokines in Allergy and Helminth Infections, Lake Tahoe, NV, January 13, 1999.

“The role of TH1 and TH2 cytokines in the horse.” University of Tennessee, Department of Pathobiology, University of Tennessee, Knoxville, TN. May 6, 1999

“TH1 and TH2 cytokines in the horse: protection and pathology.” Department of Pathobiology University of Guelph, May 28, 1999.

“TH1 and TH2 immune responses in the horse: protection and pathology”. Department of Clinical Sciences, North Carolina State University, June 21, 1999.

“TH1 and TH2 cytokines in equine disease.” Department of Microbiology and Immunology, Louisiana State University Medical Center, Shreveport, LA, June 25, 1999.

“Identification Of Cytokines In The Lungs Of Horses With Recurrent Airway Obstructive Disease.” Royal (Dick) Veterinary College, University of Edinburgh, Scotland, August 27, 1999.

“TH1 and TH2 cytokines in the horse: protection and pathology.” Department of Basic Sciences, Royal Veterinary College, London, UK. October 5, 1999.

“Immunology of the equine lung.” Department of Clinical Sciences, Royal Veterinary College, Department of Basic Sciences, Hawkshead, UK. October 5, 1999.

“TH1 and TH2 Cytokines in the horse: protection and pathology.” Institute for Animal Physiology, University of Munich, October 26, 1999.

“TH1 and TH2 cytokines in the horse.” Animal Health Trust, Newmarket, UK, November 4, 1999.

“Overview of cytokine research and application in equine biology.” British Equine Veterinary Association Congress. Birmingham, UK. September 16, 2000.

“Cytokines and parasites.” British Equine Veterinary Association Congress. Birmingham, UK. September 16, 2000.

“Overview of t cell cytokine research in the horse.” Equine Immunology 2001. Santa Fe, NM. January 24, 2001.

“RT-PCR detection of equine cytokines.” Equine Immunology 2001. Santa Fe, NM. January 24, 2001.

“The effect of aging on equine immune function.” Center for Equine Health, University of California at Davis, April 14, 2001.

“The detection of t cell cytokines in horses with recurrent airway obstruction (RAO).” Second International Symposium on Allergic Diseases of the Horse. Hortobagy-Mata, Hungary. April 26, 2001.

“Protective and pathologic immune responses in the equine lung” School of Veterinary Medicine, Michigan State University, East Lansing, MI, June 7, 2001.

“Immunology and immunopathology of the equine lung” Division of Pulmonary and Critical Care Medicine, University of Michigan, Ann Arbor, MI, June 8, 2001.

“Equine T cell cytokines: past, present and future.” Maxwell Gluck Equine Research Center, University of Kentucky, Lexington, KY August 21, 2001.

“Animal models of allergic pulmonary disease: Horses with heaves and smoking mice.” Department of Physiology and the Alcohol Research Center, Louisiana State University Medical Center, New Orleans, LA. March 12, 2002.

“Smoking mice and horses with heaves, animal models for recurrent airway disease.” Maxwell Gluck Equine Research Center, University of Kentucky, Lexington, KY September 19, 2002.

“Environmental tobacco smoke (ETS) elicits a time-dependent allergic airway response to inhaled antigen”, Society of Toxicology, Salt Lake City, UT. March 11, 2003.

“Comparative models for recurrent airway disease.” Kansas State University, Department of Anatomy and Physiology, October 20, 2003.

“Equine immune response to viruses.” West Nile Virus Workshop, AAEP, New Orleans, LA, November 19, 2003.

“Equine RAO; past, present and future?” Oklahoma State University, Department of Pathobiology, January 22, 2004.

“Immune response of foals.” Alltech Horse Symposium, Lexington, KY, December 14, 2004.

“Effect of age on immune responses” Alltech 21<sup>st</sup> International Feed Industry Symposium, Lexington, KY, June 25, 2005.

“Immune response of young foals” University of California at Davis, Center for Equine Health, June 27, 2005.

“Development of immunological function in the foal and how it relates to *Rhodococcus equi*.” Hagyard Bluegrass Equine Symposium, Lexington, KY, October 23, 2005.

“A proposal for a multidisciplinary Equine Institute”, University of Kentucky Gluck Equine Research Foundation Board Meeting, December 2005

“Equine Immunology: Past, present and future”, University of Amherst, February 7, 2006.

“Immune modulation in the horse” Milburn Veterinary Conference, Phoenix, AZ, March 15, 2006.

“Modulating equine immune responses: science or science fiction?” Department of Animal Science, Cook College, Rutgers University, April 7, 2006.

“The Maxwell Gluck Equine Research Center”, Kentucky Congressional Staff Tour, E.S. Good Barn, April 19<sup>th</sup>, 2006.

“*Rhodococcus equi*: an update” Diagnostic and Research Seminar, Department of Veterinary Science, Livestock Disease Diagnostic Center, August 31, 2006.

“Endometritis in the mare”, Diagnostic and Research Seminar, Department of Veterinary Science, Livestock Disease Diagnostic Center, August 31, 2006.

“The economic impact of the Maxwell Gluck Equine Research Center”, Lexington Fayette County Urban Government Equine Planning Group, Kentucky Horse Park, September 8, 2006.

“Immune modulators and the equine response to Zylexis” Special Symposium (Pfizer) at American Association of Equine Practitioners, Seattle, WA, Dec 8, 2006.

“Immune response of foals.” Independent Veterinary Practitioners Spring Meeting, Lexington, KY, March 14, 2007

“Veterinary science at the University of Kentucky: Perceptions, Realities and Possibilities.” University of Kentucky, May 14, 2007.

“Regulation of interferon-gamma in foals: Evidence for Th2 biasing?” Havemeyer Workshop on Equine Allergy” July 16, 2007.

“Th2 immune responses in horses: implications for parasite immunity and allergy.” Havemeyer Workshop on Equine Allergy” July 16, 2007.

“Equine immunology program: Cytokine regulation of immune responses.” Dow Agrosience, Indianapolis, IN, July 19, 2007.

“Immunology and vaccinology of equine influenza virus”, Equine Diagnostic and Research Seminar, Lexington, KY, July 26, 2007.

“Art and Science of vaccination and immunomodulation”. Hambletonian Continuing Education Seminar for Equine Veterinarians, E. Rutherford, NJ. August 3, 2007.

“Equine Immunology Overview” Ohio Veterinary Conference, Columbus, OH, February 9, 2008

“Vaccines and Other Immunotherapies”, Ohio Veterinary Conference, Columbus, OH, February 9, 2008

“Immune Deviation”, Ohio Veterinary Conference, Columbus, OH, February 9, 2008

“Equine Vaccinology” Intervet Equine Sales Group Meeting, Duck Key, FL, April 21, 2008

“Equine Vaccination” Southern California Equine Veterinarians meeting, Anaheim, CA, April 29, 2008

“Art and Science of Equine Vaccination. “Equine Practitioners Group Meeting, Scottsdale , AZ April 30, 2008.

“Equine Vaccines: Advances and concerns. “Fort Worth Equine Practitioners Group Meeting, Fort Worth, TX, May 15, 2008.

“Equine Vaccination” Southern Louisiana Equine Veterinarians meeting, Lafayette, LA, June 13, 2008.

“Art and Science of Equine Vaccination” Horses 2009, Rutgers University, New Brunswick, NJ, March 29, 2009.

“Immune response of aged horses – Is older better?” Western College of Veterinary Medicine DLT Smith Seminar, Saskatchewan, Canada, April 13, 2009

“Immunology of the foal – what we know and don’t know” Western College of Veterinary Medicine DLT Smith Seminar, Saskatchewan, Canada, April 13, 2009

“Immunology of equine RAO”, Havemeyer Foundation Workshop on RAO, Montreal, Canada, June 1, 2009.

“Inflammaging and Immunosenescence” American College of Veterinary Internal Medicine Forum, Montreal, Canada, June 3, 2009.

“Immunosenescence of the equine immune system” Meril Comparative Immunology Symposium, Prague, Czech Republic, May 13, 2009.



“Equine vaccinology” International Veterinary Vaccine and Diagnostic Conference, Madison, WI, July 21, 2009.

“Specific and innate immunity in the equine lung.” World Equine Airway Symposium, Bern, Switzerland, August 4, 2009.

“Art and Science of Equine Vaccination”, Louisiana Veterinary Medical Association Annual Meeting, Shreveport, LA, Sept 31, 2009

“Foal Vaccination” Intervet/ Schering Plough Equine Advisory Committee, San Antonio, TX, Nov 3, 2009

**Daniel K. Howe, Ph.D.**

Department of Veterinary Science  
M.H. Gluck Equine Research Center  
University of Kentucky  
Lexington, KY 40546-0099  
Email: dkhowe2@uky.edu  
Phone: (859)257-4757 ext. 81113  
FAX: (859)257-8542

**Education:**

Purdue University (W. Lafayette, IN)

**Ph.D.:** Molecular Parasitology

December 1992

University of Illinois (Urbana, IL)

1990-1991

Western Illinois University (Macomb, IL)

**M.S.:** Biology/Parasitology

July 1990

Western Illinois University (Macomb, IL)

**B.S.:** Biology

May 1988

**Appointments and Professional Experience:**

**Associate Professor**

**2005-Present**

**Director of Graduate Studies**

**2009-Present**

Department of Veterinary Science, M.H. Gluck Equine Research Center, University of Kentucky, Lexington, KY.

**Assistant Professor**

**1999-2005**

Department of Veterinary Science, M.H. Gluck Equine Research Center, University of Kentucky, Lexington, KY.

**Postdoctoral Research Associate**

**1993-1999**

Department of Molecular Microbiology, Washington University School of Medicine, St. Louis, MO. Molecular, genetic, and pathogenesis studies of the apicomplexan parasites *Toxoplasma gondii* and *Neospora caninum*. Lab of Dr. David Sibley.

**Graduate Research Assistant**

**1990-1992**

Department of Pathobiology, University of Illinois, Urbana, IL, August, 1990-August, 1991; Veterinary Pathobiology Department, Purdue University, W. Lafayette, IN, September, 1991-December, 1992. Nucleic acid-based methods for pathogen detection and identification. Dr. Gerald McLaughlin, major advisor.

**Graduate Teaching Assistant**

**1988-1990**

Department of Biology, Western Illinois University, Macomb, IL. Host-finding behavior of *Philophthalmus gralli* (Trematoda) miracidia. Dr. Paul Nollen, major advisor.

**Laboratory Instructor**

**1989-1990**

Spoon River College, Macomb, IL. Human Anatomy and Physiology (Dr. Jim Nielsen, course coordinator).

**Honors/Awards/Fellowships:**

Recipient of the Amerman Family Equine Research Endowment, 2004-present.

University of Kentucky Faculty Futures Award, 2004.

University of Kentucky nominee for Searle Scholars Award, 2000.

NIAID Postdoctoral Fellowship, Department of Internal Medicine, Washington University School of Medicine, 1993-1996.

George A. LaRue Award, Outstanding Meeting Presentation and Accomplishments in Parasitology, Annual Midwestern Conference of Parasitologists, Eau Claire, WI, 1992.

Pittsburgh Supercomputing Center Travel Award to attend the Nucleic Acid and Protein Sequence Analysis Workshop and for service units on CRAY YMP/832 and CM2 computers, 1992.

**Research Funding:**

Current:

PI: "Genome Sequence for the apicomplexan *Sarcocystis neurona*." USDA/CSREES, 2009-2012, \$500,000.

Co-Investigator: "Supplemental Lymphatic Filariasis Vector Intervention in the South Pacific." Project Director: Stephen Dobson, University of Kentucky Department of Entomology. Bill and Melinda Gates Foundation, 2007-2012, \$173,165 (allocation to Veterinary Science).

Co-Director: "Advanced Genetic Technologies, Kentucky." Project Director: Christopher L. Schardl, University of Kentucky Department of Plant Pathology. USDA/CSREES, 2008-2011, \$448,178.

Co-Investigator: "Novel Therapeutic Approaches to Treatment of Parasitic Disease and Related Clinical Conditions." Principal Investigator: Thomas Tobin, University of Kentucky Department of Veterinary Science. Kentucky Science and Technology Corporation Commercialization Fund, 2007-2010, \$150,000.

Completed:

PI: "Evaluation of *Sarcocystis neurona* antigens for development of subunit vaccines against equine protozoal myeloencephalitis," Fort Dodge Animal Health, 2001-2007, \$169,343.

Co-Investigator: "Advanced Genetic Technologies." Project Director: Chris Schardl, University of Kentucky Department of Plant Pathology. USDA/CSREES, 2003-2005, \$626,887.

PI: "Identification and characterization of immunodominant antigens from *Sarcocystis neurona*," Amerman Family Foundation, 2001-2005, \$277,400.

PI: "Gene discovery in *Sarcocystis neurona*, the primary cause of EPM," Amerman Family Foundation, 1999-2005, \$140,000.

Co-Investigator: "Enhancing genetic analysis and sequencing facility." Project Director: Chris Schardl, University of Kentucky Department of Plant Pathology. USDA/CSREES, 2002-2004, \$32,500.

### **Internal Funds:**

Major Research Equipment Initiative, University of Kentucky Office of the Vice President for Research, 2002, \$28,012.

### **Significant Gifts:**

Donation of \$500,000 from the Amerman Family Foundation, 2004. Matched by the Kentucky Research Challenge Trust Fund to establish the \$1M Amerman Family Equine Research Endowment Fund.

### **Intellectual Property:**

"Nucleic acids encoding *Sarcocystis neurona* antigens and uses thereof." U.S. patents 7,056,733 7,256,282 and 7,524,946. Daniel K. Howe, inventor. Issued 06/06/2006, 08/14/2007, and 04/28/2009.

"Immunological detection of neosporosis using a recombinant antigen." U.S. patent application #09/767,037. L.D. Sibley and D.K. Howe, co-inventors. Filed 06/27/2001.

### **Publications:**

#### **Peer Reviewed:**

1. Ionita, M, **D.K. Howe**, E.T. Lyons, S.C. Tolliver, R.M. Kaplan, I. L. Mitrea, M. Yeargan\*. 2010. Use of a Reverse Line Blot assay to survey small strongyle (Strongylida: Cyathostominae) populations in horses before and after treatment with ivermectin. *Veterinary Parasitology*, doi:10.1016/j.vetpar.2009.11.021.
2. Gaji, R.Y.\* , and **D.K. Howe**. 2009. The heptanucleotide motif GAGACGC is a key component of a *cis*-acting element that is critical for SnSAG1 expression in *Sarcocystis neurona*. *Molecular and Biochemical Parasitology* 166:85-88.

3. Yeargan, M.R. \*, E.T. Lyons, S.A. Kania, S. Patton, C.C. Breathnach, D.W. Horohov, **D.K. Howe**. 2009. Incidental isolation of *Setaria equina* microfilariae in preparations of equine peripheral blood mononuclear cells. *Veterinary Parasitology* 161:142-145.
4. Crowdus, C.A. \*, A.E. Marsh, W.J. Saville, D.S. Lindsay; J.P. Dubey, D.E. Granstrom, and **D.K. Howe**. 2008. SnSAG5 is an alternative surface antigen of *Sarcocystis neurona* strains that is mutually exclusive to SnSAG1. *Veterinary Parasitology* 158:36-43.
5. **Howe, D.K.**, R.Y. Gaji \*, A.E. Marsh, B.A. Patil \*, W.J. Saville, D.S. Lindsay, J.P. Dubey, and D.E. Granstrom. 2008. Strains of *Sarcocystis neurona* exhibit differences in their surface antigens, including the absence of the major surface antigen SnSAG1. *International Journal for Parasitology* 38:623-631.
6. Zhang, D. \*, and **D.K. Howe**. 2008. Investigation of SnSPR1, a novel and abundant surface protein of *Sarcocystis neurona* merozoites. *Veterinary Parasitology* 152:210-219.
7. Herman, R.K. \*, R. Molestina, A. Sinai, and **D.K. Howe**. 2007. The apicomplexan pathogen *Neospora caninum* inhibits host cell apoptosis in the absence of discernible NF- $\kappa$ B activation. *Infection and Immunity* 75(9):4255-4262. (Article highlighted in issue's Spotlight section)
8. Anderson, T., A. DeJardin, **D.K. Howe**, J.P. Dubey, and M.L. Michalski. 2007. *Neospora caninum* antibodies detected in Midwestern white-tailed deer (*Odocoileus virginianus*) by Western Blot and ELISA. *Veterinary Parasitology* 145:152-155.
9. Goodwin, D., S.M. Gennari, **D.K. Howe**, J.P. Dubey, A.M. Zajac, and D.S. Lindsay. 2006. Prevalence of antibodies to *Encephalitozoon cuniculi* in horses from Brazil. *Veterinary Parasitology* 142:380-382.
10. Gaji, R.Y. \*, D. Zhang \*, C. Breathnach, S. Vaishnava, B. Striepen, and **D.K. Howe**. 2006. Molecular genetic transfection of the coccidian parasite *Sarcocystis neurona*. *Molecular and Biochemical Parasitology* 150:1-9.
11. Zhang, D. \*, R.Y. Gaji \*, and **D.K. Howe**. 2006. Identification of a dithiol-dependent nucleoside triphosphate hydrolase in *Sarcocystis neurona*. *International Journal for Parasitology* 36:1197-1204. (Featured on Journal cover)
12. Hoane, J.S. \*, S.M. Gennari, J.P. Dubey, M.G. Ribeiro, A.S. Borges, L.E.O. Yai, D.M. Aguiar, G.T. Cavalcante, G.L. Bonesi, and **D.K. Howe**. 2006. Prevalence of *Sarcocystis neurona* and *Neospora* spp. infection in horses from Brazil based on presence of serum antibodies to parasite surface antigen. *Veterinary Parasitology* 136:155-159.
13. Hoane, J.S. \*, J.K. Morrow, W.J. Saville, J.P. Dubey, D.E. Granstrom, and **D.K. Howe**. 2005. Enzyme-linked immunosorbent assays for the detection of equine antibodies specific to *Sarcocystis neurona* surface antigens. *Clinical and Diagnostic Laboratory Immunology* 12(9):1050-1056.

14. Vaishnava, S., D.P. Morrison, R.Y. Gaji\*, J.M. Murray, R. Entzeroth, **D.K. Howe**, and B. Striepen. 2005. Plastid segregation and cell division in the apicomplexan parasite *Sarcocystis neurona*. *Journal of Cell Science* 118:3397-3407.
15. Hoane, J.S.\* , M.R. Yeargan\* , S. Stamper\* , W.J. Saville, J.K. Morrow, D.S. Lindsay, and **D.K. Howe**. 2005. Recombinant NhSAG1 ELISA: a sensitive and specific assay for detecting antibodies against *Neospora hughesi* in equine serum. *Journal of Parasitology* 91(2):446-452.
16. **Howe, D.K.**, R. Gaji\* , M. Mroz-Barrett\* , M-J. Gubbels, B. Striepen, and S. Stamper\* . 2005. *Sarcocystis neurona* merozoites express a family of immunogenic surface antigens that are orthologues of the *Toxoplasma gondii* surface antigens (SAGs) and SAG-related sequences. *Infection and Immunity* 73(2):1023-1033.
17. Hoane, J.S.\* , V.B. Carruthers, B. Striepen, R. Entzeroth, and **D.K. Howe**. 2003. Analysis of the *Sarcocystis neurona* microneme protein SnMIC10: protein characteristics and expression during intracellular development. *International Journal for Parasitology* 33:671-679.
18. Li, L., B. Brunck, J. Kissinger, D. Pape, K. Tang, R. Cole, J. Martin, T. Wylie, M. Dante, S.J. Fogarty, **D.K. Howe**, P. Liberator, C. Diaz, J. Anderson, M. White, M.E. Jerome, E.A. Johnson, J.A. Radke, C.J. Stoeckert, Jr., R.H. Waterston, S.W. Clifton, D.S. Roos, and L.D. Sibley. 2003. Gene discovery in the Apicomplexa as revealed by EST sequencing and assembly of a comparative gene database. *Genome Research* 13:443-454.
19. Su, C., **D.K. Howe**, J.P. Dubey, J. Ajioka, and L.D. Sibley. 2002. Identification of quantitative trait loci controlling acute virulence in *Toxoplasma gondii*. *Proceedings of the National Academy of Sciences* 99:10753-10758.
20. Dubey, J.P., B.C. Barr, J.R. Barta, I. Bjerkas, C. Bjorkman, B.L. Blackburn, D.D. Bowman, D. Buxton, J.T. Ellis, B. Gottstein, A. Hemphill, D.E. Hill, **D.K. Howe**, M.C. Jenkins, Y. Kobayashi, B. Koudela, A.E. Marsh, J. Mattsson, M.M. McAllister, D. Modry, Y. Omata, L.D. Sibley, C.A. Speer, A.J. Trees, A. Uggla, S.J. Upton, D.J.L. Williams, and D.S. Lindsay. 2002. Redescription of *Neospora caninum* and its differentiation from related coccidia. *International Journal for Parasitology* 32:929-946.
21. **Howe, D.K.**, K. Tang, P.A. Conrad, K. Sverlow, J.P. Dubey, and L.D. Sibley. 2002. Sensitive and specific identification of *Neospora caninum* infection of cattle based on detection of serum antibodies to recombinant Ncp29. *Clinical and Diagnostic Laboratory Immunology* 9:611-615.
22. Dubey, J.P., S. Liddell, D. Mattson, C.A. Speer, **D.K. Howe**, and M.C. Jenkins. 2001. Characterization of the Oregon isolate of *Neospora hughesi* from a horse. *Journal of Parasitology* 87(2):345-353.

23. **Howe, D.K.** 2001. Initiation of a *Sarcocystis neurona* merozoite expressed sequence tag (EST) sequencing project: a preliminary report. *Veterinary Parasitology* 95:233-240.
24. Cole, R.A., D.S. Lindsay, **D.K. Howe**, C.L. Roderick, J.P. Dubey, L. Baeten, and N.J. Thomas. 2000. Biological and molecular characterizations of *Toxoplasma gondii* isolates obtained from southern sea otters (*Enhydra lutris nereis*). *Journal of Parasitology* 86(3):526-530.
25. Lovett, J., **D.K. Howe**, and L.D. Sibley. 2000. Molecular characterization of a thrombospondin-related anonymous protein homologue in *Neospora caninum*. *Molecular and Biochemical Parasitology* 107:33-43.
26. Marsh, A.E., **D.K. Howe**, G. Wang, B.C. Barr, N. Cannon, and P.A. Conrad. 1999. Differentiation of *Neospora hughesi* from *N. caninum* based on their immunodominant surface antigens SAG1 and SRS2. *International Journal for Parasitology* 29:1575-1582.
27. **Howe, D.K.**, A. Crawford, D. Lindsay, and L.D. Sibley. 1998. The p29 and p35 immunodominant antigens of *Neospora caninum* tachyzoites are homologous to the family of surface antigens of *Toxoplasma gondii*. *Infection and Immunity* 66:5322-5328.
28. Asai, T., **D.K. Howe**, K. Nakajima, T. Nozaki, T. Takeuchi, and L.D. Sibley. 1998. *Neospora caninum*: tachyzoites express a potent type-I nucleoside triphosphate hydrolase, but lack nucleoside diphosphate hydrolase activity. *Experimental Parasitology* 90:277-285.
29. Mercier, C., **D.K. Howe**, D. Mordue, M. Lingnau, and L.D. Sibley. 1998. Targeted disruption of the *GRA2* locus in *Toxoplasma gondii* decreases acute virulence in mice. *Infection and Immunity* 66:4176-4182.
30. Yap, G.S., T. Scharon-Kersten, D.J. Ferguson, **D. Howe**, Y. Suzuki, and A. Sher. 1998. Partially protective vaccination permits the development of latency in a normally virulent strain of *Toxoplasma gondii*. *Infection and Immunity* 66:4382-4388.
31. Mondragon, R., **D.K. Howe**, J. P. Dubey, and L.D. Sibley. 1998. Genotypic analysis of *Toxoplasma gondii* isolates from pigs. *Journal of Parasitology* 84:639-641.
32. **Howe, D.K.**, S. Honoré, F. Derouin, and L.D. Sibley. 1997. Determination of genotypes of *Toxoplasma gondii* strains isolated from patients with toxoplasmosis. *Journal of Clinical Microbiology* 35:1411-1414.
33. **Howe, D.K.**, C. Mercier, M. Messina, and L.D. Sibley. 1997. Expression of *Toxoplasma gondii* genes in the closely-related apicomplexan parasite *Neospora caninum*. *Molecular and Biochemical Parasitology* 86:29-36.

34. **Howe, D.K.**, M.H. Vodkin, R.J. Novak, G. Visvesvara, and G.L. McLaughlin. 1997. Identification of two genetic markers that distinguish pathogenic from nonpathogenic strains of *Acanthamoeba* spp. *Parasitology Research* 83:345-348.
35. **Howe, D.K.**, B.C. Summers, and L.D. Sibley. 1996. Acute virulence in mice is associated with markers on chromosome *VIII* in *Toxoplasma gondii*. *Infection and Immunity* 64:5193-5198.
36. **Howe, D.K.**, and L.D. Sibley. 1995. *Toxoplasma gondii* comprises three clonal lineages: correlation of parasite genotype with human disease. *Journal of Infectious Diseases* 172:1561-6.
37. **Howe, D.K.**, and L.D. Sibley. 1994. *Toxoplasma gondii*: analysis of different laboratory stocks of RH strain reveals genetic heterogeneity. *Experimental Parasitology* 78:242-245.
38. McLaughlin, G.L., **D.K. Howe**, D.R. Biggs, A.R. Smith, P. Ludwinski, B. Fox, D. Tripathy, C.E. Frasch, J.D. Wenger, R.B. Carey, M. Hassan-King, and M.H. Vodkin. 1993. Amplification of rDNA loci to detect and type *Neisseria meningitidis* and other Eubacteria. *Molecular and Cellular Probes* 7:7-17.
39. **Howe, D.K.**, M.H. Vodkin, R.J. Novak, C.J. Mitchell, and G.L. McLaughlin. 1992. Detection of St. Louis Encephalitis Virus in mosquitoes by use of the polymerase chain reaction. *Journal of the American Mosquito Control Association* 8(3):333-335.
40. Vodkin, M.H., **D.K. Howe**, G.S. Visvesvara, and G.L. McLaughlin. 1992. Identification of *Acanthamoeba* at the generic and specific levels using the polymerase chain reaction. *Journal of Protozoology* 39:378-385.
41. **Howe, D.K.**, M.H. Vodkin, R.J. Novak, R.E. Shope, and G.L. McLaughlin. 1992. Use of the polymerase chain reaction for the sensitive detection of St. Louis Encephalitis Viral RNA. *Journal of Virological Methods* 36:101-110.
42. McLaughlin, G.L., S. Montenegro-James, M.H. Vodkin, **D. Howe**, M. Toro, E. Leon, R. Armijos, I. Kakoma, B.M. Greenwood, M. Hassan-King, et al. 1992. Molecular approaches to Malaria and Babesiosis diagnosis. *Memorias do Instituto Oswaldo Cruz* 87(suppl): 57-68.
43. **Howe, D.K.**, and P.M. Nollen. 1992. The effects of pH and salinity on the behavior of *Philophthalmus gralli* (Trematoda) miracidia. *Transactions of the Illinois State Academy of Science* 85:73-77.

#### **Reviews/Book Chapters:**

1. Sibley, L.D., D.G. Mordue, C. Su, P.M. Robben, and **D.K. Howe**. 2002. Genetic approaches to studying virulence and pathogenesis in *Toxoplasma gondii*. *Philosophical Transactions of the Royal Society of London: Biological Sciences* 357:81-88.



2. Sibley, L.D., D. Mordue, and **D.K. Howe**. 1999. Experimental approaches to understanding virulence in toxoplasmosis. *Immunobiology* 201:210-224.
3. **Howe, D.K.**, and L.D. Sibley. 1999. Comparison of the major antigens of *Neospora caninum* and *Toxoplasma gondii*. *International Journal for Parasitology* 29:1489-1496.
4. **Howe, D.K.**, and L.D. Sibley. 1997. Development of molecular genetics for *Neospora caninum*: a complementary system to *Toxoplasma gondii*. In Ajioka, J.W., ed. *Methods: A Companion to Methods in Enzymology* 13:123-133.
5. Sibley, L.D., and **D.K. Howe**. 1996. Genetic basis of pathogenicity in toxoplasmosis. In, Gross, U., ed. *Current Topics in Microbiology and Immunology*, Vol. 219. Springer-Verlag, Heidelberg, pp. 3-15.
6. Sibley, L.D., **D.K. Howe**, K.L. Wan, S. Khan, M. Aslett, and J. Ajioka. *Toxoplasma gondii* as a model genetic system. 1996. In, Smith, D., M. Parsons, eds. *Molecular Biology of Parasitic Protozoa*. Oxford University Press, Oxford, pp. 55-74.

**Extension/Non-Refereed Publications:**

1. **Howe, D.K.** 2005. Equine protozoal myeloencephalitis: efforts to open the black box. *Equine Disease Quarterly* 14(4).
2. **Howe, D.K.** 2000. Prospects for an EPM vaccine. *Journal of Equine Veterinary Science* 20(9):606.
3. **Howe, D.K.** 2000. Equine protozoal myeloencephalitis and the prospects for an effective vaccine. *Equine Disease Quarterly* 8(4).

**Seminars/Invited Presentations:**

“Equine Protozoal Myeloencephalitis Caused by the Protozoan Pathogen *Sarcocystis neurona*.” Presentation to Peru Army Officers and Veterinary Staff, Lima, Peru, 2009.

“Use of rSnSAG ELISAs to Assess *Sarcocystis neurona* Infection.” EPM Key Opinion Leader Meeting, Lexington, KY, 2009.

“Molecular characterization of *Sarcocystis neurona* and what it can reveal about Equine Protozoal Myeloencephalitis.” Purdue University School of Veterinary Medicine, Department of Comparative Pathobiology, 2009.

“Antigen diversity in *Sarcocystis neurona* strains and what it may imply for EPM.” Special Interest Group session on EPM, American College of Veterinary Internal Medicine (ACVIM), San Antonio, TX, 2008.

“Two decades of Parasitology Research.” Research Seminar Series, Asbury College, Wilmore, KY, 2008.

- “Temporal control of gene expression during intracellular development of *Sarcocystis neurona*.” European Cooperation in the Field of Scientific and Technical Research (COST) 4<sup>th</sup> annual workshop on Apicomplexan Biology, Porticcio, France, 2007.
- “Equine Protozoal Myeloencephalitis.” University of Kentucky Department of Veterinary Science Equine Diagnostic and Research Seminar Series, Lexington, KY, 2006.
- “Molecular investigation of the protozoan pathogen *Sarcocystis neurona*.” National Exposure Research Laboratory, US Environmental Protection Agency, Cincinnati, OH, 2005.
- “Investigation of the EPM pathogen *Sarcocystis neurona*; from gene sequences to surface proteins.” Ohio State University College of Veterinary Medicine, Department of Veterinary Preventative Medicine, Columbus, OH, 2004.
- “Advances in *Sarcocystis neurona* Biology: Application for New Diagnostic Assays.” EPM Special Interest Group session, Meeting of the American College of Veterinary Internal Medicine, Minneapolis, MN, 2004.
- “Neosporosis.” Intervet Technical Services Representatives Meeting, Kentucky Horse Park, Lexington, KY, 2003.
- “Gene and antigen discovery in *Sarcocystis neurona*, the primary cause of EPM.” Louisiana State University School of Veterinary Medicine, Department of Pathobiology, Baton Rouge, LA, 2002.
- “Gene Discovery in *Sarcocystis neurona*, the primary cause of EPM.” University of Kentucky, Department of Veterinary Science Seminar Series, 2002.
- “Comparative analyses of the related apicomplexan pathogens *Toxoplasma gondii* and *Neospora caninum*.” Annual Midwestern Conference of Parasitologists Symposium on Immunology and Parasitic Infections, Terre Haute, IN, 1998.
- “Genetic analyses of *Toxoplasma gondii* and *Neospora caninum*.” USDA Immunology and Disease Resistance Laboratory, Beltsville, MD, 1997.
- “Genetic mapping of acute virulence in *Toxoplasma gondii*.” Heska Corporation, Fort Collins, CO, 1996.
- “Virulence mapping in *Toxoplasma gondii*.” Washington University School of Medicine, Division of Infectious Diseases and Department of Molecular Microbiology Annual Retreat, St. Louis, MO, 1996.

**Meeting Abstracts:**

- Howe, D.K.**, C.L. Schardl, and J.C. Kissinger. “A genome sequence for the apicomplexan *Sarcocystis neurona*.” Microbial Genome Sequencing and Microbial Observatories Programs Workshop, Plant and Animal Genomes Conference, San Diego, CA, 2010.
- Yeargan, M. \*, and **D.K. Howe**. “Improvement of enzyme-linked immunosorbent assays based on *Sarcocystis neurona* surface antigens (SnSAGs) for equine antibody detection.” Annual Midwestern Conference of Parasitologists, Delaware, OH, 2009.
- Furr, M. and **D.K. Howe**. “Spinal fluid indices in the diagnosis of EPM.” Special Interest Group session on EPM, American College of Veterinary Internal Medicine (ACVIM), San Antonio, TX, 2008.
- Heid, B., **D. Howe**, S. Ellison, D. Lindsay, N. Surendran, and S. Witonsky. “Bias of infectivity of equine leukocytes from normal horses.” Special Interest Group session on EPM, American College of Veterinary Internal Medicine (ACVIM), San Antonio, TX, 2008.
- Crowdus, C. \*, A. Marsh, and **D.K. Howe**. “Characterization of the *Sarcocystis neurona* merozoite surface antigen SnSAG5.” Annual Midwestern Conference of Parasitologists, Champaign/Urbana, IL, 2008.
- Howe, D.K.**, M. Yeargan \*, E. Lyons, C. Breathnach, and D.W. Horohov. “Incidental isolation of microfilariae in preparations of equine peripheral blood mononuclear cells and their effect on immunologic assays.” American Association of Veterinary Parasitologists Meeting, Washington, D.C., 2007.
- Howe, D.K.**, R. Gaji \*, C. Crowdus \*, A. Marsh, W.J. Saville, D. Lindsay, J.P. Dubey, and D. Granstrom. “Investigation of the SnSAG Family of Surface Antigens in *Sarcocystis neurona*.” American Association of Veterinary Parasitologists Meeting, Honolulu, HI, 2006.
- Gaji, R.Y. \*, B.A. Patil \*, D. Lindsay, J.P. Dubey, A. Marsh, W.J. Saville, D. Granstrom, and **D.K. Howe**. “The major merozoite surface antigen SnSAG1 is not expressed by multiple strains of *Sarcocystis neurona*.” Meeting of the American College of Veterinary Internal Medicine, EPM Special Interest Group, Louisville, KY, 2006.
- Gaji, R.Y. \* and **D.K. Howe**. “Characterization of regulatory elements controlling gene expression in *Sarcocystis neurona*.” Molecular Parasitology Meeting XVI, Woods Hole, MA, 2005.
- Gaji, R.Y. \*, B.A. Patil \*, A. Marsh, W.J. Saville, D. Lindsay, J.P. Dubey, and **D.K. Howe**. “Surface antigen polymorphisms in *Sarcocystis neurona*.” American Association of Veterinary Parasitologists Meeting, Minneapolis, MN, 2005
- Gaji, R.Y. \*, D. Zhang \*, S. Vaishnav, B. Striepen, and **D.K. Howe**. “Development of molecular genetic tools for stable transformation of *Sarcocystis neurona*.” American Association of

- Veterinary Parasitologists Meeting, Minneapolis, MN, 2005. (*Young Investigator Travel Award to RYG*)
- Gaji, R.Y.\* , B.A. Patil\* , A. Marsh, W. J. Saville, D. Lindsay, and **D.K. Howe**. “Surface antigen polymorphisms in *Sarcocystis neurona*.” Southeastern Society of Parasitologists Meeting, Blacksburg, VA, 2005.
- Hoane, J.S.\* , J.K. Morrow, W.J.A. Saville, and **D. K. Howe**. “Enzyme-linked immunosorbent assays for the specific detection of equine antibodies to *Sarcocystis neurona* surface antigens.” Southeastern Society of Parasitologists Meeting, Blacksburg, VA, 2005.
- Vaishnava S., D.P. Morrison, R. Entzeroth, R.Y. Gaji\* , **D.K. Howe**, and B. Striepen. “Plastid replication and segregation in the apicomplexan parasite *Sarcocystis neurona*.” Molecular Parasitology Meeting XV, Woods Hole, MA, 2004.
- Herman, R.K.\* , A.P. Sinai, and **D.K. Howe**. “*Sarcocystis neurona* and *Neospora caninum* regulation of host cell apoptosis.” Joint Meeting of the American Society of Parasitologists and the American Association of Veterinary Parasitologists, Philadelphia, PA, 2004.
- Hoane, J.S.\* , J.K. Morrow, and **D.K. Howe**. “Analysis of equine antibody isotype responses to *Sarcocystis neurona* surface antigens.” Joint Meeting of the American Society of Parasitologists and the American Association of Veterinary Parasitologists, Philadelphia, PA, 2004. (*2<sup>nd</sup> place award to JSH, Bayer Best Student Presentation*)
- Hoane, J.S.\* , J.K. Morrow, W.J. Saville, and **D.K. Howe**. “*Neospora hughesi* seroprevalence in equids.” Joint Meeting of the American Society of Parasitologists and the American Association of Veterinary Parasitologists, Philadelphia, PA, 2004.
- Zhang D.\* , T. Asai, and **D.K. Howe**. “Identification and characterization of a nucleoside triphosphate hydrolase in *Sarcocystis neurona*.” Molecular Parasitology Meeting XIV, Woods Hole, MA, 2003.
- Hoane, J.S.\* , M. Yeargen\* , S. Stamper\* , D. Lindsay, B. Saville, J. K. Morrow, **D.K. Howe**. “Modification of a recombinant antigen ELISA for detection of anti-*Neospora hughesi* antibodies in equine serum samples.” American Association of Veterinary Parasitologists Meeting, Denver, CO, 2003.
- Howe, D.K.**, M. Mroz-Barrett\* , R.Y. Gaji\* , S. Stamper\* , J. Hoane\* , and M. Yeargan\* . “Examination of *Sarcocystis neurona* merozoite surface antigens, and their utilization for EPM diagnostics and vaccine development.” American Association of Veterinary Parasitologists Meeting, Denver, CO, 2003.
- Vaishnava, S., D.P. Morrison, R. Entzeroth, **D.K. Howe**, and B. Striepen. “Plastid segregation in apicomplexan parasites.” Molecular Parasitology Meeting XIII, Woods Hole, MA, 2002.

- Howe, D.K.**, M. Mroz-Barrett\*, R. Gaji\*, and S. Stamper\*. “*Sarcocystis neurona* merozoites express a family of surface antigens that are orthologues of the SAG and SRS surface antigens of *Toxoplasma gondii*.” Molecular Parasitology Meeting XIII, Woods Hole, MA, 2002.
- Howe, D.K.** “Mining the *Sarcocystis neurona* sequence database for parasite antigens/virulence factors.” American Association of Veterinary Parasitologists Meeting, Nashville, TN, 2002.
- Hoane, J.S.\* , M. Mroz-Barrett\* , S.V. Blanco\* , R. Gaji\* , and **D.K. Howe**. “Preliminary analysis of the equine immune response to *Sarcocystis neurona* antigens.” American Association of Veterinary Parasitologists Meeting, Nashville, TN, 2002.
- Hoane, J.S.\* , V.B. Carruthers, and **D.K. Howe**. “Characterization of a putative *Sarcocystis neurona* microneme protein SnMIC10.” Molecular Parasitology Meeting XII, Woods Hole, MA, 2001.
- Su, C., **D.K. Howe**, J. Ajioka, and L.D. Sibley. “Development of PCR/RFLP markers and the search for genes involved in acute virulence of *Toxoplasma gondii*.” Molecular Parasitology Meeting XI, Woods Hole, MA, 2000.
- Howe, D.K.** and L.D. Sibley. “*Toxoplasma gondii* and *Neospora caninum* as complementary model systems for the study of coccidian biology.” Sixth International Workshop on Opportunistic Protists, Raleigh, NC, 1999.
- Lovett, J., **D.K. Howe**, V.B. Carruthers, and L.D. Sibley. “Molecular identification and characterization of *Neospora caninum* MIC2.” Molecular Parasitology Meeting IX, Woods Hole, MA, 1998.
- Howe, D.K.**, A. Crawford, and L.D. Sibley. “The immunodominant p29 and p35 antigens of *Neospora caninum* are homologous to the *Toxoplasma* SAG/SRS protein family.” Molecular Parasitology Meeting IX, Woods Hole, MA, 1998.
- Asai, T., **D.K. Howe**, K. Nakajima, T. Nozaki, T. Takeuchi, and L.D. Sibley. “*Neospora caninum* tachyzoites express type I nucleoside triphosphate hydrolase, but lack nucleoside diphosphate hydrolase activity.” Molecular Parasitology Meeting IX, Woods Hole, MA, 1998.
- Howe, D.K.** and L.D. Sibley. “Expression of *Toxoplasma gondii* genes in the closely related apicomplexan parasite *Neospora caninum*.” Molecular Parasitology Meeting VII, Woods Hole, MA 1996.
- Howe, D.K.** and L.D. Sibley. “Acute virulence in mice is associated with the SAG1 locus on chromosome VIII in *Toxoplasma gondii*.” Fourth International Workshop on Opportunistic Protists, Tucson, AZ, 1996.

**Howe, D.K.** and L.D. Sibley. “Virulence is linked to the SAG1 locus in *Toxoplasma gondii*.” Biology of Parasitism Gordon Research Conference, Colby-Sawyer College, NH, 1995.

**Howe, D.K.** and L.D. Sibley. “The clonal population structure of *Toxoplasma gondii* and association with human disease.” Third International Workshop on Opportunistic Protists, Cleveland, OH, 1994.

**Howe, D.K.** and L.D. Sibley. “*Toxoplasma gondii* is comprised of three clonal lineages.” Molecular Parasitology Meeting IV, Woods Hole, MA, 1993.

Vodkin, M.H., G.L. McLaughlin, **D.K. Howe**, R.E. Shope, C.J. Mitchell, and R.J. Novak. “PCR-based detection of St. Louis Encephalitis and Eastern Equine Encephalitis Viruses.” Annual Meeting of the Ohio Mosquito Control Association, 1992.

**Howe, D.K.** “Identification of pathogenic strains of *Acanthamoeba* spp. by use of the polymerase chain reaction.” Annual Midwestern Conference of Parasitologists, Eau Claire, WI, 1992. (*George R. LaRue Award for best student presentation*)

**\*Indicates a student or scientist in my laboratory.**

### **Sequence Submissions:**

The *Sarcocystis* EST sequencing project (**PI: DKH**) has submitted 21,715 partial cDNA sequences to the dbEST database of GenBank.

*Sarcocystis neurona* apical protein 1 (APR1), complete cds., accession FJ222456 (09/18/2008).

*Sarcocystis neurona* strain SN-OT1 putative surface antigen (SAG) gene, partial cds., accession #EU753119 (06/16/2008).

*Sarcocystis neurona* surface protein 1 (SPR1), complete cds., accession #EU200939 (10/10/2007).

*Sarcocystis neurona* surface antigen 2 (SAG2) gene, promoter region and 5'UTR, accession #DQ768090 (07/19/2006).

*Sarcocystis neurona* surface antigen 3 (SAG3) gene, promoter region and 5'UTR, accession #DQ786091 (07/19/2006).

*Sarcocystis neurona* nucleoside triphosphate hydrolase (NTP1) gene, promoter region and 5'UTR, accession #DQ768092 (07/19/2006).

*Sarcocystis neurona* sarco-21 gene, promoter region and 5'UTR, accession #DQ768093 (07/19/2006).

*Sarcocystis neurona* surface antigen SAG5 (SnSAG5), accession #DQ388449 (2/03/2006).

*Sarcocystis neurona* major surface antigen 1 gene, promoter region and 5'UTR, accession #DQ286460 (12/3/2005).

*Sarcocystis neurona* MIC10 (SnMIC10) microneme protein, accession #AAM95973 (7/17/2003).

*Sarcocystis neurona* major surface antigens SnSAG1, SnSAG2, SnSAG3, and SnSAG4, accession #AAK40366 (5/2/2001), AY191006, AY191007, AY191008 (2/15/2003).

*Sarcocystis neurona* nucleoside triphosphate hydrolase (SnNTP), accession #AY325815 (7/21/2003).

*Neospora caninum* thrombospondin-related adhesive protein homolog (NcMIC2; TRAP), accession #AAF01565 (3/29/2000).

*Neospora hughesi* SRS2 (NhSRS2; p35) surface antigen, accession #AAF24177 (3/10/2000).

*Neospora caninum* SRS2 (NcSRS2; p35) surface antigen, accession # AAD04844; AAD45524; AAD45523; AAD45522; AAD45521 (1/13/1999, 3/10/2000).

*Neospora caninum* SAG1 (NcSAG1; p29) surface antigen, accession # AAD25091; AAD39489; AAD39488; AAD39487; AAD39486 (4/14/1999, 3/10/2000).

*Neospora caninum* nucleoside triphosphate hydrolase (NcNTP), accession #BAA31454 (2/13/1999).

## **Instruction and Training:**

### **Undergraduate:**

**Chair, Agricultural Biotechnology Undergraduate Program Coordinating Committee, 2009-Present.** This is a leadership role for one of the premier undergraduate programs at the University of Kentucky.

**Instructor, ABT 301, Writing and Presentation in the Life Sciences.** This course provides instruction to Agricultural Biotechnology undergraduate majors on scientific writing (grant proposals and research papers) and the oral presentation of scientific material. ABT 301 is a core course that is required for the Ag Biotech degree and partially fulfills the University of Kentucky's upper division writing requirement.

**ABT 101, Introduction to Biotechnology.** Guest lecture. B. Webb, course coordinator.

**ABT 201, Scientific Methods in Biotechnology.** Guest lecture. S. Perry, course coordinator.

**Academic advisor for undergraduate majors in the Agricultural Biotechnology Program.** 2000-present. *Average of 7-10 advisees per year*

### **Research Mentor, Undergraduate and High School Students:**

Meaghan Mroz-Barrett, Paul Dunbar High School MSTC program, 2001-2002.

Sabina Blanco, Agricultural Biotechnology major, 2001-2003.

Lori Faulkner, Agricultural Biotechnology major, 2003.

Molly Mesko, Agricultural Biotechnology major, 2003-2004.

Cameron Lindsay, Paul Dunbar High School MSTC program, 2008.

Carolyn Crowdus, Agricultural Biotechnology major, 2005-2008. (*Recipient of the Glenn B.*

*Collins Undergraduate Research Achievement Award in Ag Biotechnology, Spring 2008*)

Sarah Lance, Asbury College Undergraduate Research Project, 2009.

### **Graduate:**

**Director of Graduate Studies, University of Kentucky Department of Veterinary Science, 2009-Present.** This assignment involves providing guidance and overseeing training of the approximately 25-30 students in the Department of Veterinary Science Graduate Program (currently 28 students, Fall 2009).

**VS 791, Techniques in Veterinary Microbiology.** Guest lecture on protozoan pathogens of equids. T. Chambers, course coordinator.

**Major Advisor:**

Current:

Ablesh Gautam, Ph.D. Program. 2009-present.

Completed:

Rebecca Herman, M.S., 2005. "Regulation of host cell apoptosis by the protozoan parasite *Neospora caninum*." Current position: Senior Technician, Molecular and Cellular Biology Group, Battelle Biomedical Research Center, Columbus Ohio.

Rajshekhkar Gaji, Ph.D., 2006. "Identification of cis-acting elements controlling gene expression in *Sarcocystis neurona*." Current position: Postdoctoral fellow, Department of Microbiology & Immunology, University of Michigan Medical School.

Pending thesis defense:

Jessica Hoane, Ph.D. candidate, 2000-2009.

**Graduate Committee Member:**

Dawn Sessions, M.S., 2003 (Dr. Barry Fitzgerald, major advisor)

Michelle Mousel, Ph.D., 2004 (Dr. Ernie Bailey, major advisor)

Morgan McCoy, Ph.D., 2004 (Dr. Tom Chambers, major advisor)

Catherine Wagner, Ph.D., 2004 (Dr. Ernie Bailey, major advisor)

Manu Sebastian, Ph.D., 2004 (Dr. Tom Tobin, major advisor)

Sureshkumar Muthupalani, Ph.D., 2004 (Dr. John Timoney, major advisor)

David Hall, M.S., 2004 (Dr. Roberta Dwyer, major advisor)

Samantha Brooks, Ph.D., 2006 (Dr. Ernie Bailey, major advisor)

Raksha Tiwari, Ph.D., 2007 (Dr. John Timoney, major advisor)

Ashutosh Verma, Ph.D., 2007 (Dr. John Timoney, major advisor)

Michael Mienaltowski, Ph.D., 2008 (Dr. Jamie MacLeod, major advisor)

**Outside examiner:**

Mingdong Liu, Ph.D., Department of Microbiology, Immunology, and Molecular Genetics, University of Kentucky College of Medicine, 2005

Lauren Elizabeth Black, Ph.D., Department of Civil Engineering, University of Kentucky, 2007

Liqun Wang, Ph.D., Department of Biology, University of Kentucky, 2008.

Tonja W. Fisher, Ph.D., Department of Entomology, University of Kentucky, 2009.

**Visiting Scientists:**

Dr. Joe Camp, Purdue University Department of Veterinary Pathobiology, 06/2007. Basic techniques of culturing and manipulating *Sarcocystis neurona*.

Dr. Mariana Ionita, University of Agronomical Sciences and Veterinary Medicine of Bucharest, Faculty of Veterinary Medicine, Romania, 07/2007-10/2007, 08/2008-09/2008, 06/2009-08/2009. Clay Fellowship visiting scientist who worked on molecular identification of



strongyle eggs in horses and detection of microbial pathogens in ticks. Co-hosted with Dr. Gene Lyons, Department of Veterinary Science.

Dr. Nino Arias, Cayetano-Heredia University, Lima, Perú, 09/2008. Construction of a cDNA library from the tissue cyst stage of *Sarcocystis aucheniae*, a parasite of new world camelids.

Dr. Armando Hung, Cayetano-Heredia University, Lima, Perú, 02/2009. Construction of a *S. aucheniae* cDNA library and isolation of surface antigen (SAG) genes.

Dr. Adolfo Paz Silva, Santiago de Compostela University, Lugo, Spain, 09/2009-12/2009. Identification of *Sarcocystis neurona* genes encoding antigenic proteins.

Mr. Iván Francisco Vázquez, Santiago de Compostela University, Lugo, Spain, 10/2009-03/2010. Development of an attenuated live virus vaccine against EPM. Co-hosted with Dr. Udeni Balasuriya, Department of Veterinary Science.

### **Academic Service:**

#### **University of Kentucky:**

Graduate Council Committee on Fellowships and Traineeships. 2008-present.

Institutional Animal Care and Use Committee. 2003-2008.

#### **University of Kentucky College of Agriculture:**

Graduate Curriculum Committee. 2009-present.

Chair, Agricultural Biotechnology Program Coordinating Committee. 2009-present.

Agricultural Biotechnology Program Coordinating Committee. 2000-2008.

Screening Committee, Director of Industry Relations/Executive Director of the Gluck Equine Research Foundation Board. 2008.

#### **University of Kentucky Department of Veterinary Science:**

Jes E. and Clementine M. Schlaikjer Endowed Chair Search Committee (Chair). 2009.

Faculty Appointments and Promotions Committee. 2008-present.

Advisory and Strategic Planning Committee. 2002-present.

Paul Mellon Postdoctoral Selection Advisory Committee (Chair). 2005-present.

Faculty Performance Advisory Committee (Chair). 2006-2008.

Hatch/Animal Health Review Advisory Committee. 2002-2008.

New Facilities Planning Advisory Committee. 2000-2003.

Safety Advisory Committee. 2002-2005.

Virology Faculty Search Committee. 2004-2005.

### **Professional Society Affiliations and Activities:**

American Association of Veterinary Parasitologists

American Society for Microbiology

American Society of Parasitologists

Equine Protozoal Myeloencephalitis Society

**Service to Professional Societies:**

EPM Awareness Committee, EPM Society. 2001-present.

Stoll-Stunkard Memorial and Eminent Parasitologist Lectureships Committee, American Society of Parasitologists. 2004-2008 (Committee Chair, 2007-2008).

Meeting Site Committee, Annual Midwestern Conference of Parasitologists, Champaign-Urbana, IL. 2008.

Presiding Officer, Annual Midwestern Conference of Parasitologists, Delaware, OH. 2009.

**Journal review boards:**

Editorial Advisory Board, Veterinary Parasitology. 2006-present.

Board of Reviewers, Journal of Eukaryotic Microbiology. 2001-2003.

***Ad hoc* manuscript reviews:**

American Journal of Tropical Medicine and Hygiene, American Journal of Veterinary Research, Applied and Environmental Microbiology, The Canadian Veterinary Journal, Diseases of Aquatic Organisms, Emerging Infectious Diseases, Equine Veterinary Journal, Expert Review of Proteomics, Folia Parasitologica, Infection and Immunity, International Journal for Parasitology, Journal of the American Veterinary Medical Association, Journal of Clinical Microbiology, Journal of Infectious Diseases, Journal of Parasitology, Journal of Zoo and Wildlife Medicine, Molecular and Biochemical Parasitology, Molecular and Cellular Probes, Parasite Immunology, Parasitology, Parasitology International, Parasitology Research, Protist, Veterinary Research.

***Ad hoc* grant proposal reviews:**

The Wellcome Trust (3). 1999-2001.

NIH/NIAID Parasitology and Vector Biology Training Grant. 2001.

Maryland Sea Grant National Strategic Investments Proposal, Oyster Disease Research Program. 2005.

# CURRICULUM VITAE

## PERSONAL DATA

Charles John Issel

DOB 03/25/43

Married to Patricia Sowerwine Issel since August 28, 1964

Two children: Mark-2/14/66 Laurie-12/03/68

Two grandchildren: Kathryn and Benjamin

## EDUCATION

Secondary Education: Lincoln High School, San Francisco, CA

College: City College of San Francisco, A.A., 1962. (Pre-Medical)

University of California, Berkeley, A.B., 1965. (Zoology)

University of California, Davis, D.V.M., 1969.

University of Wisconsin, Madison, M.S., Ph.D., 1971, 1973. (Veterinary Science)

## HONORS

National Inst. of Allergy and Inf. Disease Postdoctoral Fellow, Univ. Wisconsin 1970-1972.

Certified in Arthropod-borne Encephalitis, Center for Disease Control, 1970.

Sigma Xi, 1972.

Foreign Animal Disease Diagnostician, USDA, 1976.

Diplomat, American College of Veterinary Microbiologists, 1976.

Gamma Sigma Delta, 1980.

Gamma Sigma Delta Research Award, 1984.

Louisiana Appaloosa Horse Association Appreciation Award, 1985.

Beecham Award for Research Excellence, 1986.

First Mississippi Corporation Award for Research Excellence, 1987.

Aesculapian Lecturer, 1989.

Arkansas Traveler, 1999.

Kentucky Colonel, 2003.

## ACADEMIC PROFESSIONAL APPOINTMENTS

June, 1990 to present --

Wright-Markey Chair of Equine Infectious Diseases, University of Kentucky, Department of Veterinary Science, Lexington, Kentucky.

July, 1981 to 1990 -- Professor of Veterinary Virology, Louisiana State University.

August, 1974 - June, 1981 -- Assistant and Associate Professor of Veterinary Virology and Veterinary Science, LSU, Baton Rouge, Louisiana.

August, 1973 - August, 1974

Veterinary Medical Officer, United States Department of Agriculture, Plum Island Animal Disease Center, Greenport, New York.

June, 1973 - August, 1973 --

Research Associate, Veterinary Science Department, University of Wisconsin, Madison.

### **MAJOR CLASSROOM INSTRUCTION**

Responsible for courses in Veterinary Virology and Wildlife Diseases (1974-1990), Cytocidal Viruses, Persistent Viruses (1981-1989), with input in courses in Biochemistry, Entomology and Animal Science. Organized virology offerings in Veterinary Science Dept. at UK.

### **GENERAL RESEARCH INTERESTS**

Epidemiology and Control of Viral Infections of Wild and Domesticated Animals and Man. Vaccinology, antiviral chemicals, lentiviruses, viral diagnostics.

June, 1969 - June, 1973 -- Epidemiology of California group arbovirus infections.

June, 1973 - August, 1973 -- Prevalence and distribution of antibodies to bovine leukemia.

August, 1973 - August, 1974 -- Epidemiology and immunogenicity of foot and mouth disease and swine vesicular disease viruses.

August, 1974 - present -- Project Leader of research projects on equine infectious anemia and equine infectious diseases.

### **CURRENT RESEARCH SUPPORT**

Principal Investigator:

Equine infectious anemia diagnostics (2006-2011) IDEXX Labs.

Co-Principal Investigator:

EIAV envelope variation and vaccine efficacy (2003-2014) NIAID

(Dr. Ron Montelaro at University of Pittsburgh PI).

### **RECENT CONSULTANTSHIPS-GUEST LECTURES-REVIEWER**

USDA-APHIS-VS review team for EIA program development. (2003)

Member of the scientific review panel for Grayson-Jockey Club Research Foundation (1998-2000; 2004-2008).

Consultant/reviewer for the Texas Equine Health Fund (2003), National Institutes of Health review panels (2003-present), Bill and Melinda Gates Foundation (2007)

Consultant for the Irish Thoroughbred Breeders and Owners Association (2006)

### **PATENTS**

**6461616 EIAV P26 DELETION VACCINE AND DIAGNOSTIC, US PATENT ISSUED OCTOBER 8, 2002**

**6528250 EQUINE INFECTIOUS ANEMIA CHALLENGE MODEL FOR TESTING VACCINES, DIAGNOSTICS AND TREATMENTS, US PATENT ISSUED MARCH 4, 2003.**

**01966602.3-2402-US0127599 EIAV CHIMERIC VACCINE AND DIAGNOSTIC, EUROPEAN PATENT ISSUED APRIL 24, 2003**

**6585978 EIA VACCINE AND DIAGNOSTIC, US PATENT ISSUED JULY 1, 2003.**

**6727078 EIAV P26 DELETION VACCINE AND DIAGNOSTIC, US PATENT ISSUED APRIL 27, 2004.**

**7026113 EIA VACCINE AND DIAGNOSTIC, US PATENT ISSUED APRIL 11, 2006.**

## PUBLICATIONS

### I. ALL PUBLISHED ARTICLES:

1. Issel, C.J., Hoff, G.L., Trainer, D.O., and Thompson, W.H. 1970. Serologic evidence of Bunyamwera group arbovirus infections in Wisconsin and Texas deer. *J. Wildl. Dis.* 6:479-482.
2. Issel, C. J., Trainer, D.O., and Thompson, W. H. 1972. Experimental studies with white-tailed deer and four California group arboviruses (LaCrosse, Trivittatus, snowshoe hare, and Jamestown Canyon). *Am. J. Trop. Med. & Hyg.* 21:979-984.
3. Issel, C.J., Trainer, D.O., and Thompson, W.H. 1972. Serologic evidence of natural infections of Wisconsin white-tailed deer with three California group arboviruses (LaCrosse, Trivittatus, Jamestown Canyon). *Am. J. Trop. Med. & Hyg.* 21:985-988.
4. Issel, C.J. 1973. Isolation of Jamestown Canyon virus (a California group arbovirus) from a white-tailed deer. *Am. J. Trop. Med. & Hyg.* 22:414-417.
5. Issel, C.J., Hoff, G.L., and Trainer, D.O. 1973. Serologic evidence of infection of white-tailed deer in Texas with three California group arboviruses (Jamestown Canyon, San Angelo, and Keystone). *J. Wildl. Dis.* 9:245-248.
6. Hoff, G.L., Issel, C.J., Trainer, D.O., and Richards, S.H. 1973. Arbovirus serology in North Dakota mule and white-tailed deer. *J. Wildl. Dis.* 9:291-295.
7. Issel, C.J. 1974. Maternal antibody to Jamestown Canyon virus in white-tailed deer. *Am. J. Trop. Med. & Hyg.* 23:242-245.
8. Issel, C.J., Pantuwatana, S., Yuill, T.M., and Hanson, R.P. 1975. Selection of plaque variants of two California group arboviruses (Jamestown Canyon and LaCrosse) by passage in natural vertebrate hosts. *Acta Virologica* 19:318-326.
9. Tomei, L.D. and Issel, C.J. 1975. The growth and immunogenicity of foot-and-mouth disease virus in BHK 21 cells adapted to and continuously grown in a serum-free chemically defined media. *Biotech. and Bioeng.* 17:765-778.
10. Issel, C.J. and Nicholson, S.S. 1975. Equine infectious anemia. Louisiana State University, Cooperative Extension Service Publication #1813, 2 pp. (25,000 copies distributed; revised in 1977 and 1980).
11. Hawkins, J.A., Adams, W.V. Jr., Wilson, B.H., Issel, C.J., and Roth, E.E. 1976. Transmission of equine infectious anemia virus by *Tabanus fuscicostatus*. *J. Am. Vet. Med. Assoc.* 168:63-64.
12. Issel, C.J. 1976. Current research on EIA at Louisiana State University. *Horse of Course* 5(6):19- 20.
13. Issel, C.J. and Adams, W.V. Jr. 1977. Prevalence of equine infectious anemia in Louisiana 1971- 1974. *La. Livestock Producers' Day Report.* 17:233-238.
14. Issel, C.J. 1978. Your horse is at war. *Equus* 3:30-33.
15. Issel, C.J. 1978. The lines of defense. Part II: A look at infectious diseases. *Equus* 5:42-45.
16. Barta, V. and Issel, C.J. 1978. Simple method for preparation of specific antisera against viral proteins: rabbit antisera against equine infectious anemia virus proteins p26 and p16. *Am. J. Vet. Res.* 39:1856-1857.
17. Issel, C.J. 1979. Investigations of equine respiratory disease epidemics at a Louisiana racetrack. *The Louisiana Thoroughbred* Jan:56-57.

18. Issel, C.J. and Adams, W.V. Jr. 1979. Serologic survey for equine infectious anemia virus in Louisiana. *J. Am. Vet. Med. Assoc.* 179(3):276-288.
19. Amborski, G.F., Jeffers, G., Amborski, R.L., and Issel, C.J. 1979. Equine infectious anemia virus: Development of a simple reproducible method for titrating infectivity of the cell adapted strain. *Am. J. Vet. Res.* 40(2):302-304.
20. Issel, C.J. and Coggins, L. 1979. Equine infectious anemia: Current knowledge. *J. Am. Vet. Med. Assoc.* 174(7):727-733.
21. Issel, C.J. 1979. Understanding EIA. *Horse of Course* 8(6):18-21, 56-57.
22. John, D. and Issel, C.J. 1979. Wild pets and rabies. *Louisiana Conservationist* 31(2):17-23.
23. Issel, C.J., Williams, D.L., Adams, W.V. Jr., and Steelman, C.D. 1980. Mosquitoes, needles, and equine infectious anemia virus. *Qtr. Horse J.* 32(6):186-188.
24. John, D. and Issel, C.J. 1980. Wild pets and rabies. *Outdoor California* 40(2):25-28.
25. Parekh, B., Issel, C.J., and Montelaro, R.C. 1980. Equine infectious anemia virus, a putative lentivirus, contains polypeptides analogous to prototype-C oncornaviruses. *Virology* 107:520-527.
26. Williams, D.L., Issel, C.J., Steelman, C.D., Adams, W.V. Jr., and Benton, C.V. 1981. Studies with equine infectious anemia virus: (1) Transmission attempts by mosquitoes; and (2) survival of virus on vector mouthparts, hypodermic needles, and in mosquito tissue culture. *Am. J. Vet. Res.* 42(9):1469-1473.
27. Issel, C.J., Adams, W.V. Jr., Pierce, R., McClure, J.J., Foil, L., Heath, D., McClure, J.R., and Meek, L. 1981. Observations of a band of horses inapparently infected with equine infectious anemia virus. *La. Livestock Producers' Day Report* 22:170-177.
28. Truman, R.W. and Issel, C.J. 1981. Serologic survey for viruses associated with respiratory disease in Louisiana horses. *La. Livestock Producers' Day Report* 22:161-169.
29. Montelaro, R.C., West, M., and Issel, C.J. 1981. High performance gel permeation chromatography of proteins in denaturing solvents and its application to the analysis of enveloped virus polypeptides. *Analytical Biochemistry* 114:398-406.
30. Issel, C.J., Adams, W.V., Meek, L., and Ochoa, R. 1982. Transmission of equine infectious anemia virus from horses without clinical signs of disease. *J. Am. Vet. Med. Assoc.* 180(3):272-275.
31. Issel, C.J. and Adams, W.V. Jr. 1982. Detection of equine infectious anemia virus in a horse with an equivocal agar gel immunodiffusion test reaction. *J. Am. Vet. Med. Assoc.* 180(3):276-278.
32. McClure, J.J., Lindsay, W.A., Taylor, W., Ochoa, R., Issel, C.J., and Coulter, S.J. 1982. Ataxia in four horses with equine infectious anemia. *J. Am. Vet. Med. Assoc.* 180(3):279-283.
33. Pearson, N.J., Fulton, R.W., Issel, C.J., and Springer, W.T. 1982. Prevalence of rotavirus antibody in chickens and horses in Louisiana, USA. *Vet. Rec.* 110:58-59
34. Montelaro, R.C., Lohrey, N., Parekh, B., Blakeney, E.W., and Issel, C.J. 1982. Isolation and comparative biochemical properties of the major internal polypeptides of equine infectious anemia virus. *J. of Virol.* 42:1029-1038.
35. Foil, L. and Issel, C.J. 1982. Equine infectious anemia: living with the disease. *Louisiana Agriculture* 25(3):8-9.

36. Orrego, A., Issel, C.J., Montelaro, R.C., and Adams, W.V. Jr. 1982. Effect of backpassage on the virulence and in vitro growth of a cell adapted strain of equine infectious anemia virus. *Am. J. Vet. Res.* 43:1556-1560.
37. Foil, L., Meek, L., Adams, W.V. Jr., and Issel, C.J. 1982. Mechanical transmission of equine infectious anemia virus by deer flies (*Chrysops flavidus*) and stable flies (*Stomoxys calcitrans*). *Am. J. Vet. Res.* 44:155-156.
38. Montelaro, R.C., West, M., and Issel, C.J. 1983. Isolation of equine infectious anemia virus glycoproteins. Lectin affinity chromatography procedures for high avidity glycoproteins. *J. Virol. Methods* 6:337-346.
39. Foil, L., Adams, W.V. Jr., Issel, C.J., and Pierce, R. 1984. Tabanid populations associated with an equine infectious anemia outbreak in an inapparently infected herd of horses. *J. Med. Entomology* 21:28-30.
40. Issel, C.J. and Foil, L.D. 1984. Studies on equine infectious anemia virus transmission by insects. *J. Am. Vet. Med. Assoc.* 184:293-297.
41. Shane, B.S., Issel, C.J., and Montelaro, R.C. 1984. Enzyme linked immunosorbent assay for detection of equine infectious anemia virus p26 antigen and antibody. *J. Clin. Micro.* 19:351-355.
42. Montelaro, R.C., Parekh, B., Orrego, A., and Issel, C.J. 1984. Antigenic variation during persistent infection by equine infectious anemia virus, a retrovirus. *J. Biol. Chem.* 259:10539-10544.
43. Montelaro, R.C., West, M., Issel, C.J. 1984. Antigenic reactivity of the major glycoprotein of equine infectious anemia virus, a retrovirus. *Virology* 136:368-374.
44. Payne, S., Parekh, B., Montelaro, R.C., and Issel, C.J. 1984. Genomic alterations associated with persistent infections by equine infectious anemia virus, a retrovirus. *J. Gen. Virol.* 65:1395-1399.
45. O'Neill, F. and Issel, C.J. 1984. Growth kinetics of equine respiratory viruses in cell and organ cultures. *Am. J. Vet. Res.* 45:1961-1966.
46. O'Neill, F., Issel, C.J., and Henk, W. 1984. Electron microscopy of equine respiratory viruses in organ cultures of equine fetal respiratory tract epithelium. *Am. J. Vet. Res.* 45:1953-1960.
47. Issel, C.J. 1984. Equine Infectious Anemia, 1984. *Horsin' Around* (La. St. Coop. Ext. Newsletter) 3(4):4-6.
48. Issel, C.J., Adams, W.V. Jr., and Foil, L.D. 1985. Prospective study of progeny of inapparent equine carriers of equine infectious anemia virus. *Am. J. Vet. Res.* 46:1114-1116.
49. Foil, L., Stage, D., Adams, W.V. Jr., and Issel, C.J. 1985. Observations of tabanid feedings on mares and foals. *Am. J. Vet. Res.* 46:1111-1113.
50. Montelaro, R.C., Issel, C.J., Parekh, B., and Orrego, A. 1985. Equine infectious anemia virus. Serological and biochemical properties of virus isolates from sequential clinical episodes in ponies. *Proc. International Symposium on Immunity to Equine Infectious Anemia* pp. 180-184, 1983. Printed by the Harbin Veterinary Research Institute, Chinese Academy of Agricultural Sciences.
51. Foil, L. and Issel, C.J. 1985. The mechanical transmission of equine infectious anemia virus in the United States. *Proc. International Symposium on Immunity to Equine Infectious*

- Anemia pp. 251-259, 1983. Printed by the Harbin Veterinary Research Institute, Chinese Academy of Agricultural Sciences.
52. Issel, C.J. 1985. Louisiana State University research progress report and projections on EIA. Proc. Equine Infectious Anemia Research Symposium. In Equine Infectious Anemia, A National Review of Policies, Programs and Future Objectives:an American Quarter Horse Association publication, pp. 23-26.
  53. Issel, C.J. 1985. Epidemiology and insect transmission of EIA virus. Proc. Equine Infectious Anemia Research Symposium. In Equine Infectious Anemia, A National Review of Policies, Programs, and Future Objectives:an American Quarter Horse Association publication, pp. 41-44.
  54. Issel, C.J. 1985. Potential of genetically engineered or other vaccines for EIA. Proc. Equine Infectious Anemia Research Symposium. In Equine Infectious Anemia, A National Review of Policies, Programs, and Future Objectives:an American Quarter Horse Association publication, pp. 66-67.
  55. Issel, C.J. 1985. Comparison of the epidemiology of EIA in China with that of the Gulf Coast States of the U.S. Proc. Equine Infectious Anemia Research Symposium. In Equine Infectious Anemia, A National Review of Policies Programs, and Future Objectives:an American Quarter Horse Association publication, pp. 74-76.
  56. Issel, C.J. 1985. LSU Researchers Study EIA. The Quarter Horse Journal August:270-272.
  57. Salinovich, O., Payne, S.L., Montelaro, R.C., Hussain, K.A., Issel, C.J., and Schnorr, K.L. 1986. The rapid emergence of novel antigenic and structural variants of equine infectious anemia virus during persistent infection. J. Virology 57:71-80.
  58. Issel, C.J., Montelaro, R.C., and Foil, L.D. 1986. The virology of equine retroviruses. In Animal Models of Retrovirus Infection and Their Relationship to AIDS, L.A. Salzman editor. Academic Press. pp. 95-106.
  59. Montelaro, R.C., Issel, C.J., Payne, S., and Salinovich, O. 1986. Antigenic variation during persistent infections by equine infectious anemia virus. In Antigenic Variation in Infectious Diseases, T.H. Birkback and C.W. Penn, editors. IRL Press, Oxford. pp. 41-56.
  60. Rushlow, K., Olsen, D., Stiegler, G., Payne, S.L., Montelaro, R.C., and Issel, C.J. 1986. Lentivirus genomic organization: The complete nucleotide sequence of the env gene region of equine infectious anemia virus. Virology 155:309-321.
  61. Payne, S.L., Salinovich, O., Nauman, S.M., Issel, C.J., and Montelaro, R.C. 1987. Course and extent of variation of equine infectious anemia virus during parallel persistent infections. J. Virol. 61:1266-1270.
  62. Hussain, K.A., Issel, C.J., Schnorr, K.L., and Montelaro, R.C. 1987. Antigenic analysis of equine infectious anemia virus (EIAV) variants using monoclonal antibodies: epitopes of glycoprotein 90 (gp90) of EIAV stimulate neutralizing antibodies. J. Virol. 61(10):2956-2961.
  63. Foil, L.D., Adams, W.V. Jr., McManus, J.M., and Issel, C.J. 1987. Blood meal residues on mouthparts of *Tabanus fuscicostatus* (Diptera: Tabanidae) and the potential for mechanical transmission of pathogens. J. Med. Entomol. 4(6):613-616.
  64. Payne, S.L., Fang, F., Liu, C., Dhruva, B.R., Rwambo, P., Issel C.J., and Montelaro, R.C. 1987. Antigenic variation and lentivirus persistence: Variations in envelope gene sequences



- during EIAV infection resemble changes reported for sequential isolates of HIV. *Virology*. 161:321-331.
65. Hussain, K.A., Issel, C.J., Schnorr, K.L., West, M., Rwambo, P.M., and Montelaro, R.C. 1988. Antigenic mapping of the envelope proteins of equine infectious anemia virus: Identification of a neutralization domain and a conserved region on glycoprotein 90. *Archives Virol.* 98:213-224.
  66. Ball, J.M., Rao, V.S.V., Robey, W.G., Issel, C.J., and Montelaro, R.C. 1988. Lentivirus antigen purification and characterization: Isolation of equine infectious anemia virus gag and env proteins in one step by reverse phase HPLC and application to human immunodeficiency virus glycoproteins. *J. Virol. Meth.* 19:265-277.
  67. Montelaro, R.C., Robey, W.G., West, M.D., Issel, C.J., and Fischinger, P.J. 1988. Characterization of the Serological Cross Reactivity Between Glycoproteins of Human Immunodeficiency Virus and Equine Infectious Anemia Virus. *J. Gen. Virol.* 69:1711-1717.
  68. Hussain, K.A., Issel, C.J., Rwambo, P.M., Arnizaut, A.B., Ball, J.M., Schnorr, K.L., and Montelaro, R.C. 1988. Identification of gag Precursor of Equine Infectious Anemia Virus with Monoclonal Antibodies to the Major Viral Core Protein, p26. *J. Gen. Virol.* 69:1719-1724.
  69. Ball, J.M., Payne, S.L., Issel, C.J., and Montelaro, R.C. 1988. EIAV Genomic Organization: Further Characterization by Sequencing of Purified Glycoproteins and DNA. *Virol.* 165:601-605.
  70. Issel, C.J., Rushlow, K., Foil, L.D., and Montelaro, R.C. 1988. A Perspective on Equine Infectious Anemia with an Emphasis on Vector Transmission and Genetic Analysis. *Veterinary Microbiology* 17:251-286.
  71. Foil, L.D., Seger, C.L., French, D.D., Issel, C.J., McManus, J.M., and Ramsey, R. T. 1988. The mechanical transmission of bovine leukemia virus by horse flies. *J. Med. Ent.* 25(5):374-376.
  72. Issel, C.J., Rwambo, P.M., and Montelaro, R.C. 1988. Evolution of equine infectious anemia diagnostic tests: Recognition of a need for detection of anti-EIAV glycoprotein antibodies. *Equine Infectious Diseases V, Proc. of the Fifth International Conference*. Edited by D.G. Powell. University Press of Kentucky pp.196-200.
  73. Foil, L.D., Adams, W.V. Jr., McManus, J.M., and Issel, C.J. 1988. Quantifying the role of horse flies as vectors of equine infectious anemia. *Equine Infectious Diseases V, Proceedings of the Fifth International Conference*. Edited by D.G. Powell. Univ. Press of Kentucky pp. 189-195.
  74. Issel, C.J. 1988. Equine infectious anemia as a model for AIDS. *Newsletter of the Louisiana State University Equine Veterinary Research Program* 1(2):2-5.
  75. LePrince, D.J., Higgins, J.A., Church, G.E., Issel, C.J., McManus, J.M., and Foil, L.D. 1989. Body size of *Culicoides variipennis* (Diptera: Ceratopogonidae) in relation to bloodmeal size estimates and the ingestion of *Onchocerca cervicalis* (Nematoda: Filarioidea) Microfilariae. *J. Am. Mosq. Control Assn.* 5:100-103.
  76. Payne, S.L., Ball, J.M., Issel, C.J., Rushlow, K., and Montelaro, R.C. 1988. Envelope gene variation in equine infectious anemia virus: Implications for vaccine development. *Vaccines 87 Cold Spring Harbor Press*. pp.297-302.

77. Foil, L.D., French, D.D., Hoyt, P.G., Issel, C.J., LePrince, D.J., McManus, J.M., and Seger, C.L. 1989. Transmission of Bovine Leukemia Virus by *Tabanus fuscicostatus*. *Am. J. Vet. Res.* 50(10):1771-1773.
78. Payne, S.L., Rushlow, K., Dhruva, B.R., Issel, C.J., Montelaro, R.C. 1989. Localization of Conserved and Variable Antigenic Domains of Equine Infectious Anemia Virus Envelope Glycoproteins Using Recombinant ENV-Encoded Protein Fragments Produced in *E. Coli*. *Virology* 172:609-615.
79. Montelaro, R.C., Ball, J.M., Rwambo, P.M., and Issel, C.J. 1989. Antigenic Variation During Persistent Lentivirus Infections and its Implications for Vaccine Development. In *Immunobiology of Proteins and Peptide V Adv. Exp. Med. Biol.* 215: 251-272. M. Atassi, Ed. Plenum Press, NY, 1989.
80. Rasty, S., Dhruva, B.H., Schlitz, R.L., Shih, D.S., Issel, C.J., and Montelaro, R.C. 1990. Proviral DNA Integration and Transcriptional Patterns of Equine Infectious Anemia Virus (EIAV) During Persistent and Cytopathic Infections. *J. Virol* 64:86-95.
81. Montelaro, R.C., Issel, C.J., Payne, S.L., and Rushlow, K. 1990. Equine Infectious Anemia Virus: A Natural Model for the Immunologic Management of Lentivirus Infections. pp. 279-300. In: *AIDS Vaccines: Clinical Trials and Basic Research*. S. Putney and D. Bolognesi, Editors. Marcel Dekker, Inc., New York and Basel.
82. Rwambo, P.M., Issel, C.J., Adams, W.V. Jr., Hussain, K.A., Miller, M., and Montelaro, R.C. 1990. Equine infectious anemia virus (EIAV): Humoral responses of recipient ponies and antigenic variation during persistent infection. *Arch Virol* 111:199-212.
83. Rwambo, P.M., Issel, C.J., Hussain, K.A., and Montelaro, R.C. 1990. In Vitro isolation of a neutralization escape mutant of equine infectious anemia virus (EIAV). *Arch Virol* 111:275-280.
84. Issel, C.J., McManus, J.M., Hagius, S.D., Foil, L.D., Adams, W.V., Jr., and Montelaro, R.C. 1990. Equine Infectious Anemia: Prospects for Control. In *Progress for Animal Retroviruses*. International Association of Biological Standardization, Karger. 72: 49-57.
85. Montelaro, R.C., Ball, J. and Issel, C.J. 1990. Characterization of EIAV Immunogenicity During Persistent Infections: Humoral Responses and Antigen Targets. In *Progress in Animal Retroviruses*. International Association of Biological Standardization, Karger. 72:19-30.
86. Truax, R.E., Powell, M.D., Montelaro, R.C., Issel, C.J. and Newman, M.J. 1990. Cryopreservation of Equine Mononuclear Cells for Immunological Studies. *Vet. Immunol. Immunopathol* 25:139-153.
87. Foil, L.D., LePrince, D.J., Adams, W.V. Jr., Byford, R.L., Church, G.E., Issel, C.J., Sonnier, K.J., and Zyzak, M.D. 1990. Controlling the Impact of Horse Flies and Deer Flies Upon Livestock. *LA. Agriculture* 87:16-18.
88. Rushlow, K.E., Chong, Y., Ball, J.M., Issel, C.J., and Montelaro, R.C. 1990. Evaluation of Protective Host Immune Responses During Persistent Infection with Equine Infectious Anemia Virus. pp133-138 In *Retroviruses of Human AIDS and Related Animal Diseases*. Proceedings of the 5th Colloque des Cent Gardes, Edited by M. Girard and L. Valette.
89. Montelaro, R.C. and Issel, C.J. 1990 Immunologic management of equine infectious anemia virus: a model for AIDS development, pp 221-232. In H. Schellekens and M. Horzinek (ed.), *Animal models for AIDS*. Elsevier Press, New York.

90. Foil, L.D. and Issel, C.J. 1991. Transmission of Retroviruses by Arthropods. Annual Review of Entomology 36:355-381.
91. Chong, Y., Payne, S.L., Issel, C.J., Montelaro, R.C., and Rushlow, K.E. 1991. Characterization of the Antigenic Domains of the Major Core Protein (p26) of Equine Infectious Anemia Virus. J. Virol 65:1007-1012.
92. Chong, Y., Ball, J.M., Issel, C.J., Montelaro, R.C. and Rushlow, K.E. 1991. Analysis of Equine Humoral Immune Responses to the Transmembrane Envelope Glycoprotein (gp45) of Equine Infectious Anemia Virus. J. Virol 65:1013-1018.
93. Newman, M.J., Issel, C.J., Truax, R.E., Powell, M.D., Horohov, D.W., Montelaro, R.C. 1991 Transient Suppression of Equine Immune Responses by Equine Infectious Anemia Virus (EIAV). Virology. 184: 55-66.
94. Issel, C.J. 1991 Equine Infectious anemia. pp163-166 In Veterinary Diagnostic Virology: A Practitioner's Guide, edited by Castro and Heuschele, Mosby Year Book, St. Louis.
95. Ball, J.M., Issel, C.J. and Montelaro, R.C. 1992. Detailed mapping of the antigenicity of the surface unit glycoprotein of equine infectious anemia virus by using synthetic peptide strategies. J. Virol. 66:732-742.
96. Issel, C.J., Cook, R.F., Adams, W.V. Jr., Foil, L.D., McClure, J.J., Haynes, P.F., and McClure, J.R. 1992. Foetal responses to experimental infection with a cell-adapted strain of equine infectious anaemia virus. pp 249-252 in Equine Infectious Diseases VI, edited by Plowright, Rosedale and Wade, R&W Publications (Newmarket) Ltd. England.
97. Issel, C.J., Horohov, D.W., Lea, D.F., Adams, W.V.Jr, Hagijs, S.D., McManus, J.M., Allison, A.C. and Montelaro, R.C. 1992.. Efficacy of inactivated whole-virus and subunit vaccines in preventing infection and disease caused by equine infectious anemia virus. J. Virol. 66: 3398-3408.
98. Cook, R.F., Cook, S.J. and Issel, C.J. 1992. A non-radioactive micro-assay for released reverse transcriptase activity of a Lentivirus. Biotechniques. 13: 380-386.
99. Issel, C.J., 1992 Equine Infectious Anemia. University of Kentucky Newsletter, 2pp.
100. Issel, C.J. and Cook, R.F. 1993. A review of techniques for the serologic diagnosis of equine infectious anemia. J. Vet. Diagn. Invest. 5:137-141.
101. DeVico, A.L., Issel, C.J., LeGrice, S.F.J., Payne, S.L., Montelaro, R.C. and Sarngadharan, M.G. 1993 High Prevalence of Serum Antibodies to Equine Infectious Anemia Virus Reverse Transcriptase. AIDS Res. & Human Retroviruses 9:7-11.
102. Knaus, R.M., Foil, L.D., Issel, C.J. and LePrince, D.J. 1993 Insect blood meal studies using radiosodium <sup>24</sup>Na and <sup>22</sup>Na. Journal of the American Mosquito Control Association 9:264-268.
103. Wang, S.Z.S., Rushlow, K.E., Issel, C.J., Cook, R.F., Cook, S.J., Raabe, M.L., Chong, Y.H., Costa, L. and Montelaro, R.C. 1994. Enhancement of EIAV replication and disease by immunization with a baculovirus-expressed recombinant envelope surface glycoprotein. Virology 199:247-251.
104. Grund, C.H., Lechman, E.R., Issel, C.J., Montelaro, R.C. and Rushlow, K.E. 1994. Lentivirus cross-reactive determinants present in the capsid protein (CA) of equine infectious anemia virus (EIAV). J Gen Virol. 75:657-662.
105. Payne, S.L., Rausch, J., Rushlow, K., Montelaro, R.C., Issel, C., Flaherty, M., Perry, S., Sellon, D., and Fuller, F. 1994. Characterization of infectious molecular clones of equine infectious anemia virus. J. Gen Virol. 75:425-429.

106. Langemeier, J.L., Cook, R.F., Issel, C.J. and Montelaro, R.C. 1994. Application of cycle dideoxy fingerprinting to screening heterogeneous populations of the equine infectious anemia virus. *Biotechniques* 17:484-490.
107. Cook, R.F., Cook, S.J., Lichtenstein, D., Rushlow, K.E., Langemeier, J.L., Montelaro, R.C. and Issel, C.J. 1994. Direct transfection of equine infectious anemia virus (EIAV) proviral DNA in ponies: Efficiency of replication *in vivo* of dUTPase+ and dUTPase~ infectious molecular clones. In *Equine Infectious Diseases VII. Proceedings of the VIIth International Conference on Equine Infectious Diseases*, edited by H. Nakajima and W. Plowright, R&W Publications (Newmarket) Ltd., Great Britain, pp. 95-104.
108. Costa, L., Issel, C.J., Montelaro, R.C., Cook, S.J., Cook, R.F., Rushlow, K.E., Grund, C, and Wang, S.Z-S. 1994. Responses of ponies to challenge with equine infectious anemia virus following exposure to recombinant gp90 or viral p26 immunogens. In *Equine Infectious Diseases VII. Proceedings of the VIIth International Conference on Equine Infectious Diseases*, edited by H. Nakajima and W. Plowright, R&W Publications (Newmarket) Ltd., Great Britain pp. 85-94. .
109. Cook, R.F., Berger, S.L., Rushlow, K.E., McManus, J.J., Cook, S.J., Harrold, S., Raabe, M.L., Montelaro, R.C. and Issel, C.J. 1995. Enhanced sensitivity to neutralizing antibodies in a variant of equine infectious anemia virus (EIAV) is linked to amino acid substitutions in the surface unit (SU) envelope glycoprotein. *J. Virol.* 69:1493-1499. .
110. Lichtenstein, D., Rushlow, K.E., Cook, R.F., Raabe, M.L., Swardson, C.J., Kociba, G.J., Issel, C.J., and Montelaro, R.C. 1995. Replication *in vitro* and *in vivo* of an equine infectious anemia virus mutant deficient in dUTPase activity. *J. Virol.* 69:2881-2888. .
111. Grund, C.H., Lechman, E.R., Pezzulo, N.A., Issel, C.J. and Montelaro, R.C. 1996. Fine specificity of EIAV gp90-specific antibodies associated with protective and enhancing immune responses in experimentally infected and immunized ponies. *J. Gen. Virol.* 77:435-442.
112. Green, B.E., Foil, L.D., Hagius, S.D. and Issel, C.J. 1996. The stability of equine infectious anemia virus in *Aedes aegypti* (Diptera: Culicidae), *Stomoxys calcitrans* (Diptera: Muscidae), and *Tabanus fuscicostatus* (Diptera: Tabanidae) stored at -70C. *JAMCA* 12:334-336.
113. Montelaro, R.C., Grund, C., Raabe, M., Woodson, B., Cook, R.F., Cook, S. and Issel, C.J. 1996. Characterization of protective and enhancing immune responses to equine infectious anemia virus resulting from experimental vaccines. *AIDS Res and Human Retroviruses* 12(5):413-415.
114. Cordes, T. and Issel, C.J. 1996. Equine Infectious Anemia: A status report on its control - 1996. USDA-APHIS publication 91-55-032, 19pp.
115. Lichtenstein, D. , Issel, C.J. and Montelaro, R.C. 1996. Genomic quasispecies associated with the initiation of infection and disease in ponies experimentally infected with equine infectious anemia virus. *J. Virol.* 70(6):3346-3354.
116. Langemeier, J.L. Cook, S.J., Cook, R.F., Rushlow, K.E. , Montelaro, R.C., and Issel, C.J. 1996. Detection of equine infectious anemia viral RNA in plasma samples from recently infected and long-term inapparent carriers animals by PCR. *J Clin Micro.* 34(6):1481-1487.
117. Cook, R.F., Issel, C.J., and Montelaro, R.C. 1996. Equine infectious anemia. pp295-323 in *Equine Viruses*, edited by M. Studdert, Elsevier Press.
118. Hammond, S.A., Cook, S.J., Lichtenstein, D.L., Issel, C.J. and Montelaro, R.C. 1997. Maturation of the cellular and humoral immune responses to persistent infection in horses

- by equine infectious anemia virus is a complex and lengthy process. *J. Virol.* 71(5):3840-3852.
119. Costa, L.R.R., de Miranda Santos, I.K.F., Issel, C.J., and Montelaro, R.C. 1997. Tumor necrosis factor- $\alpha$  production and disease severity after immunization with enriched major core protein (p26) and/or infection with equine infectious anemia virus. *Vet. Immunol and Immunopath* 57:33-47.
  120. Leroux, C., Issel, C.J. and Montelaro, R.C. 1997. Novel and dynamic evolution of EIAV genomic quasispecies associated with sequential disease cycles in an experimentally infected pony. *J. Virol.* 71(12):9627-9639.
  121. Wu, G., Tomei, L.D., Bathurst, I.C., Zhang, F., Hong, C.B., Issel, C.J., Columbano, A., Salley, R.K., and Chien, S. 1997. Antiapoptotic compound to enhance hypothermic liver preservation. *Transplantation* 63(6):803-809.
  122. Cook, R.F., Leroux, C., Cook, S.J., Berger, S.L., Lichtenstein, D.L., Ghabrial, N.N., Montelaro, R.C. and Issel, C.J., 1998. Development and characterization of an *in vivo* pathogenic molecular clone of equine infectious anemia virus. *J. Virol.* 72(2):1383-1393.
  123. Hammond, S.A., Issel, C.J., and Montelaro, R.C. 1998. General method for the detection and *in vitro* expansion of equine cytolytic T lymphocytes. *J. Immunol. Methods* 213(1):73-85.
  124. Raabe, M.R., Issel, C.J., and Montelaro, R.C. 1998. Equine monocyte derived macrophage cultures and their application for infectivity and neutralization studies of equine infectious anemia virus. *J. Virological Methods* 71:87-104.
  125. Raabe, M.L., Issel, C.J., Cook, S.J., Cook, R.F., Woodson, B., and Montelaro, R.C. 1998. Immunization with a recombinant envelope protein (rgp90) of EIAV produces a spectrum of vaccine efficacy ranging from lack of clinical disease to severe enhancement. *Virology* 245:151-162.
  126. Issel, C.J. 1998. EIA testing of wild free-roaming horses. *Equine Disease Quarterly Newsletter* 7(1):4-5.
  127. Issel, C.J., Cook, S.J., Howell, D., Nitschke Sinclear, J., Gardner, D., Mathis, J.G., Marshall, M.R., and Rogers, L.E. 1998. Equine Infectious Anemia in Wild Free-Roaming Horses in Utah, 1998. *US An Health Assn. Proc.* 102:376-384.
  128. Issel, C.J. 1999. Equine infectious anemia, commentary. *Equine Disease Quarterly Newsletter* 7(2):1.
  129. Hammond, S.A., Cook, S.J., Falo, L.D., Issel, C.J., and Montelaro, R.C. 1999. A particulate viral protein vaccine reduces viral load and delays progression to disease in immunized ponies challenged with equine infectious anemia virus. *Virology* 254:37-49.
  130. Issel, C.J. 1999. EIA testing: proven to work, it should be more vigorous and widespread. *Am Saddlebred* 17(2):12.
  131. Issel, C.J. 1999. Testing for equine infectious anemia. *Equine Practice* 21(6):13. (Commentary reprinted from the *Equine Disease Quarterly* 7(2)).
  132. Issel, C.J., Cook, S.J., Cordes, T.R., McConnico, R.S., Messer, N.T. IV, Bisson, H., and Shea, P. 1999. Equine infectious anemia: problem turned to opportunity. How the destruction of free roaming horses with EIA may lead to healthier populations and better management plans. *The Horse* 16(8):27-40.
  133. Raabe, M.L., Issel, C.J. and Montelaro, R.C. 1999. *In vitro* antibody enhancement assays are insensitive of *in vivo* vaccine enhancement of equine infectious anemia virus. *Virology* 259:416-427.

134. Issel, C.J. 1997. "Equine Infectious Anemia" in Encyclopedia of Science and Technology 8th edition, McGraw-Hill Inc., New York, NY. pp523-524.
135. Issel, C.J. 1999. Chairman's overview of the Workshop on equine infectious anemia. pp. 395-396 in the Proceedings of the 8<sup>th</sup> International Conference on Equine Infectious Diseases, R&W Publications (Newmarket) Limited, Great Britain.
136. Leroux, C., Hammond, S.A., Singh, M., Issel, C.J., and Montelaro, R.C. 1999. Recurring nature of equine infectious anemia (EIA) is associated with dynamic evolution in the principal neutralizing domain (PND) of the EIAV surface glycoprotein. pp. 404-405 in the Proceedings of the 8<sup>th</sup> International Conference on Equine Infectious Diseases, R&W Publications (Newmarket) Limited, Great Britain.
137. Issel, C.J., Cook, S.J., Cook, R.F., McCoy, H.K., Lew, A.M., and Montelaro, R.C. 1999. A search for the elusive protective determinants of equine infectious anemia virus. p. 408 in the Proceedings of the 8<sup>th</sup> International Conference on Equine Infectious Diseases, R&W Publications (Newmarket) Limited, Great Britain.
138. Cook, R.F., Berger, S.L., Cook, S.J., Ghabrial, N.N., Leroux, C., Montelaro, R.C., and Issel, C.J. 1999. Induction of disease in horses and ponies by molecularly cloned equine infectious anemia virus (EIAV). p. 397 in the Proceedings of the 8<sup>th</sup> International Conference on Equine Infectious Diseases, R&W Publications (Newmarket) Limited, Great Britain.
139. Cook, S.J., Cook, R.F., Montelaro, R.C., and Issel, C.J. 1999. Differential pathogenicity of equine infectious anemia virus (EIAV) in equids. pp. 398-399 in the Proceedings of the 8<sup>th</sup> International Conference on Equine Infectious Diseases, R&W Publications (Newmarket) Limited, Great Britain.
140. McConnico, R.S., Floyd, C., Issel, C., Lehenbauer, T.W., Rodgers, S., and Saliki, J. 1999. Evaluation of techniques for the serologic diagnosis of equine infectious anemia in a naturally-infected, clinically inapparent herd of reproductively active horses. p. 400 in the Proceedings of the 8<sup>th</sup> International Conference on Equine Infectious Diseases, R&W Publications (Newmarket) Limited, Great Britain.
141. Hammond, S.A., Raabe, M.L., Issel, C.J., and Montelaro, R.C. 1999. Evaluation of antibody parameters as potential correlates of protection or enhancement by experimental vaccines to equine infectious anemia virus. *Virology* 262:416-430.
142. Issel, C.J., Cook, S.J., Cook, R.F., and Cordes, T.R. 1999. Optimal paradigms for the serologic diagnosis of equine infectious anemia. *J Equine Veterinary Science* 19(11):728-732.
143. Lichtenstein, D.L., Craigo, J.K., Leroux, C., Rushlow, K.E., Cook, R.F., Cook, S.J., Issel, C.J., and Montelaro, R.C. 1999. Effects of long terminal repeat sequence variation on equine infectious anemia virus replication *in vitro* and *in vivo*. *Virology* 263:408-417.
144. Li, F., Leroux, C., Craigo, J.K., Cook, S.J., Issel, C.J., and Montelaro, R.C. 2000. The S2 gene of equine infectious anemia virus is a highly conserved determinant of viral replication and virulence properties in experimentally infected ponies. *J. Virol.* 74:573-579.
145. Hammond, S.A., Li, F., McKeon, B.M., Sr., Cook, S.J., Issel, C.J., and Montelaro, R.C. 2000. Immune responses and viral replication in long-term inapparent carrier ponies inoculated with equine infectious anemia virus. *J. Virology* 74:5968-5981.
146. Harrold, S.M., Cook, S.J., Cook, R.F., Rushlow, K.E., Issel, C.J., and Montelaro, R.C. 2000. Tissue sites of persistent infection and active replication of equine infectious anemia

- virus during acute disease and asymptomatic infection in experimentally infected equids. *J. Virology* 74:3112-3121.
147. McConnico, R.S., Issel, C.J., Cook, S.J., Cook, R.F., Floyd, C., and Bisson, H. 2000. Predictive methods to define infection with equine infectious anemia virus in foals out of reactor mares. *J. Equine Veterinary Science* 20(6):387-392.
  148. Cook, S.J., Cook, R.F., Montelaro, R.C., and Issel, C.J. 2001. Differential responses of *Equus caballus* and *Equus asinus* to infection with 2 pathogenic strains of equine infectious anemia virus. *Vet Micro.* 79:93-109.
  149. Issel, C.J. and McConnico, R.S. 2001. The risk of EIA in foals. *Equine Disease Quarterly Newsletter.* 9(2): 3-4.
  150. Leroux, C., Craigo, J.K., Issel, C.J., and Montelaro, R.C. 2001. Equine infectious anemia virus genomic evolution in progressor and non-progressor ponies. *J. Virol.* 75:4570-4583.
  151. Issel, C.J., Sinclear, J.N., Bolin, P.S., Cook, S.J., Anderson, G., Marshall, M., Rogers, L.E., Mathis, J., and Lekas, J. 2000. Investigations on equine infectious anemia in equids from the Uintah Basin in Utah, 1999-2000. *US An Health Assn. Proc.* 104:372-382.
  152. Cordes, T.R. Issel, C.J., Ostlund, E.N., and Schmitt, B.J. 2001. Equine infectious anemia: 2001 update. *Prog. Aid* 1707. Washington D.C.: U.S. Department of Agriculture, Animal and Plant Health Inspection Service. 40p.
  153. Issel, C.J. 2001. Equine infectious anemia. pp. 176-178 in *Encyclopedia of Arthropod-transmitted Infections of Man and Domesticated Animals*, M.W.Service, ed., CABI Publishing, Wallingford, Oxon, UK. 608pp.
  154. Craigo, J.K., Leroux, C., Howe, L., Steckbeck, J.D., Cook, S.J., Issel, C.J., and Montelaro, R.C. 2002. Transient immune suppression of inapparent carrier ponies infected with neutralization-resistant EIAV redirects antibody responses and lowers steady state viral replication. *J. Gen Virol* 83:1353-1359.
  155. Zhou, W., Cook, R.F., Cook, S.J., Hammond, S.A., Rushlow, K., Ghabrial, N.N., Berger, S.L., Montelaro, R.C., and Issel, C.J. 2002. Multiple RNA splicing and the presence of cryptic RNA splice donor and acceptor sites may contribute to low expression levels and poor immunogenicity of potential DNA vaccines containing the env gene of equine infectious anemia virus (EIAV). *Vet Micro* 88/2:127-151.
  156. Cook, R.F., Cook, S.J., Li, F., Montelaro, R.C., and Issel, C.J. 2002. Development of a multiplex real-time reverse transcriptase-polymerase chain reaction for equine infectious anemia virus (EIAV). *J Virol Meth* 105:171-179.
  157. Howe, L., Leroux, C., Issel, C.J., and Montelaro, R.C. 2002. Equine infectious anemia virus envelope evolution *in vivo* during persistent infection progressively increases resistance to *in vitro* serum antibody neutralization as a dominant phenotype. *J. Virol.* 76(21):10588-10597.
  158. Cook, R.F. and Issel, C.J. 2002. Equine Infectious Anemia, pp 640-641 in Volume 6 of *Encyclopedia of Science*, 9<sup>th</sup> edition, McGraw Hill Publishers, Inc.
  159. Issel, C.J., and Cook, R.F. 2003. Preserving the past and making progress. *Commentary in the Equine Disease Quarterly Newsletter.* 12(1): 1.
  160. Issel, C.J., Cordes, T.R., Ostlund, E.N., and Schmitt, B. 2003. Laboratory guides for EIA testing. USDA APHIS Program Aids #1737 and 1738.
  161. Li, F., Craigo, J.K., Howe, L., Steckbeck, J.D., Cook, S., Issel, C., and Montelaro, R.C. 2003. A live attenuated EIAV proviral vaccine with a modified S2 gene provides protection

- from detectable infection by intravenous virulent virus challenge of experimentally inoculated horses. *J. Virology* 77(13):7244-7253.
162. Reis, J.K.P., Craigo, J.K., Cook, S.J., Issel, C.J., and Montelaro, R.C. 2003. Characterization of EIAV LTR variability and compartmentalization in various reservoir tissues of long term inapparent carrier ponies. *Virology* 311:169-180.
  163. Cook, R.F., Cook, S.J., Berger, S.L., Leroux, C., Ghabrial, N.N., Gantz, M., Bolin, P.S., Mousel, M.R., Montelaro, R.C. and Issel, C.J. 2003. Enhancement of equine infectious anemia virus virulence by identification and removal of suboptimal nucleotides. *Virology* 313:588-603.
  164. Jin, S., Issel, C.J., and Montelaro, R.C. 2004. Differential serological diagnosis of equine infectious anemia virus infected and vaccinated horses using recombinant S2 protein. *Clin. and Diag. Lab. Imm.* 11(6):1120-1129.
  165. Issel, C.J. 2005. Equine infectious anemia. In *The Merck Veterinary Manual, 9<sup>th</sup> edition*. pp559-560.
  166. Cook, R.F. and Issel, C.J. 2004. Equine infectious anemia. In *Infectious Diseases of Livestock with special reference to southern Africa*, JAW Coetzer, ed., Oxford University Press Southern Africa. pp.747-752.
  167. Issel, C.J., and Cook, S.J. 2004. Equine infectious anemia testing and control of EIA: how much is enough? *USAnHealthAssn Proc* 108:316-327. Accessed at: [http://www.usaha.org/meetings/2004/2004\\_USAHA\\_Proceedings.pdf](http://www.usaha.org/meetings/2004/2004_USAHA_Proceedings.pdf)
  168. Howe, L., Craigo, J., Issel, C.J., and Montelaro, R.C. 2005. Development of serum neutralizing antibodies to a neutralization resistant EIAV<sub>ΔPND</sub> envelope variant after immune suppression of experimentally infected ponies results from changes in host antibodies directed to gp90 V3 and V4 domains. *J. Gen. Virol.* 86:139-149.
  169. Craigo, J.K., Steckbeck, J.D., Durkin, S., Howe, L., Cook, S.J., Issel, C. and Montelaro, R.C. 2005. Discerning an effective balance between equine infectious anemia virus attenuation and vaccine efficacy. *J. Virol.* 79(5):2666-2677.
  170. Issel, C.J. 2005. Equine infectious anemia (EIA): 25 years and \$600,000,000 later. *Equine Disease Quarterly. Newsletter:* 14(1).
  171. Cook, R.F., Cook, S.J., Bolin, P.S., Howe, L.J., Montelaro, R.C. and Issel, C.J. 2005. Genetic immunization with codon-optimized equine infectious anemia virus (EIAV) surface unit (SU) envelope protein gene sequences stimulates immune responses in ponies. *Vet Micro.* 108(1-2):23-37.
  172. Craigo, J.K., Sturgeon, T., Cook, S.J., Issel, C.J., Leroux, C. and Montelaro, R.C. 2006. Apparent elimination of EIAV ancestral species in a long-term inapparent carrier. *Virology* 344:340-353.
  173. Issel, C.J. 2006. Control of EIA Virus Transmission. September 2006 Article # 7689 on The Horse.com, an electronic journal. Accessed November 1, 2006 at (<http://www.thehorse.com/printarticle.aspx?ID=7689>).
  174. Craigo, J.K., Durkin S., Sturgeon TJ, Tagmyer, T., Cook SJ, Issel CJ, and Montelaro RC. 2006. Immune Suppression Of Challenged Vaccinates As A Rigorous Assessment Of Sterile Protection By Lentiviral Vaccines. *Vaccine* 2006:834-845.
  175. Tagmyer, T., Craigo, J.K., Cook, S.J., Issel, C.J. and Montelaro, R.C. 2007. Characterization of broadly reactive T-helper and CTL epitopes in the envelope proteins of equine infectious anemia virus. *J. Gen Virology* 88:1324-1336.



176. Issel, C.J., Cordes, T.R., and Halstead, S. 2007. Control of EIA should take some new directions. Article#8787 on TheHorse.com (accessed 2/28/2007 at <http://www.thehorse.com/ViewArticle.aspx?ID=8787>).
177. Issel, C.J. 2007. Equine Infectious Anemia. The Horse 24(3): 114. (Article 9218 on The Horse.com (<http://www.thehorse.com/ViewArticle.aspx?ID=9218> )
178. Issel, C.J. and Anderson, G. 2007. The stigma of EIA is misplaced. Article#9038 on TheHorse.com (accessed 3/2/2007 at <http://www.thehorse.com/ViewArticle.aspx?ID=9038>).
179. Issel, C.J. and Sadlier, M. 2007. Reducing the risks of infection in veterinary practices: Recent lessons learned with Equine Infectious Anemia (EIA). Hagyard Bluegrass Equine Symposium 2007 Proceedings: 89-102.
180. Issel, C.J., Cordes, T. and Halstead, S. 2007. Control of Equine Infectious Anemia should take new directions. US Animal Health Assoc Proc. 111:90-99. (accessed at [http://www.usaha.org/meetings/2007/2007\\_USAHA\\_Proceedings.pdf](http://www.usaha.org/meetings/2007/2007_USAHA_Proceedings.pdf)).
181. Craigo JK, Zhang B, Barnes S, Tagmyer TL, Cook SJ, Issel CJ, Montelaro RC. 2007. Envelope variation as a primary determinant of lentiviral vaccine efficacy. PNAS 104: 15105-15110.
182. Tagmyer TL, Craigo JK, Cook SJ, Issel, CJ Montelaro, RC 2008. Envelope determinants of EIAV vaccine protection and the effects of sequence variation on immune recognition. J Virol. 82(8):4052-4063.
183. Cook, R.F., Cook S.J., Even, D.L., Schaffer, C. and Issel, C.J. 2008. Full-length and internally deleted forms of interleukin-7 are present in horse (*Equus caballus*) lymph node tissue. Vet Immunol and Immunopathol. 125:126-134.
184. Issel, C.J. 2008. Equine infectious Anemia Control Requires Active Surveillance and Awareness. Proceedings ACVIM Forum XX:XXX-XXX.
185. Issel, C.J. and Sadlier, M. 2009. Reducing the risks of infection in veterinary practices: Recent lessons learned with Equine Infectious Anemia (EIA). Article #14553 on The Horse.com <http://www.thehorse.com/ViewArticle.aspx?ID=14553>
186. Cook, R.F. and Issel, C.J. 2009. Equine infectious anemia. Pp 56-71, in Infectious Diseases of the Horse, Edited by TS Mair and RE Hutchinson, Eq Vet Journal Ltd, Cabridgeshire, UK. 410pp.
187. Craigo JK, Barnes S, Zhang B, Cook SJ, Issel CJ, Montelaro RC. 2009. A Pennsylvanian-derived EIAV field isolate reveals much higher levels of subtype variability than originally reported for the lentivirus family. Retrovirology 6:95. Available as an Open Access article at: <http://www.retrovirology.com/content/6/1/95>.
188. Issel, C.J. 2009. Equine infectious anemia website at: [www.uky.edu/Ag/VetScience/EIA](http://www.uky.edu/Ag/VetScience/EIA) and at: [www.ca.uky.edu/EIA](http://www.ca.uky.edu/EIA) .

## II. SCIENTIFIC REPORTS AND PRESENTATIONS AT MEETINGS:

1. Issel, C.J. 1971. Experimental and field studies with California group arboviruses in Wisconsin white-tailed deer. Presented at the Annual Conference Wildlife Disease Association, Ft. Collins, Colorado. Aug. 26,1971.

2. Issel, C.J., Trainer, D.O., and Thompson, W.H. 1972. White-tailed deer as vertebrate hosts for Jamestown Canyon virus. Proceedings of 27th Annual Meeting of International NW Conf. on Dis. in Nature. Trans. To Man. pp.39. Banff, Alberta, Canada. August 29, 1972. (Abstract #27).
3. Issel, C.J., Trainer, D.O., and Thompson, W.H. 1972. The role of white-tailed deer in the circulation of California group arboviruses. Presented at the 21st Annual Meeting of Am. Soc. Trop. Med. and Hyg., Miami Beach, Florida. November 7, 1972.
4. Olson, C., Baumgartener, L.E., and Issel, C.J. 1973. Precipitins of bovine C-type (leukemia) virus in cattle. A preliminary survey. Conf. Res. Work. Anim. Dis., 54th Annual Meeting. (Abstract #118).
5. Graves, J.H., Issel, C.J., and McKercher, P.D. 1973. Studies with swine vesicular disease virus (SVDV). Conf. Res. Work. Anim. Dis., 54th Annual Meeting (Abstract #28).
6. Issel, C.J., Roth, E.E., and Adams, W.V. Jr. 1974. Prevalence of equine infectious anemia (EIA) in Louisiana. Conf. Res. Work. Anim. Dis., 55th Annual Meeting. (Abstract #14).
7. Issel, C.J. 1974. Plaque studies with Jamestown Canyon virus in white-tailed deer. Presented at the 1974 Annu. Wildlife Dis. Conf., Pacific Grove, California. August 2, 1974.
8. Tomei, L.D. and Issel, C.J. 1974. The infection and growth of foot-and-mouth disease virus in BHK suspension cultures grown in serum-free, chemically defined media. Presented at the 1974 Annual Meeting of the Am. Chem. Soc., Atlanta City, New Jersey. September 9, 1974. (invited speaker).
9. Issel, C.J. and Yuill, T.M. 1974. Selection of Plaque variants of Jamestown Canyon virus by passage in white-tailed deer. Presented at the 23rd Annual meeting of the Am. Soc. of Trop. Med. and Hyg., Honolulu, Hawaii. November 3, 1974.
10. Issel, C.J. 1975. Current developments in equine infectious anemia (EIA). Presented at the 44th Annual Conf. for Vet., Baton Rouge, Louisiana. January 28, 1975. (invited speaker).
11. Issel, C.J. 1975. Invited participant in the Sixth Conference on equine infectious anemia, Portland, Oregon. November 1, 1975.
12. Issel, C.J. 1976. Invited participant at a Conference of Research Workers and Regulatory Personnel on Equine Infectious Anemia, New York City. July 27, 1976.
13. Amborski, G.F., Barta, V., Jeffers, G., Amborsdi, R.L., and Issel, C.J. 1976. In vitro growth and infectivity of strains of EIA virus. Presented at the Annual Meeting of the American Society of Microbiology South Central Branch Meeting, Little Rock. Arkansas. Oct. 23, 1976.
14. Issel, C.J. 1977. Organized and moderated a symposium on equine infectious anemia at the Texas and Louisiana Veterinary Medical Assn. joint meeting, New Orleans, Louisiana. March 1, 1977. (invited and sponsored).
15. Amborski, G.F., Amborski, R.L., Barta, V., Jeffers, G., and Issel, G.J. 1977. Electron microscopy of persistent virus, equine infectious anemia, grown in an equine dermal cell line. In Vitro 13:161 (Abstract only). Presented at a poster session at the 28th Annual Tissue Culture Association's Meeting, New Orleans, Louisiana. June 6-9, 1977.
16. Issel, C.J. 1977. Equine infectious anemia research developments on national basis. Invited presentation at the 46th Annual Conference for Veterinarians, Baton Rouge, Louisiana. June 6, 1977.

17. Barta, V., Amborski, F.G., Barta, O., and Issel C.J. 1977. Further characterization of dermal cell adapted strain of equine infectious anemia virus. Conf. Res. Work. Anim. Dis. 58th Annual Meeting. (Abstract #79).
18. Issel, C.J. 1978. Invited and sponsored speaker at the EIA symposium sponsored by the Texas Veterinary Medical Association and the American Quarter Horse Association (the others). Houston, Texas. January 7, 1978.
19. Issel, C.J. 1978. Equine infectious anemia research developments on national basis. Invited presentation at the Louisiana Veterinary Medical Associations Winter Meeting. Lafayette, Louisiana, January 16, 1978.
20. Barta, V. and Issel, C.J. 1978. A simple method for production of specific antisera against equine infectious anemia virus proteins isolated by SDS-PAGE. Presented at the 32nd Annual Meeting of Animal Disease Research Workers in the Southern States, Baton Rouge, Louisiana. April 4-5, 1978.
21. Issel, C.J., Meek, L., and Adams, W.V Jr. 1978. Horse fly transmission of equine infectious anemia virus. Presented at the 32nd Annual Meeting of Animal Dis. Res. Workers in the Southern States, Baton Rouge, Louisiana. April 4-5, 1978.
22. Barta, V., Barta, O., and Issel, C.J. 1978. Viral proteins of equine infectious anemia virus (EIAV) and specific antisera produced in rabbits. American Assoc. Immunologists Meeting. June 6, 1978. Atlanta, Georgia. Fed. Proc. 37(6):1558 (Abstract #1586).
23. Issel, C.J. 1978. Dogma and facts about equine infectious anemia virus and its transmission. Part of a program sponsored by the Am. College of Veterinary Microbiologists. Presented at the 115th Annual Meeting of the AVMA, Dallas, Texas. July 18, 1978. J. Am. V Med. Assoc. 173(1):876. (Abstract only) (invited and sponsored speaker).
24. Issel, C.J. 1978. Diagnosis and control of viral respiratory disease. Presented at a program entitled "Respiratory Diseases in the Horse", sponsored by the LVMA, Shreveport, Louisiana. September 11, 1978. (invited and sponsored speaker).
25. Issel, C.J. 1978. Differential diagnosis of foreign animal diseases. Presented at the Foreign Animal Diseases Seminar. Sponsored by LSU and Emergency Programs, USDA. October 4, 1978. (invited speaker).
26. Meek, L., Issel, C.J., and Adams, W.V. Jr. 1978. Horse fly transmission of equine infectious anemia virus. Presented at the annual meeting of the Entomological Society of America, Houston, Texas. November 29, 1978.
27. Issel, C.J. 1979. Equine infectious anemia research developments on national basis. Presented at the 48th Annual Conference for Veterinarians, Baton Rouge, Louisiana. June 4, 1979. (invited speaker).
28. Issel, C.J., Meek, L., Adams, W.V. Jr., and Ochoa, R. 1979. Studies of horses inapparently infected with equine infectious anemia virus. Presented at the 116th Annual Meeting of the AVMA, Seattle, Washington. July, 1979.
29. Issel, C.J. 1980. Equine infectious anemia today. National Educational Symposium of the Student Chapter AVMA, Baton Rouge, Louisiana. February 16, 1980. (invited speaker).
30. Parekh, B., Issel, C.J., and Montelaro, R.C. 1980. Equine infectious anemia virus contains polypeptides analogous to prototype-C oncornaviruses. Conf. Res. Work. Anim. Dis. 61st Annual Meeting. (Abstract #165).
31. Parekh, B., Issel, C.J., and Montelaro, R.C. 1981. Polypeptides of equine infectious anemia virus, a lentivirus. 81st Annual Meeting ASM, Dallas, Texas. March 1981.

32. Parekh, B., Issel, C.J., and Montelaro, R.C. 1981. Polypeptides of equine infectious anemia virus. Fifth International Congress of Virology, Strasbourg, France. July 1981. (invited presentation).
33. Orrego, A., Issel, C.J., Montelaro, R.C., and Adams, W.V. Jr. 1981. Production of candidate antigenic variants of equine infectious anemia virus in ponies. South Central Branch Meeting ASM, New Orleans, Louisiana. October 23, 1981.
34. O'Neill, F.D. and Issel, C.J. 1981. Preliminary studies of equine respiratory viruses in organ cultures of fetal equine respiratory epithelium. South Central Branch Meeting ASM, New Orleans, Louisiana. October 23, 1981.
35. Parekh, B., Lohrey, N., Issel, C.J., and Montelaro, R.C. 1981. Structural polypeptides of equine infectious anemia virus, a lentivirus: identification and characterization. South Central Branch Meeting ASM, New Orleans, Louisiana. October 23, 1981.
36. Orrego, A., Issel, C.J., Montelaro, R.C., and Adams, W.V. Jr. 1981. Effect of backpassage on the virulence of a cell adapted strain of equine infectious anemia virus. Conf. Res. Work. Anim. Dis. 62nd Annual Meeting. (Abstract #278).
37. Issel, C.J. and O'Neill, F.D. 1981. Equine respiratory viruses in organ cultures of respiratory epithelium. Conf. Res. Work. Anim. Dis. 62nd Annual Meeting. (Abstract #254).
38. Issel, C.J., Foil, L.D., and Adams, W.V. Jr. 1982. Field and laboratory studies on the transmission of equine infectious anemia virus. Presented at the 35th Annual Meeting of the Anim. Dis. Res. Workers in the Southern States, Louisiana State University, Baton Rouge, Louisiana. April 6-7, 1982.
39. Montelaro, R.C., Issel, C.J., and Parekh, B. 1982. Antigens of equine infectious anemia virus. Presented at the 35th Annual Meeting of the Anim. Dis. Res. Workers in the Southern States, Louisiana State University, Baton Rouge, Louisiana. April 6-7, 1982.
40. Foil, L.D. and Issel C.J. 1982. Evaluation of the use of spatial quarantine methods for the prevention of equine infectious anemia virus transmission by tabanids. Presented at the 35th Annual Meeting of the Anim. Dis. Res. Workers in the Southern States, Louisiana State University, Baton Rouge, Louisiana. April 6-7, 1982.
41. Shane, B.S., Issel, C.J., and Montelaro, R.C. 1982. ELISA for equine infectious anemia virus p26 antigen and antibody. Presented at the 35th Annual Meeting of the Anim. Dis. Res. Workers in the Southern States, Louisiana State University, Baton Rouge, Louisiana. April 6-7, 1982.
42. Orrego, A., Issel, C.J., Montelaro, R.C., Adams, W.V. Jr., and Allgood, T. 1982. Production and characterization of antigenic variants of equine infectious anemia virus. Presented at the 35th Annual Meeting of the Anim. Dis. Res. Workers in the Southern States, Louisiana State University, Baton Rouge, Louisiana. April 6-7, 1982.
43. O'Neill, F. and Issel, C.J. 1982. The growth of equine respiratory viruses in organ cultures of fetal equine respiratory epithelium. Presented at the 35th Annual Meeting of the Anim. Dis. Res. Workers in the Southern States, LSU, Baton Rouge, Louisiana. April 6-7, 1982.
44. O'Neill, F. and Issel, C.J. 1982. The growth of equine respiratory viruses in organ cultures of respiratory epithelium. Presented at the Spring Symposium of the Louisiana Society of Electron Microscopy, New Orleans, Louisiana. May 20-22, 1982.
45. Issel, C.J. 1982. Equine infectious anemia virus transmission and regulatory veterinary medicine: Who's protecting whom from what? AVMA Annual Meeting, Salt Lake City, Utah. July 20, 1982. (invited and sponsored presentation).

46. Issel, C.J., Montelaro, R.C., Adams, W.V. Jr., Orrego, A., and Parekh, B. 1982. Progress toward the biochemical identification of antigenic variants of equine infectious anemia virus. Presented at the 1st meeting of the Am. Soc. for Virology, Ithaca, New York. August 2, 1982.
47. Montelaro, R.C., West, M., and Issel, C.J. 1982. Glycoproteins of equine infectious anemia virus: novel lectin affinities and purification procedures. Presented at the 1st meeting of the Am. Soc. for Virology, Ithaca, New York. August 4, 1982.
48. Montelaro, R.C., Issel, C.J., Parekh, B., and Orrego, A. 1982. Antigens and novel patterns of persistence of equine infectious anemia virus. Presented at the 1st meeting of the Am. Soc. for Virology, Ithaca, New York. August 4, 1982.
49. Foil, L., Issel, C.J., and Meek, L. 1982. Recent equine infectious anemia studies in Louisiana. Presented at the 1982 Annual Livestock Insects Workshop, Raleigh, North Carolina. July, 1982. (Abstract).
50. Shane, B., Issel, C.J., and Montelaro, R.C. 1982. ELISA for the detection of antibodies and antigens of equine infectious anemia virus. South Central Branch Meeting of the American Society of Microbiology, Jackson, Mississippi. October 15, 1982.
51. Parekh, B., West, M., Issel, C.J., and Montelaro, R.C. 1982. Glycoproteins of equine infectious anemia virus: isolation and characterization. South Central Branch Meeting of the American Society of Microbiology, Jackson, Mississippi. October 15, 1982.
52. Montelaro, R.C., Issel, C.J., Parekh, B., and Orrego, A. 1982. Equine infectious anemia virus: biochemical and serological properties of virus isolates from sequential clinical episodes in ponies. Presented at the Fourth International Conference on Comparative Virology, Banff, Alberta, Canada. October 18, 1982. (invited speaker).
53. Parekh, B.S., Orrego, A., Issel, C.J., and Montelaro, R.C. 1983. Antigenic variation in equine infectious anemia virus. 83rd Annual Meeting of the American Society for Microbiology, New Orleans, Louisiana. March, 1983.
54. Shane, B.S., Issel, C.J., and Montelaro, R.C. 1983. The importance of an enzyme-linked immunosorbent assay (ELISA) for the detection of antibodies to equine infectious anemia virus. Presented at the 36th Annual Animal Disease Research Workers in the Southern States Conference, Auburn University, Auburn, Alabama. March 22-23, 1983.
55. Orrego, A., Parekh, B., Issel, C.J., Montelaro, R.C., Shane, B., and Allgood, T. 1983. Generation of equine infectious anemia variants. Presented at the 36th Annual Animal Disease Research Workers in the Southern States Conference, Auburn University, Auburn, Alabama. March 22-23, 1983.
56. Foil, L. and Issel, C.J. 1983. Arthropod vectors of equine infectious anemia virus. Presented at the International Symposium on Immunity to Equine Infectious Anemia Virus, Harbin, The People's Republic of China. June 6, 1983. (invited presentation).
57. Montelaro, R., Issel, C., Parekh, B., and Orrego, A. 1983. Equine infectious anemia virus: biochemical and serological properties of virus isolates from sequential clinical episodes in ponies. Presented at the International Symposium on Immunity to Equine Infectious Anemia Virus, Harbin, The People's Republic of China. June 6, 1983. (invited presentation).
58. Issel, C., Adams, W.V. Jr., Foil, L., and Pierce, R. 1983. Prospective studies on the transmission of equine infectious anemia virus (EIAV). Presented at the International Symposium on Immunity to Equine Infectious Anemia Virus, Harbin, The People's Republic of China. June 6, 1983. (invited presentation).

59. Montelaro, R.C., Parekh, B., Orrego, A., and Issel, C.J. 1983. Antigenic variation during persistent infection by equine infectious anemia virus, a retrovirus. Presented at the 2nd Annual Meeting of the Am. Soc. for Virology, East Lansing, Michigan. July 4, 1983.
60. Issel, C.J. and Foil, L. 1983. Insect transmission of equine infectious anemia virus. Invited and sponsored participant at the International Symposium on Equine Infectious Anemia at the American Veterinary Medical Association Annual Meeting, New York, New York. July, 1983.
61. McManus, J., Issel, C.J., Allgood, T., Adams, W.V. Jr., Orrego, A., and Montelaro, R.C. 1983. The continuing search for a practical quantitative in vitro assay for equine infectious anemia virus. South Central Branch of the American Society for Microbiology, Louisiana State University, Baton Rouge, Louisiana. October 28-29, 1983. (Abstract).
62. Brako, E.E., Issel, C.J., and Montelaro, R.C. 1983. Preliminary observation of morphologic and functional alterations caused by type 2 equine herpesvirus in respiratory organ cultures. South Central Branch of the American Society for Microbiology, Louisiana State University, Baton Rouge, Louisiana. October 28-29, 1983. (Abstract).
63. Issel, C.J. and Foil, L. 1983. Equine infectious anemia: the infection and the disease. South Central Branch of the American Society for Microbiology, Louisiana State University, Baton Rouge, Louisiana. October 28-29, 1983. (videotape).
64. Parekh, B.S., Issel, C.J., and Montelaro, R.C. 1983. Biochemical nature of antigenic variation in equine infectious anemia. South Central Branch of the American Society for Microbiology, Louisiana State University, Baton Rouge, Louisiana. October 28-29, 1983. (Abstract).
65. West, M., Montelaro, R.C., Issel, C.J., and Salinovich, O. 1983. Antigenicity of the major envelope glycoprotein of equine infectious anemia virus. South Central Branch of the ASM, Louisiana State University, Baton Rouge, Louisiana. October 28-29, 1983. (Abstract).
66. McManus, J., Issel, C.J., Montelaro, R., Adams, W.V. Jr. 1984. Production of cytopathic effect by equine infectious anemia virus. Presented at the 37th Annual Meeting of the Anim. Dis. Res. Workers in the Southern States, Fayetteville, Arkansas. March 19-21, 1984.
67. Brako, E.E. and Issel, C.J. 1984. Sensitivity of respiratory organ cultures to equine herpesviruses. Presented at the 37th Annual Meeting of the Anim. Dis. Res. Workers in the Southern States, Fayetteville, Arkansas. March 19-21, 1984.
68. Montelaro, R.C., Parekh, B., Orrego, A., and Issel, C.J. 1984. Antigenic variation during persistent infection by equine infectious anemia virus. Presented at the 3rd Annual Meeting of the American Society for Virology, Madison, Wisconsin. July, 1984.
69. Montelaro, R.C., West, M., and Issel, C.J. 1984. Antigenic reactivity of the major glycoprotein of equine infectious anemia virus. Presented at the 3rd Annual Meeting of the American Society for Virology, Madison, Wisconsin. July, 1984.
70. Payne, S., Parekh, B., Montelaro, R.C., and Issel, C.J. 1984. Genomic alterations associated with persistent infection by equine infectious anemia virus. Presented at the 3rd Annual Meeting of the American Society for Virology, Madison, Wisconsin. July, 1984.
71. Foil, L.D. and Issel, C.J. 1984. Tabanid biology and behavior: Effects on disease transmission and control. Presented at the 17th International Congress of Entomology, Hamburg, Germany. August, 1984.
72. Issel, C.J. and Foil, L.D. 1984. Equine infectious anemia. Presented at the 17th International Congress of Entomology, Hamburg, Germany. August, 1984.

73. McManus, J.M., Issel, C.J., Allgood, T., Adams, W.V. Jr., French, D.D., and Montelaro, R.C. 1984. Cytopathic assay for a cell-adapted strain of equine infectious anemia virus. Presented at the South Central Branch meeting of the Am. Soc. Micro., Univ. of Arkansas, Little Rock, Arkansas. Oct. 12, 1984.
74. Issel, C.J. 1984. Equine infectious anemia - 1984. An invited, sponsored lecture at Colorado State University, Dept. of Microbiology, Fort Collins, Colorado. October 25, 1984.
75. Issel, C.J. 1984. Equine infectious anemia - Virology. An invited and sponsored presentation at the First Workshop on Animal Models of Retrovirus Infections. Sponsored by the National Institutes of Health and held at the NIH laboratory in Hamilton, Montana. Nov. 1-3, 1984.
76. McManus, J.M., Issel, C.J., Allgood, T.L., Adams, W.V. Jr., French, D.D., Montelaro, R.C., and Rwambo, P. 1984. Production of cytopathic effect by equine infectious anemia virus in fetal donkey dermal cell cultures. Conf. Res. Workers Anim. Dis. 65th Annual Meeting. (Abstract only).
77. Hussain, K.A., Issel, C.J., Montelaro, R.C., and Schnorr, K.L. 1984. Production and characterization of monoclonal antibodies against equine infectious anemia virus glycoproteins. Conf. Res. Workers Anim. Dis. 65th Annual Meeting. (Abstract only).
78. Issel, C.J. 1984. Practical considerations of equine infectious anemia (swamp fever). Invited presentation at the 25th Annual Livestock Producers' Day Program, Louisiana State University Animal Science Department, Baton Rouge, LA. Nov. 17, 1984.
79. Issel, C.J. 1985. Equine Virology and Immunology Short Course. Presented to the Equine Practitioners Group. South African Veterinary Medical Association, Storms River, South Africa. Feb. 27 - March 1, 1985. (invited and sponsored).
80. Levy, L.S., Talbott, R., Montelaro, R.C., Issel, C.J., and Casey, J.W. 1985. Molecular cloning of integrated proviral DNA of equine infectious anemia virus. Presented at the 85th annual meeting of the Am. Soc. for Micro., Las Vegas, Nevada. March 3-7, 1985. (Abstract).
81. Montelaro, R.C., Salinovich, L., Payne, S., and Issel, C.J. 1985. EIAV: Antigenic variation and retrovirus persistence. Cold Spring Harbor Symposium on Retroviruses. April, 1985.
82. Salinovich, O., Hussain, K., Montelaro, R., Issel, C.J., and Schnorr, K. 1985. Antigenic and structural variation of the envelope glycoproteins of equine infectious anemia virus during persistent infection. Am. Society for Virology 4th Annual Meeting, University of New Mexico, Albuquerque, New Mexico. July 21-25, 1985.
83. Payne, S.L., Issel, C.J., Levy, L.S., and Casey, J.W. 1985. Characterization of genomic variations during persistent infection by equine infectious anemia virus. Am. Society for Virology 4th Annual Meeting, University of New Mexico, Albuquerque, New Mexico. July 21-25, 1985.
84. Rasty, S., Payne, S.L., Montelaro, R.C., Levy, L., Casey, J., and Issel, C.J. 1985. Structure and expression of EIAV provirus during persistent infection. Am. Society for Virology 4th Annual Meeting, University of New Mexico, Albuquerque, New Mexico. July 21-25, 1985.
85. Issel, C.J., Foil, L.D., and Montelaro, R.C. 1986. Mechanisms of vector transmission and biological variation of equine infectious anemia virus. Invited presentation at the Annual Meeting of the Am. Soc. for Micro., Washington, DC. March 25, 1986. (Abstract).

86. Rwambo, P., Issel, C.J., Montelaro, R.C., and Amborski, G.F. 1986. Serological characterization of antigenic variants isolated from ponies persistently infected with the equine lentivirus. Anim. Dis. Res. Workers of the Southern States Meeting, Gainesville, FL. March, 1986.
87. Hussain, K.A., Issel, C.J. Montelaro, R.C., and Schnorr, G.F. 1986. Epitopes of glycoprotein 90 of equine infectious anemia virus stimulate neutralizing antibodies: antigenic analysis. Anim. Dis. Res. Workers of Southern States Meeting, Gainesville, FL. March 1986.
88. Montelaro, R.C., Salinovich, O., Payne, S., Issel, C.J., and Rwambo, P. 1986. Characterization of genomic and antigenic variations during parallel persistent infections of ponies with equine infectious anemia virus. Am. Soc. of Virology Meeting, Santa Barbara, CA. June, 1986.
89. Hussain, K.A., Issel, C.J., Montelaro, R.C., and Schnorr, K.L. 1986. Antigenic analysis of equine infectious anemia virus using monoclonal antibodies: epitopes of gp90 stimulate neutralizing antibodies. Am. Soc. of Virology Meeting, Santa Barbara, CA. June, 1986.
90. Payne, S., Montelaro, R.C., Rushlow, K., Olsen, K., Stiegler, G., and Issel, C.J. 1986. Lentivirus genomic organization: Complete nucleotide sequence of the env gene of equine infectious anemia virus and its relationship to HTLV-III and visna virus. Am. Soc. of Virology Meeting, Santa Barbara, CA. June, 1986.
91. Ball, J.M., Rao, R.S.V., Issel, C.J., and Montelaro, R.C. 1986. One step purification of the viral glycoproteins and proteins of EIAV. Proceedings South Central Branch of ASM, Shreveport, LA. (Abstract #A3-1).
92. Hussain, K.A., Issel, C.J., Montelaro, R.C., and Schnorr, K.L. 1986. Topographical analysis of equine infectious anemia virus (EIAV) glycoproteins. Proceedings South Central Branch of ASM, Shreveport, LA. (Abstract #A3-5).
93. Rwambo, P.M., Issel, C.J., Montelaro, R.C. 1986. Distinct serotypes of the equine lentivirus isolated from a pony with chronic equine infectious anemia (EIA). Proceedings South Central Branch of ASM, Shreveport, LA. (Abstract #B3-1).
94. Arnizaut, A.B., Betterbed, B., Issel, C.J., Hussain, K.A., and Schnorr, K.L. 1986. Immunofluorescence assay using polyclonal and monoclonal antibodies to detect cells infected with equine infectious anemia virus (EIAV). Proceedings South Central Branch of ASM, Shreveport, LA. (Abstract #B3-2).
95. McManus, J., Issel, C.J., Montelaro, R.C., St. Clair, M., and Furman, P. 1986. The in vitro inhibition of equine infectious anemia virus by AZT (3'-azido-3'-deoxythymidine). Proceedings South Central Branch of ASM, Shreveport, LA. (Abstract #D3-7).
96. Issel, C.J., Foil, L.D., and Montelaro, R.C. 1986. Equine Infectious Anemia. Symposium on Animal Retroviruses, sponsored by the Am. Soc. of Trop. Vet. Med., Denver, CO. December 4, 1986. (Abstract). (invited and sponsored presentation).
97. Foil, L.D., McManus, J.M., and Issel, C.J. 1987. How much is enough? The headless horse flies of Thistlethwaite. Presented at 1987 Joint Meeting - LA Association of Agronomists, LA Association of Plant Pathologists and Nematologists, and LA Entomological Society, Baton Rouge, LA. March 10-11, 1987.
98. Payne, S.L., Liu, C., Fang, F., Issel, C.J., and Montelaro, R.C. 1987. Characterization of envelope gene variability in equine infectious anemia virus by nucleotide sequence analysis. Am. Soc. Virol. Annual Meeting, Chapel Hill, NC. May 31 - June 4, 1987.



99. Ball, J.M., Rao, R.S.V., Issel, C.J., and Montelaro, R.C. 1987. One step purification of the viral glycoproteins and proteins of EIAV. Am. Soc. Virol. Annual Meeting, Chapel Hill, NC. May 31 - June 4, 1987.
100. Rwambo, P.M, Issel, C.J., Montelaro, R.C., and Schnorr, K.L. 1987. Early non-neutralizing sera contains antibodies specific for equine infectious anemia virus surface glycoproteins. Am. Soc. Virol. Annual Meeting, Chapel Hill, NC. May 31 - June 4, 1987.
101. Payne, S., Ball, J., Issel, C.J., and Montelaro, R.C. 1987. Envelope gene variation in equine infectious anemia virus: Implications for vaccine development. CSH Vaccines Meeting, Cold Spring Harbor, NY. June, 1987. (Abstract).
102. Issel, C.J. and Montelaro, R.C. 1987. Progress toward understanding antigenic variation in equine infectious anemia virus. Fifth International Conference on Equine Infectious Diseases, Lexington, KY. Oct. 7-10, 1987. (Invited and Sponsored).
103. Foil, L.D. and Issel, C.J. 1987. Quantifying the role of tabanids in equine infectious anemia virus transmission. Fifth International Conference on Equine Infectious Diseases, Lexington, KY. Oct. 7-10, 1987.
104. Todd, W.J., Barstad, P.A., Morris, N.R.G., Issel, C.J., and England, J.J. 1987. Development of a colloidal gold method for veterinary diagnostic serology. AAVLD Annual Meeting, Salt Lake City, Utah. Oct., 1987. (Abstract).
105. Rwambo, P.M., Issel, C.J., Hussain, K.A., and Montelaro, R.C. 1987. In vitro isolation of a variant of equine infectious anemia virus (EIAV) using neutralizing serum. 68th Conference of Research Workers in Animal Disease, Chicago, IL. Nov. 17, 1987. (Abstract).
106. Issel, C.J., Todd, W.J., and Rwambo, P.M. 1987. A novel single step immunoblot test for detection of specific antibody. First Equine Immunogenetics and Immunology Conference, Tezcuco Plantation, LA. November 10, 1987.
107. Rwambo, P.M., Morris, N.R.G., Issel, C.J., Todd, W.J., Barstad, P.A., England, J.J. 1987. A colloidal gold method for veterinary serology. First Equine Immunogenetics and Immunology Conference, Tezcuco Plantation, LA. November 10, 1987.
108. Arnizaut, A.B., Issel, C.J., Ball, J., and Montelaro, R.C. 1988. Serological Comparison of Three Diagnostic Assays to Detect Equine Infectious Anemia Virus (EIAV) Carriers. Animal Disease Research Workers in Southern States, Southern Conference on Avian Diseases and Animal Parasites, Baton Rouge, LA., March, 1988.
109. Issel, C.J., Foil, L.D., McManus, J., and Adams, W.V., Jr. 1988. Animal Retroviruses as Models to Assess Insect Transmission of AIDS. Animal Disease Research Workers in Southern States, Southern Conference on Avian Diseases and Southern Conference on Animal Parasites, Baton Rouge, LA., March, 1988.
110. Dhruva, B.R., Rasty, S., Shih, D., Issel, C.J., and Montelaro, R.C. 1988. Gene Expression of EIAV During Persistent and Cytopathic Infections. American Society for Virology, 7th Annual Meeting, Austin, TX., June 12, 1988 (Abstract).
111. Ball, J.M., Payne, S.L., Issel, C.J., and Montelaro, R.C. 1988. Localization of Neutralizing Epitopes to Variable Regions of Equine Infectious Anemia Virus gp90. American Society for Virology, 7th Annual Meeting, Austin, TX. June 12, 1988 (Abstract).
112. Foil, L.D. and Issel, C.J. 1988. The Mechanical Transmission of Retroviruses. XVIII International Congress of Entomology, Vancouver, Canada, July 3, 1988 (Abstract).
113. McManus, J.M., Miremont, G.M., Adams, W.V. Jr., Issel, C.J., and Montelaro, R.C. 1988. Cultivation of Wild-Type Equine Infectious Anemia Virus in Donkey Macrophage Cultures.

- Joint Meeting of South Central Branch of the ASM and Midsouth Biochemists. Baton Rouge, LA. Nov. 4-5, 1988. (Abstract)
114. Ball, J.M., Henry, N.L., Issel, C.J., and Montelaro, R.C. 1988. Characterization of EIAV Glycoprotein Epitopes Using Synthetic Peptide Methodologies. Joint Meeting of South Central Branch of the ASM and Midsouth Biochemists. Baton Rouge, LA. Nov.4-5, 1988. (Abstract).
  115. Hagijs, S.D., Arnizaut A.B., McManus, J.M., Issel, C.J., and Montelaro, R.C. 1988. A First Generation Vaccine for Equine Infectious Anemia. Joint Meeting of South Central Branch of the ASM and Midsouth Biochemists. Baton Rouge, LA. Nov. 4-5, 1988. (Abstract).
  116. Rasty, S., Dhruva, B., Issel, C.J., and Montelaro, R.C., 1988. Gene Expression of Equine Infectious Anemia Virus (EIAV) During Persistent and Cytopathic Infections. Joint Meeting of South Central Branch of the ASM and Midsouth Biochemists. Baton Rouge, LA. Nov. 4-5, 1988. (Abstract).
  117. Todd, W.J., Morris, N.G., Issel, C.J., and Barstad, P.A., 1988. Serology Using a Single-Step Immunoblot (SIB). Joint Meeting of South Central Branch of the ASM and Midsouth Biochemists. Baton Rouge, LA. Nov. 4-5, 1988. (Abstract).
  118. Rasty, S., Schiltz, R.L., Shih, D.S., Issel, C.J., and Montelaro, R.C. 1989. Expression of the Equine Infectious Anemia Virus Envelope and Trans-Activating Proteins from a Single Subgenomic Viral Transcript. ASM Meeting, New Orleans, LA. May 14-18, 1989. (Abstract).
  119. Ball, J.M., Henry, N.L., Issel, C.J., and Montelaro, R.C., 1989. Identification and Evaluation of EIAV Glycoprotein Epitopes via Synthetic Peptides. ASM Meeting, New Orleans, LA. May 14-18, 1989. (Abstract).
  120. Issel, C.J. 1989. Equine Infectious Anemia. American Veterinary Medical Assn. Meeting, Orlando, FL. July 1989. (Invited and Sponsored).
  121. Issel, C.J. 1989. Equine Infectious Anemia: Prospects for Control. Presented at the 21st Congress of the International Association of Biological Standardization meeting "Progress in Animal Retroviruses", Annecy, France, October 4-6, 1989. (Invited and Sponsored). (Abstract).
  122. Montelaro, R.C. and Issel, C.J. 1989. Equine Infectious Anemia Virus: A Natural Model for the Immunologic Management of Lentivirus Infections. Presented at the 21st Congress of the International Association of Biological Standardization meeting "Progress in Animal Retroviruses", Annecy, France, October 4-6, 1989. (Invited and Sponsored). (Abstract).
  123. Lea, D.F., Pourciau, S.P., Issel, C.J., and Horohov, D.W. 1989. Cell mediated immunity to equine infectious anemia virus. Presented at the Annual Meeting of the Southeastern Branch of the American Society for Microbiology. Orange Beach, Alabama, November 9-11, 1989.
  124. Issel, C.J. 1990. Equine infectious anemia. Presented at the EMBRAPA-CPAP laboratory at Corumbá, MS, Brasil, October 15, 1990. (Invited and Sponsored).
  125. Issel, C.J. 1990. The diagnosis and control of equine infectious anemia. Presented at the veterinary school at UFMS, Campo Grande, MS, Brasil, October 18, 1990. (Invited and Sponsored).
  126. Rushlow, K.E., Chong, Y-H, Ball, J.M., Montelaro, R.C. and Issel, C.J. 1990. Equine infectious anemia virus: Evaluation of protective immune responses in ponies during persistent infection or after vaccination with inactivated virus. Presented at the 5th

- "Colloque Des Cent Gardes" on retroviruses of human AIDS and related animal diseases. Paris, France, October 29, 1990.
127. Issel, C.J. 1990. Equine infectious anemia in Bucks County, Pennsylvania. Presented at Delaware Valley College, Doylestown, Pa., November 16, 1990. (invited and sponsored).
  128. Issel, C.J. 1990. Equine infectious anemia in the Pantanal. Presented at the EMBRAPA --- CPAP laboratory in Corumba, MS, Brasil, December 10, 1990. (invited and sponsored).
  129. Issel, C.J. 1990. EIA diagnostics -- new procedures. Presented at the veterinary school at UFMS, Campo Grande, MS, Brasil, December 12, 1990. (invited and sponsored).
  130. Issel, C.J. 1991. Horses, Man and Horse Flies: a Brazilian bombshell. Veterinary Science Department Seminar. Gluck Equine Research Center, Lexington, Ky.
  131. Issel, C.J. 1991. Equine Infectious Anemia in the Pantanal region of Brasil. Presented at the Veterinary Science Department, Louisiana State University, February 8, 1991.
  132. Issel, C.J. 1991. Equine Infectious Anemia. Presented at the Ministry of Agriculture, Campo Grande, MS, Brasil, April 5, 1991.
  133. Issel, C.J. 1991. Equine Infectious Anemia Control in the Pantanal. Presented at the EMBRAPA --- CPAP laboratory in Corumba, Ms, Brasil, April 12, 1991.
  134. Issel, C.J. 1991. Equine Infectious Anemia Transmission and Control. Presented at the IAGRO --- MS Exposition, Campo Grande, MS, Brasil, April 13, 1991.
  135. Issel, C.J. 1991. Equine Infectious Anemia. Presented at the Veterinary College of UNESP, Botucatu, Brasil, April 16, 1991.
  136. Issel, C.J. 1991. Equine Infectious Anemia Control. Presented at the Veterinary College of UNESP, Botucatu, Brasil, April 16, 1991.
  137. Issel, C.J. 1991. Evolution of diagnostic tests for EIA. Presented at the International Symposium on Equine Infectious Anemia, Sao Paulo, Brasil, April 19, 1991.
  138. Issel, C.J., Cook, R.F., Foil, L.D. and Adams, W.V. Jr. 1991. Foetal infections with equine infectious anaemia virus. Presented at the VI International Conference on Equine Infectious Disease. Cambridge, England, July, 1991. (Oral and poster presentation; invited and sponsored).
  139. Foil, L.D. Elkins, B.A., Knaus, R.M., Adams, W.V. Jr, Hagijs, S.D. and Issel, C.J. 1991. The mechanical transmission of equine infectious anaemia. Presented at the VI International Conference on Equine Infectious Disease. Cambridge, England, July, 1991. (poster).
  140. Foil, L.D., Elkins, B.A., Knaus, R.M., Adams, W.V., Hagijs, S.D. and Issel, C.J. 1991. The mechanical transmission of retroviruses. Oral presentation at the XXIV World Veterinary Congress, Rio de Janeiro, Brasil, 20 August 1991.
  141. Issel, C.J., Foil, L.D., Rivera, F., Silva, R.A. and Carvalho, O.M., Jr. 1991. Hypotheses and facts about the transmission of equine infectious anemia virus. Oral presentation at the XXIV World Veterinary Congress, Rio de Janeiro, Brasil, 20 August 1991.
  142. Issel, C.J. 1991. A new look at an old disease: equine infectious anemia. Presented at the Symposium on "Slowly Progressing Animal Viral Infections with Eventual Impact on Human Health. XXIV World Veterinary Congress, Rio de Janeiro, RJ, Brasil, 22 August 1991. (invited).
  143. Rivera, F.E.B., Fernandes, M.F.S. and Issel, C.J. 1991. Equine infectious anemia: breeding, management and clearance times of passively transferred antibody in foals over 5 year period: 1986-1990. Poster presentation at XXIV World Veterinary Congress, Rio de Janeiro, Brasil, 22 August 1991.

144. Rivera, F.E.B., Fernandes, M.F.S. and Issel, C.J. 1991. Equine Infectious Anemia: 5 Year control program at Bodoquena Ranch. Poster presentation at XXIV World Veterinary Congress, Rio de Janeiro, Brasil, 22 August 1991.
145. Issel, C.J. 1991. The role of flies without zippers in the transmission of infectious agents. Presented to the Department of Entomology, University of Kentucky, November 8, 1991.
146. Issel, C.J. 1992. Research on the control of Equine Infectious Anemia at the University of Kentucky. Invited. Presentation at Murray State University. Murray, Kentucky, June 11, 1992.
147. Foil, L.D. and Issel, C.J. 1992. Mechanical transmission of pathogenic agents by tabanids. Presented at the XIX International Congress of Entomology, Beijing, China. July 3, 1992. (Invited) Abstract.
148. Harold, S., Payne, S., Issel, C., Montelaro, R. and Rushlow, K. 1992. PCR Analysis of Equine Infectious Anemia Virus Proviral DNA in PBMC's of Experimentally Infected Shetland Ponies. Presented at the 1992 Annual meeting of the American Society for Virology, Ithaca, N.Y., July 13, 1992.
149. Wang, S., Raabe, M., Cook, F., Cook, S., Issel, C., Montelaro, R. and Rushlow, K. 1992. Enhancement of disease in shetland ponies after vaccination with a recombinant baculovirus - expressed glycoprotein subunit antigen (gp90) of EIAV. Presented at the 1992 Annual meeting of the American Society for Virology, Ithaca, N.Y. July 13, 1992.
150. Issel, C.J. 1992. Retrovirus transmission: implications for AIDS research. Presented at the 129th Annual Meeting of the AVMA. Boston, MA. August 4, 1992. (Invited and Sponsored).
151. Issel, C.J. 1992. Infectious diseases of the horse with emphasis on EIA and Rhinopneumonitis. Presented at the First International Symposium of Equine Veterinarians, Sponsored by the AMIVEQ, Belo Horizonte, Brazil. August 15, 1992. (Invited and Sponsored).
152. Issel, C.J. 1992. Advances in the diagnosis and control of infectious diseases. Presented at the First International Symposium of Equine Veterinarians, Sponsored by the AMIVEQ, Belo Horizonte, Brazil. August 14, 1992. (Invited and Sponsored).
153. Issel, C.J. 1992. History of EIA and its pathogenesis. Presented at the First Seminar on Equine Infectious Anemia, Federal University of Rio de Janeiro (Rural), Brazil. September 3, 1992. (Invited and Sponsored).
154. Issel, C.J. 1992. Transmissions of EIA virus. Presented at the First Seminar on Equine Infectious Anemia, Federal University of Rio de Janeiro (Rural), Brazil. September 3, 1992. (Invited and Sponsored).
155. Issel, C.J. 1992. A New Look at an Old Disease. Presented at the First Seminar on Equine Infectious Anemia, Federal University of Rio de Janeiro (Rural), Brazil. September 3, 1992. (Invited and Sponsored).
156. Issel, C.J. 1992. Equine Viral Diseases. Presented to the UFRJ faculty and staff of the Institute of Microbiology, UFRJ. Rio de Janeiro, Brazil. September 4, 1992. (Invited and Sponsored).
157. Issel, C.J. 1992. Survival of horses and their viruses. Presented to the EMBRAPA - CENARGEN staff. Brasilia, Brazil. September 9, 1992. (Invited and Sponsored).

158. Issel, C.J. 1992. Control of equine infectious anemia in Central and South America. Presented at the II National Congress of Veterinary Medicine in Panama, Panama City, Panama, October 9, 1992. (Invited and Sponsored).
159. Issel, C.J. 1992. Basic and applied aspects of equine infectious anemia virus and its control. Presented to the postgraduate students and faculty at the Veterinary College at Maracay, Venezuela, October 13, 1992. (Sponsored).
160. Issel, C.J. 1993. Recent advances in the diagnosis and control of equine infectious anemia. Presented at the Annual Meeting of the Southern Animal Health Association in Louisville, KY, May 25, 1993.
161. Issel, C.J. 1993. Recent research on equine infectious anemia. Presented to the staff of EMBRAPA-CENARGEN, Brasilia, Brasil, July 1993. (Invited and sponsored).
162. Issel, C.J. 1993. Diagnosis and control of equine infectious anemia. Presented to the Ministry of Animal Health staff, Boa Vista, Roraima, Brasil, July 1993. (Invited and sponsored).
163. Cook, R.F., Berger, S., Cook, S.J., Montelaro, R.C., Rushlow, K.E. and Issel, C.J. 1993. Molecular characterization of the surface unit (SU) protein from a neutralization sensitive mutant of equine infectious anemia virus (EIAV). Presented as a poster at the IXth International Congress of Virology, Glasgow, Scotland, UK, August 10, 1993. (Abstract #1959).
164. Issel, C.J. 1994. Current research on equine infectious diseases. Presented to the Veterinary Society of Nepal, Kathmandu, Nepal. May 29, 1994.
165. Issel, C.J. 1994. Lentivirus control through immunization: realistic? Presented to the Microbiology Department of the Mahidol University School of Medicine, Bangkok, Thailand. June 3, 1994.
166. Langemeier, J.L., Cook, R.F., Cook, S.J., Rushlow, K., Montelaro, R.C. and Issel, C.J. 1994. The application of PCR to the diagnosis and control of equine infectious anemia. VIIth Int Conf on Equine Inf Diseases, oral presentation at the workshop on Biotechnology, Tokyo, Japan. (Invited and sponsored), June 1994.
165. Cook, R.F., Berger, S., Cook, S.J., Harrold, S., Rushlow, K.E., Montelaro, R.C. and Issel, C.J. 1994. Enhanced sensitivity to neutralizing antibodies in a variant of equine infectious anemia virus (EIAV) is linked to amino acid substitutions in the SU protein. VIIth Int Conf on Equine Inf Diseases, poster presentation, Tokyo, Japan, June 1994.
166. Cook, R.F., Cook, S.J., Lichtenstein, D., Rushlow, K., Montelaro, R.C. and Issel, C.J. 1994. Direct transfection of equine infectious anemia virus (EIAV) proviral DNA in ponies: efficiency of replication *in vivo* of dUTPase<sup>+</sup> and dUTPase<sup>-</sup> infectious molecular clones. VIIth Int Conf on Equine Inf Diseases, poster presentation, Tokyo, Japan, June 1994.
167. Issel, C.J., Cook, R.F., Cook, S.J., Grund, C., Wang, Z.S., Rushlow, K.E. and Montelaro, R.C. 1994. Immunity to equine infectious anemia virus: the veritable double-edged sword. VIIth Int Conf on Equine Inf Diseases, oral presentation, Tokyo, Japan, June 1994. (Invited and sponsored).
168. Issel, C.J., Costa, L., Silva, R.A.M.S. and Brautigam, F.E. 1994. Control of equine infectious anemia in the Pantanal of Brazil: theoretical and practical considerations. VIIth Int Conf on Equine Inf Diseases, poster presentation, Tokyo, Japan, June 1994.

169. Issel, C.J. 1994. New questions about the diagnosis of equine infectious anemia. Presented at the US Animal Health Assn. Committee meeting on Infectious Diseases of the Horse. Grand Rapids, MI. October 31, 1994.
170. Langemeier, J.L., Cook, R.F., Cook, S.J., Issel, C.J., Montelaro, R.C. and Rushlow, K. 1994. The application of RT-PCR to the diagnosis and control of equine infectious anemia. Presented at the 75th Annual Meeting of the Conference of Research Workers in Animal Diseases, Chicago, IL, November 15, 1994.
171. Issel, C.J. 1995. Applications of new technology for the diagnosis of equine infectious anemia. Presented to the staff of the USDA-APHIS, Riverdale, Maryland. March 8, 1995.
172. Issel, C.J. 1995. Basic and applied studies on immunity to equine infectious anemia: genetic and pragmatic approaches to control. Presented to the staff of the Henry M. Jackson Foundation, Division of Retrovirology, Walter Reed Army Institute for Research, Rockville, Maryland. March 9, 1995.
173. Issel, C.J. 1995. The equine infectious anemia control program revisited. Presented at the annual meeting of the Southern Animal Health Association. Savannah, Georgia, May 2, 1995.
174. Issel, C.J. 1995. Protective and deleterious immune responses of horses to infection with equine infectious anemia virus. Presented at the School of Veterinary Medicine, Universidad Nacional, Heredia, Costa Rica, May 16, 1995.
175. Issel, C.J. 1995. Optimal programs for the control of equine infectious diseases. Presented to the University of Caldas Veterinary College in Manizales, Columbia during their "Equine Day" celebration, May 19, 1995. (Invited and sponsored).
176. Issel, C.J. 1995. Control of equine infectious anemia: a model lentivirus system. Presented at the Veterinary College, Central University of Venezuela, Maracay, Venezuela, May 23, 1995.
177. Issel, C.J. 1995. Persistent study of a fast lentivirus: Equine Infectious Anemia. Presented at the College of Veterinary Medicine, University of Missouri, Columbia, MO., June 1, 1995.
178. Harrold, S.M., Cook, R.F., Issel, C.J., Rushlow, K.E. and Montelaro, R.C. 1995. *In Vivo* replication of equine infectious anemia virus during experimental infections. Presented as a poster at the Cold Spring Harbor Retrovirus Meeting, May 1995, Cold Spring Harbor, New York.
179. Miranda Santos, I.K.F., Costa, L.R.R., Montelaro, R.C. and Issel, C.J. 1995. Tumor necrosis factor and disease severity in experimental equine infectious anemia (EIA). Poster presentation at the 9th International Congress of Immunology, San Francisco, CA., July 1995.
180. Wu, G.H., Zhang, F.T., Tomei, L.D., Bathurst, I.C., Foehr, M.W., Issel, C.J., Salley, R.K. and Chien, S.F. 1995. An anti-apoptotic compound improves hypothermic heart preservation. Submitted for presentation at the 68th Scientific Session of the American Heart Association, Anaheim, CA., November, 1995.
181. Montelaro, R.C., Grund, C., Raabe, M., Cook, R., and Issel, C.J. 1995. *In vitro* and *in vivo* correlates of antibody dependent enhancement of EIAV resulting from baculovirus expressed glycoprotein subunit vaccines. Annual Meeting of the Tumor Cell Biology Meeting, NCI/NIH, Aug 26-Sept 2, 1995, Bethesda, MD.
182. Montelaro, R.C., Raabe, M.L., Grund, C.H., Cook, R.C., and Issel, C.J. 1995. Characterization of protective and enhancing immune responses resulting from experimental EIAV vaccines. Comparative Approaches to Retroviral Vaccines, Foundation Marcel Merieux, Annecy, France, June 23-24, 1995.

183. Costa, L.R.R., Santos, I.K.F.M., Montelaro, R.C. and Issel, C.J. 1995. Tumor necrosis factor- $\alpha$  and disease severity in ponies immunized and/or infected with equine infectious anemia virus. Presented at the International Conference of Veterinary Immunology, San Francisco, CA, July, 1995.
184. Issel, C.J. 1995. Lentiviruses, horses and the future of society. Presented as part of the Invited Speaker Series at Georgetown College, Division of Biological Sciences, Georgetown, Kentucky, November 8, 1995.
185. Issel, C.J. 1996. The pathogenesis of equine infectious anemia. Presented to the Department of Veterinary Microbiology and Parasitology at LSU School of Veterinary Medicine, Baton Rouge, Louisiana. November 21, 1996. (Invited and sponsored).
186. Issel, C.J. 1996. The rumors of life after LSU may be greatly exaggerated. Presented to the Department of Veterinary Microbiology and Parasitology at LSU School of Veterinary Medicine, Baton Rouge, Louisiana. November 22, 1996. (Invited and sponsored).
187. Issel, C.J. 1997. Living with a lentivirus: control of equine infectious anemia (1997). Presented at the College of Veterinary Medicine, Oklahoma State University, Stillwater, OK, March 27, 1997. (Invited and sponsored).
188. Issel, C.J. 1997. Defining the determinants of protective immunity against the equine lentivirus. Presented at the IBC International Conference on Veterinary Vaccines 1997. Philadelphia, PA. April 13, 1997. (invited and sponsored).
189. Leroux, C., Hammond, S.A., Issel, C.J., and Montelaro, R.C. 1997. Evolution of equine infectious anemia virus (EIAV) envelope during the chronic stage of infection in an experimentally infected pony. Presented at the Cold Spring Harbor Retrovirus Meeting, May 1997, Cold Spring Harbor, New York..
190. Harrold, S.M., Cook, R.F., Cook, S.J., Issel, C.J., and Montelaro, R.C. 1997. *In vivo* infection of equine infectious anemia virus (EIAV): association of viral burden with disease state. Presented at the Cold Spring Harbor Retrovirus Meeting, May 1997, Cold Spring Harbor, New York.
191. Cook, R.F., Berger, S.L., Cook, S.J., Montelaro, R.C., and Issel, C.J. 1997. Sensitivity to neutralizing antibodies is conferred by interdependent amino acid substitutions in the surface unit protein of equine infectious anemia virus (EIAV). Presented at the annual meeting of the American Society for Virology, July 1997, Bozeman, Montana.
192. Cook, S.J., Cook, R.F., Montelaro, R.C., and Issel, C.J. 1997. Differential pathogenicity of equine infectious anemia virus (EIAV) in equids. Presented at the annual meeting of the American Society for Virology, July 1997, Bozeman, Montana.
193. Issel, C.J., Cook, S.J., Cook, R.F. and Cordes, T. 1997. Equine Infectious Anemia – 1997. Presented at the 5<sup>th</sup> World Equine Veterinary Association Congress, Padova, Italy, Sept 10-12, 1997.
194. Greis, M.T., Cook, R.F., Cook, S.J., and Issel, C.J. 1997. Differential pathogenicity of the fetal donkey dermal (FDD) cell-adapted strain of equine infectious anemia virus. Presented at the University of Kentucky Life Sciences Day, November 12, 1997.
195. Zhou, W., Cook, R.F., Cook, S.J., Berger, S.L., Rushlow, K., and Issel, C.J. 1997. *In vitro* gene expression of equine infectious anemia virus. Presented at the University of Kentucky Life Sciences Day, November 12, 1997.
196. Williams, B. and Issel, C.J. 1997. Nucleotide variation in isolates of equine infectious anemia virus from donkeys infected with the Wyoming strain. Presented at the Kentucky Academy of Sciences Annual Meeting, Morehead State University, November 15, 1997.

197. Issel, C.J. 1997. Progress in the diagnosis of equine infectious anemia: 1904-2004. Presented at the NMHCC Biotechnology's International Conference on Veterinary Diagnostics, Tempe, AZ, December 8-9, 1997. (invited and sponsored).
198. Issel, C.J. 1998. Equine infectious anemia after 25 years of regulation and control. Indiana Veterinary Medical Assn. Meeting, February 8, 1998. (invited and sponsored).
199. Leroux, C., Hammond, S.A., Singh, M., Issel, C.J., and Montelaro, R.C. 1998. Recurring nature of equine infectious anemia (EIA) is associated with dynamic evolution in the principal neutralizing domain (PND) of the EIAV surface glycoprotein. Presented at the Workshop on EIA at the 8<sup>th</sup> International Conference on Equine Infectious Diseases, Dubai, UAE, March 25, 1998. (invited and sponsored).
200. Issel, C.J., Cook, S.J., Cook, R.F., McCoy, H.K., Lew, A.M., and Montelaro, R.C. 1998. A search for the elusive protective determinants of equine infectious anemia virus. Presented at the Workshop on EIA at the 8<sup>th</sup> International Conference on Equine Infectious Diseases, Dubai, UAE, March 25, 1998. (invited and sponsored).
201. Cook, R.F., Berger, S.L., Cook, S.J., Ghabrial, N.N., Leroux, C., Montelaro, R.C., and Issel, C.J. 1998. Induction of disease in horses and ponies by molecularly cloned equine infectious anemia virus (EIAV). Presented at the Workshop on EIA at the 8<sup>th</sup> International Conference on Equine Infectious Diseases, Dubai, UAE, March 25, 1998. (invited and sponsored).
202. Cook, S.J., Cook, R.F., Montelaro, R.C., and Issel, C.J. 1998. Differential pathogenicity of equine infectious anemia virus (EIAV) in equids. Presented at the Workshop on EIA at the 8<sup>th</sup> International Conference on Equine Infectious Diseases, Dubai, UAE, March 25, 1998. (invited and sponsored).
203. McConnico, R.S., Floyd, C., Issel, C., Lehenbauer, T.W., Rodgers, S., and Saliki, J. 1998. Evaluation of techniques for the serologic diagnosis of equine infectious anemia in a naturally-infected, clinically inapparent herd of reproductively active horses. Presented at the Workshop on EIA at the 8<sup>th</sup> International Conference on Equine Infectious Diseases, Dubai, UAE, March 25, 1998. (invited and sponsored).
204. Issel, C.J. 1998. Equine infectious anemia transmission and control. Presented at the EIA Awareness Weekend Seminar, sponsored by the Idabel 4H group, the OK Department of Agriculture and Oklahoma State University, Idabel, McCurtain County, Oklahoma, April 18, 1998.
205. Issel, C.J. 1998. Equine infectious anemia: a threat to horses in the Uinta Basin of Utah. Presented at a public meeting on EIA with the Bureau of Land Management and the Utah State Veterinarian, Vernal, Utah, May 30, 1998.
206. Rodgers, S.J., Lehenbauer, T.W., McConnico, R.S., Floyd, C.L., Saliki, J.T., and Issel, C.J. 1998. A comparison of assays for the detection of equine infectious anemia virus antibodies in a naturally-infected equine herd. Presented at the annual meeting of the AAVLD, Minneapolis, MN, Oct 1998.
207. Issel, C.J., Cook, S.J., Howell, D., Nitschke, J., Gardner, D., Mathis, J.G., Marshall, M.R., and Rogers, L.E. 1998. EIA in wild-free roaming equids in Utah, 1998. Presented at the annual meeting of the USAHA, Minneapolis, MN, Oct 1998.
208. Cordes, T., Issel, C.J., and Sellon, D. 1998. Equine Infectious Anemia update. Presented as a Table Topic Presentation at the 1998 AAEP Convention in Baltimore, MD, Dec. 4, 1998.



209. Issel, C.J. 1999. Recommendations for the control of equine infectious anemia in Arkansas. Presented to the Agriculture Subcommittee of the Arkansas State Legislature, Little Rock, AR, February 10, 1999.
210. Issel, C.J. 1999. Equine infectious anemia. Presented to the KAEP, Lexington, KY, February 24, 1999.
211. Issel, C.J. 1999. Control of equine infectious anemia. Presented at the EIA Awareness - Horse Health Weekned Seminar, Hugo, OK, March 26, 1999.
212. Issel, C.J. 1999. The equine lentivirus. Presented to the Oklahoma State University Microbiology Department, Stillwater, OK, March 29, 1999.
213. Issel, C.J. 1999. Serologic diagnosis of equine infectious anemia – politics and practicality. Presented at the Annual Meeting of the NE section of the USAHA, Millville, NJ, May 4, 1999.
214. McConnico, R.S. and Issel, C.J. 1999. Equine infectious anemia. Presented at the Annual Meeting of the AVMA, New Orleans, LA, July 1999.
215. Issel, C.J. Cook, S.J., Cook, R.F. and Cordes, T. 1999. Optimal paradigm for the detection of reservoirs of equine infectious anemia virus. Presented at the 6<sup>th</sup> Conference of the World Equine Veterinary Association, Paris, France, September 1999.
216. Issel, C.J. 1999. A perspective on barking pigs, flying foxes and breeding mosquitoes. Presented to the Veterinary Science Department Seminar Series, Lexington, KY, October 25, 1999.
217. Issel, C.J. 2000. Recommendations for comprehensive control of EIA in the Uintah Basin in Utah. Presented at a public meeting at the City Hall of Vernal Utah, February 17, 2000.
218. Issel, C.J. 2000. The status of the EIA situation in the Uintah Basin Utah. Presented to the Infectious Diseases of Horses Committee at the US Animal Health Assn. Meeting, Birmingham, AL, October 22, 2000.
219. Issel, C.J. 2000. Control of infectious diseases in man and animals: the individual and the population. Presented at the Biological Sciences Seminar at Georgetown College, November 30, 2000.
220. Li, F., Puffer, B., Hennessy, K., Issel, C.J., and Montelaro, R.C. 2001. Development of Live Attenuated Vaccines for Equine Infectious Anemia Virus (EIAV). Presented at the Cold Spring Harbor Retrovirus Meeting, April 2001.
221. Issel, C.J. 2001. Infectious disease threats to equids in SE Oklahoma: EIA and the encephalitides. Presented at the Equine Seminar in Idabel, OK, April 6, 2001.
222. Issel, C.J. 2001. A review of testing methods for EIA, a training course for inspectors of approved laboratories that conduct testing for EIA. Presented at the University of Kentucky, Gluck Equine Research Center, May 17, 2001.
223. Issel, C.J. 2001. Practical considerations for maintaing the accuracy of EIA test reports. Presented at the Annual Meeting of the Texarkana 5 States Animal Health Conference, Texarkana, TX, July 20, 2001.
224. Issel, C.J. 2004. Theoretical and practical aspects of EIA control. A workshop presented at the 26<sup>th</sup> Annual Congress of the AMMVEE (Equine Practitioners of Mexico), Puerto Vallarta, Mexico, September 29, 2004.
225. Cordes, T.C., and Issel, C.J. 2004. Control of Equine Infectious Anemia. Presented at the 26<sup>th</sup> Annual Congress of the AMMVEE (Equine Practitioners of Mexico), Puerto Vallarta, Mexico, September 30, 2004.

226. Issel, C.J., and Cook, S.J. 2004. Equine infectious anemia testing and control of EIA: how much is enough? Presented at the Infectious Diseases of Horses Committee of the USAHA at their annual meeting in Greensboro, NC, October 24, 2004.
227. Issel, C.J. 2005. Control of equine infectious anemia – 2005. Presented at the Southern Animal Health Association meeting, New Orleans, LA, June 20, 2005.
228. Carleton, C.L, Chunekamrai, S., Ostlund, E.N., Hennager, S., Knowles, D.P. Timoney, J.F., Artiushin, S., Issel, C., Timoney, P.J., and Kramer, L 2006. Seroprevalence of significant equine diseases in an unvaccinated population of native Thai ponies. Presented at the 9th World Equine Veterinary Association's World Congress, Marrakech, Morocco, Jan 25, 2006.
229. Issel, C.J. 2006. Equine infectious anemia: Perspective and proposal for a more cost-effective control program. Presented at a USDA-sponsored conference of State Veterinarians, Dallas-Ft Worth Airport, March 21, 2006.
230. Issel, C.J. 2006. Equine infectious anemia. Presented to the Executive Board of the Irish Equine Thoroughbred Association, RACE, Co. Kildare, July 26, 2006.
231. Issel, C.J. 2006. Transmission, diagnosis and control of EIA. Presented at a Meeting of the Irish Equine Veterinarians, Killashee House Hotel, Naas, Co. Kildare, July 28, 2006.
232. Issel, C.J. 2006. Equine infectious anemia in Ireland – 2006, a perspective. Presented at the Annual Meeting of the Irish Equine Veterinarians, The Heritage House Hotel, Co. Laois, November 9, 2006.
233. Issel, C.J. 2007. Update on equine infectious diseases: EHV-1, EVA, and EIA. Presented to the Spring Conference of the Oklahoma Veterinary Medical Association, Murray State College, Tishomingo, OK, April 13, 2007.
234. Even, D., Issel, C.J. and Cook, R.F. 2007. Strategies to enhance efficacy of DNA vaccination in the horse. Presented at DNA VACCINES 2007. May 23-25, 2007, Benalmadena/Malaga, Spain.
235. Issel, C.J. and Sadlier, M. 2007. Reducing the risks of infection in veterinary practices: Recent lessons learned with Equine Infectious Anemia (EIA). Hagyard Bluegrass Symposium, October 27, 2007. (Presented for me by Frank Cook.)
236. Issel, C.J., Cordes, T. and Halstead, S. 2007. Control of Equine Infectious Anemia should take new directions. Presented at the Joint Session of the USAHA and the AAVLD at their annual meeting, Reno, NV, October 21, 2007. (Presented for me by Peter Timoney.)
237. Issel, C.J., Cordes, T. and Halstead, S. 2008. Rationale to control equine infectious anemia in the United States. Presented at the 10<sup>th</sup> World equine Veterinary Assn. Congress, Moscow, Russia, Jan 31, 2008.
238. Issel, C.J. and Cook, R.F. 2008. Equine infectious anemia: update of the pathogenetic, clinical and diagnostic aspects, and present international epidemiological situation. Presented at National Meeting of EIA Control, March 18, 2008, Rome, Italy.
239. Issel, C.J. 2008. Equine infectious anemia: biological risk management. Presented at National Meeting of EIA Control, March 18, 2008, Rome, Italy.
240. Issel, C.J. 2008. The efficacy of diagnostic methods and their application in active and passive surveillance programmes. Presented at National Meeting of EIA Control, March 18, 2008, Rome, Italy.
241. Issel, C.J. 2008. Equine infectious Anemia Control Requires Active Surveillance and Awareness. Presented at the Annual ACVIM Forum, June 7, 2008, San Antonio, TX.

242. Issel, C.J. 2008. Equine infectious anemia control recommendations. Presented at the Oklahoma Department of Agriculture, June 10, 2008.
243. Issel, C.J. 2008. New thoughts on control of EIA in the United States in 2008. Presented to the The State Horse Councils Advisory Committee, Washington, D.C., June 16, 2008.
244. Issel, C.J. 2008. Information gleaned from inapparent carriers of EIA virus at quarantine facilities across the Americas 1976-2008. Presented to the FRIENDS Ranch, July 12, 2008.
245. Issel, C.J. 2009. Equine infectious anemia control: recommendations for improved surveillance. Presented to state veterinarians from Oklahoma, Arkansas, Texas and Louisiana at a regional meeting in Ruston, LA., June 22-23, 2009.
246. Issel, C.J. 2009. Methods to improve the accuracy of serologic diagnosis of EIA. Presented to Louisiana diagnosticians at a statewide meeting organized by the Louisiana State Veterinarian, Alexandria, LA., August 20, 2009.
247. Issel, C.J. 2009. Biotechnology and health: a perspective on infectious disease. Presented as a seminar to Biotechnology students at Ohlone College, Newark, CA., September 15, 2009.
248. Issel, C.J. 2009. Research careers in Veterinary Medicine. Pre-Veterinary Club at University of Kentucky, February 3, 2010.

#### Videotape Presentations

1. Equine Infectious Anemia, the Infection and the Disease. Produced in collaboration with the Instructional Resources Group in the School of Veterinary Medicine. Sponsored originally in part by the College of Veterinary Medicine, Oklahoma State University in 1982. Revised in 1988. Coauthored by Lane D. Foil, PhD. Running time:26 minutes. This tape was presented at each AVMA Annual Meeting from 1985-1996 and at the XXIV World Veterinary Congress in Rio de Janeiro, Brasil in 1991. It was presented at International Symposia (Germany, China), and was used from 1984-1996 in USDA training exercises in Ames, Iowa and in Costa Rica.
2. Equine Infectious Anemia: Protecting your horse. Produced by the USDA in collaboration with Louisiana State University and the University of Kentucky. Coauthored by Lane D. Foil, PhD and Tim Cordes, DVM. (June 1996). Running time 24 minutes; over 5000 copies distributed in NTSC and PAL formats. Used in USDA training sessions for EIA testing since 1996.
3. Finding Your Rhythm. Produced in collaboration with the Instructional Resources Group in the School of Veterinary Medicine for the Aesculapian Lecture, April 13, 1989. Running time: 32 minutes.

Office Address: Department of Veterinary Science  
M. H. Gluck Equine Research Center  
University of Kentucky  
Lexington, Kentucky 40546-0099, USA

Telephone: (859)257-4757 ext 81108 (Office)  
(859)257-8542 (FAX)

E-mail: equigene@uky.edu

### **Education**

1997 University of Kentucky, Department of Veterinary Science, Ph.D. (Genetics).  
1986 University of Louisville, Department of Biology, M.S. (Cytogenetics/Zoology).  
1975 Indiana University Southeast, Department of Natural Sciences, B.A. (Zoology/Field Biology).

### **Academic and Professional Positions**

2005-present Research Associate Professor, Molecular Cytogenetics, Department of Veterinary Science, University of Kentucky

1998-2005 Research Assistant Professor, Molecular Cytogenetics, Department of Veterinary Science, University of Kentucky.

1989-1998 Research Specialist, Cytogenetics/Immunogenetics, Department of Veterinary Science, University of Kentucky.

1997-1998 Human Molecular Cytogenetics Investigator (part-time).

1991-1995 Cytogenetics Laboratory, Child Evaluation Center, Department of Pediatrics, School of Medicine, University of Louisville.

1989 Research Technologist, Human Tumor Cytogenetics Laboratory, Department of Pathology, School of Medicine, University of Kentucky.

1988-1996 Graduate Student, Department of Veterinary Science, University of Kentucky (full-time January 1988-February 1989, part-time April 1989-May 1997).

1985-1988 Supervisor and Technologist, Cytogenetics Laboratory, Child Evaluation Center, Department of Pediatrics, School of Medicine, University of Louisville.

### **Grants**

*"Genetic determinants associated with contracted tendons in foals"*, PI, Co-PIs E. Bailey and C. Carter, Gluck Equine Research Center, \$7500, 2009-2010 (Internal funding).

*"Behavioral Genomics of the White Throated Sparrow"*, Co-PI, National Institute of Health, 2009-2011, \$84,457 (Univ of KY portion). PI, Elaina Tuttle; Co-PIs, RA Gonser, MN Romanov, ML Houck, ML Korody, WS Modi, OA Ryder (Nationally competitive).

*"Lordosis in American Saddlebred Horses"*, Co-PI, American Saddlebred Horse Foundation, 2007-2008, \$55,152. PI, Ernie Bailey (Gift).

*"Equine Medical Genetics"*, Co-PI, Morris Animal Foundation, 2006-2011, \$2,500,000. PI, J Mickelson, University of Minnesota; Multi-institutional (Nationally competitive, elected for funding, fund-raising in progress), \$25,000 subcontract to University of Kentucky in 2007-08 plus \$14,000 for reagents.

*"Horse Genomics: Linear Mapping and Functional Genomics"*, Co-PI, Morris Animal Foundation, 2005-2008, \$300,000. PI, Ernie Bailey; Multi-institutional (Nationally competitive).

- “14<sup>th</sup> North American Colloquium on Animal Cytogenetics and Gene Mapping”, USDA NRICGP Animal Genomes & Genetic Mechanisms Conference, \$12,500 (Nationally competitive), PI (2005).
- “Molecular cytogenetic approaches to the conservation of endangered rhinoceros species”, Morris Animal Foundation, \$40,000 (Nationally competitive) 2002-2004, PI.
- “13<sup>th</sup> North American Colloquium on Animal Cytogenetics and Gene Mapping”, USDA NRICGP Animal Genomes & Genetic Mechanisms Conference, \$5,000 (Nationally competitive). PI (2003).
- “Functional Genomics and Linear Gene Map for the Horses”, Morris Animal Foundation, 1998-2001, \$300,000. (Nationally competitive) Co-PI. Renewed for 2002-2005; PI, Ernie Bailey; Co-PIs, J MacLeod, L Pratt, M Pratt-Cordonniere, L Skow, B Chowdhary, J Moore, M vandenPlas, MCT Penedo, J Murray, J Mickelson, D Antczak.
- “Chromosomal evolution of the Equidae”. Research Committee Grant (Internal competitive funding), 1999-2000, \$3,653. PI.

### **Awards**

- College of Agriculture, Prestigious Paper Award, (December 2009) for Wade CM, Guilotto E, Sigurdsson S, Zoli M, Gnerre S, Imsland F, **Lear TL**, et al. (2009). Genome sequence, comparative analysis and population genetics of the domestic horse. *Science*, 6 Nov, 326:865-869.
- Clay Fellowship, Funds to attend microarray course at Cold Spring Harbor Laboratories, Cold Spring Harbor, New York, June 2001, \$2160.

### **Professional Societies**

- 2008-present, American Society of Human Genetics (ASHG)
- 2008-present, American Cytogenetics Association (ACA)
- 2002-2008, International Cytogenetics and Genome Society (ICGS), Founding member.
- 2000-2008, Human Genome Organization (HUGO)

### **Professional Duties**

#### **National:**

- 2007 Panel Member, USDA-NRSP8 Animal Genetics & Genomic Mechanisms, grant proposal review.
- 2003 Panel Member, USDA-NRSP8 Animal Genetics & Genomic Mechanisms, grant proposal review.
- 2002 Panel Member, USDA-NRSP8 Animal Genetics & Genomic Mechanisms, grant proposal review.

#### **International:**

- 14<sup>th</sup> North American Colloquium on Animal Cytogenetics and Gene Mapping, July 2005, Special Editor for abstracts (2006). *Cytogenetic and Genome Research* 14:213-220.
- 14<sup>th</sup> North American Colloquium on Animal Cytogenetics and Gene Mapping, July 2005, Co-organizer.
- 16<sup>th</sup> European Colloquium on Animal Cytogenetics and Gene Mapping, July 2004, Scientific Advisory Committee.
- 13<sup>th</sup> North American Colloquium on Animal Cytogenetics and Gene Mapping, July 2003, Organizing Committee Chair and Host.
- NRSP-8/PAG X, USDA-NAGP Equine Technical Committee, Chair 2001-2002 (elected).
- NRSP-8/PAG IX, USDA-NAGP Equine Technical Committee, Secretary 2000-2001 (elected).
- International Equine Gene Mapping Workshop, Cytogenetics Committee, 1997-present.

### **Editorial Duties**

Ad hoc reviewer, *Hereditas*  
Ad hoc reviewer, *The Veterinary Journal*  
Ad hoc reviewer, *Journal of Heredity*  
Ad hoc reviewer, *Journal of Equine Veterinary Science*  
Ad hoc reviewer, *Acta Veterinaria Hungarica*  
Ad hoc reviewer, National Science Foundation, grant proposals.  
Ad hoc reviewer, *Animal Genetics*.  
Ad hoc reviewer, *Chromosome Research*.  
Ad hoc reviewer, *Cytogenetic and Genome Research*.  
Ad hoc reviewer, *Equine Veterinary Journal*.  
Ad hoc reviewer, American Kennel Club, grant proposals.  
Ad hoc reviewer, USDA Animal Genetics Section, grant proposals.

### **University Committees**

Committee for external review of the Department of Entomology, University of Kentucky, 2009, member.  
Screening Committee, Director of Industry Relations/Executive Director for the Gluck Equine Research Foundation Board, 2008, member.  
Search Committee, Veterinary Science, LDDC Pathologist, 2008, member.  
Department Faculty Performance and Advisory Committee, 2006-present, member  
Search Committee, Dept of Biology, Assistant Professor in Genomics, 2005-2007, member.  
Department Bioinformatics Program Development Committee, Aug. 2005-present, member.  
Department Communications Committee, Aug 2008-present.  
Departmental Seminar (VS770) Coordinator, Fall 2003-present.  
Department Advisory & Strategic Planning Committee, 2002 to present, Member.  
Department Smoking Policy Advisory Committee, 2002 to 2008, Chair.  
Search Committee, Veterinary Science, Knight Chair, 2001, member.  
Graduate Faculty, January 1999 to present, Associate Member.

### **Student Advisory**

#### **Graduate:**

Marisa Korody, PhD candidate, 2007-in progress, Department of Life Sciences, Indiana State University, advisory committee member.  
Rose McGee, MS candidate, Veterinary Science, 2008-in progress, co-advisor with Ernie Bailey.  
Rebekah Cosden, PhD candidate, 2007-in progress, advisory committee member.  
John Eberth, MS candidate, Veterinary Science, 2007-in progress, advisory committee member.  
Deborah Cook, PhD candidate, Veterinary Science, 2007-in progress, advisory committee member.  
Dawn Sessions, PhD, Veterinary Science, 2008, "*The impact of insulin on the matrix metalloproteinase system during equine follicular development and atresia*", advisory committee member.  
Madhu Katepalli, MS, Veterinary Science, 2007, "*Telomere length and immune function in horses*", advisory committee member.  
Samantha Brooks, PhD, Veterinary Science, 2006, "*Studies of genetic variation at the KIT locus and white spotting patterns in the horse*", advisory committee member.

Diane Strong, MS, Veterinary Science, 2006, "*The use of a whole genome scan to find a genetic marker for degenerative suspensory ligament desmitis in the Peruvian Paso horse*", advisory committee member.

Erin Kennedy, MS, Veterinary Science, 2004, "*Simulation of the stress response by infusion of cortisol: effects on the reproductive cycle of the mare*", advisory committee member.

Christine Mains, MS, Veterinary Science, 2004, "*Comparative mapping: homology within the order Perissodactyla of four genes located on Equus caballus chromosome 20*", advisor.

Jennifer Myka, PhD, Veterinary Science, 2003, "*Comparative gene mapping of Prezwalskii horse and onager and molecular cytogenetic studies of equid chromosome number polymorphisms*", Co-advisor.

Rebecca Terry, PhD, Veterinary Science, 2001, "*Investigations of genes for appaloosa coat color in horses*", advisory committee member.

Andrew R. Flannery, MS, Veterinary Science 1999, "*A study utilizing the DNA sequence variation of the mitochondrial control region to elucidate the domestication pattern of the horse*", advisory committee member.

#### **Undergraduate:**

Pre-veterinary program co-advisor, 2000-2003.

Christine Mains, VS395, "*Comparative gene mapping of the Down Syndrome Candidate Region gene (DSCR1) between the horse and three zebra species*", project advisor, Spring 2002.

#### **Other:**

Gregory Artiushin, Fayette County High School Math & Science Magnet Program, "*Sequencing of fast twitch muscle fiber genes in foals with Contracted Foal Syndrome*", co-mentor, 2006-2007.

Lucy Martin, Fayette County High School Math & Science Magnet Program, "*Comparative mapping in the Perissodactyls*", mentor, 1999-2000.

Elizabeth Gehlbach, Fayette County High School Math & Science Magnet Program, "*Cytogenetics and comparative mapping in the zebras*", mentor, 1998-1999.

#### **Undergraduate/Graduate Teaching**

2009	Guest lecturer, Perissodactyl Genome Evolution, Graduate Seminar, Genetics Institute/Dept Paleontology, University of Florida.
2006	Guest lecturer, Genetics, undergraduate course, Midway College.
2004	Co-Coordinator, Veterinary Science Graduate Student Orientation
2001	Team Lecturer, VS791: Equine Health and Disease, University of Kentucky, Dept. of Veterinary Science, topics: " <i>Evolution of the Horse</i> " and " <i>Cytogenetic Diseases of the Horse</i> ".
1994-1995	Guest Lecturer, ENT/ AGR 460: Introduction to Molecular Genetics, University of Kentucky, Agricultural Biotechnology Program, topic: " <i>Molecular cytogenetics for gene mapping and clinical diagnostics</i> ".
1983-1985	Teaching Assistant, Organismic Biology Laboratories, University of Louisville.
1975	Laboratory Instructor, Zoology, Indiana University Southeast, Fall 1975.
1973-1975	Laboratory Assistant, Microbiology and Zoology, Indiana University Southeast.

#### **Refereed Publications**

Wade CM, Guilotto E, Sigurdsson S, Zoli M, Gnerre S, Imsland F, **Lear TL**, et al. (2009). Genome sequence, comparative analysis and population genetics of the domestic horse. *Science*, 6 Nov, 326:865-869.

- Astakhova NM, Perelygin AA, Zharkikh AA, **Lear TL**, Coleman SJ, MacLeod JN, Brinton MA (2009). Characterization of equine and other vertebrate TLR3, TLR7 and TLR8 genes. *Immunogenetics*, 61:529-531.
- Katepalli M, Adams AA, **Lear TL**, Horohov DW (2008). The effect of age and telomere length on immune function in the horse. *Developmental and Comparative Immunology*, 32:1409-1415.
- Lear TL**, Bailey E (2008). Equine clinical cytogenetics: The past and future. *Cytogenetic and Genome Research*, 120:42-49.
- Lear TL**, Lundquist J, Zent WW, Fishback WD Jr, Clark A (2008). Three autosomal chromosome translocations associated with repeated early embryonic loss (REEL) in the domestic horse (*Equus caballus*). *Cytogenetic and Genome Research*, 120:117-122.
- Perelygin AA, Zharkikh AA, Astakhova NM, **Lear TL**, Brinton MA (2008). Concerted evolution of vertebrate *CCR2* and *CCR5* genes and the origin of a recombinant equine *CCR5/2* gene. *Journal of Heredity*, 99:500-511.
- Brooks S, **Lear TL**, Adelson D, Bailey E (2007). A chromosome inversion near the *KIT* gene and tobiano spotting pattern in horses. *Cytogenetic and Genome Research*, 119:225-230.
- De Lorenzi L, **Lear TL**, Molteni L, Parma P (2007): *RSPO* genes: chromosomal assignment in horse by FISH. *Animal Genetics*, 39:86.
- Rios JJ, Perelygin AA, Long MT, **Lear TL**, Zharkikh AA, Brinton MA, Adelson DL (2007). Characterization of the equine 2'-5' oligoadenylate synthetase 1 (*OAS1*) and ribonuclease L (*RNASEL*) innate immunity genes. *BMC Genomics* 8:313.
- Murphy BA, **Lear TL**, Adelson DL, Fitzgerald BP (2006). Chromosomal assignments and sequences for the equine core circadian clock genes. *Animal Genetics* doi:10.1111/j.1365-2052.2006.01549.x
- Perelygin AA, **Lear TL**, Zharkikh AA, Brinton MA (2006). Comparative analysis of vertebrate *EIF2AK2* (*PKR*) sequences and assignment of equine gene to ECA15q24-125 and the bovine gene to BTA11q12-q15. *Genetics, Selection and Evolution* 38:551-563.
- Bellone R, **Lear TL**, Adelson D, Bailey E (2006). Comparative mapping of oculocutaneous albinism type II (*OCA2*) and transient receptor potential cation channel, subfamily M member 1 (*TRPM1*) and two equine microsatellites, ASB08 and 1CA43, among four equid species by fluorescence in situ hybridization. *Cytogenetic and Genome Research* 114:93A.
- Perrocheau M, Boutreux V, Chadi S, Mata X, Decaunes P, Raudsepp T, Durkin K, Incarnato D, Iannuzzi L, **Lear TL**, Hirota K, Hasegawa T, Zhu B, de Jong P, Cribiu EP, Chowdhary BP, Guérin G (2006). Construction of a medium density equine gene map. *Animal Genetics* 37:145-155.
- Tallmadge RL, **Lear TL**, and Antczak DF (2005). Genomic characterization of MHC class I genes of the horse. *Immunogenetics* 57:763-764.
- Perelygin AA, **Lear TL**, Zharkikh AA, Brinton MA (2005). Structure of equine 2'-5' oligoadenylate synthetase gene family. *Cytogenetic and Genome Research* 111: 51-56.
- Wagner B, Miller DM, **Lear TL**, Antczak DF (2004). The immunoglobulin constant heavy chain gene region of the horse contains seven *IGHG* genes. *Journal of Immunology* 173:3230-3242.



- Takahashi T, Yawata M, Raudsepp T, **Lear TL**, Antczak DF, Kasahara M (2004). Natural killer cell receptors in the horse: evidence for the existence of multiple transcribed LY49 genes. *European Journal of Immunology* 34:773-784.
- Ward TL, Valberg SJ, **Lear TL**, Guerin G, Milenkovic D, Swinburne J, Binns MM, Chowhary BP, Raudsepp T, Skow L, Mickelson JR (2003). Genetic mapping of GBE1 and its association with glycogen storage disease IV in American Quarter horses. *Cytogenetics and Genome Research* 102:201-206.
- Myka JL, **Lear TL**, Houck ML, Ryder OA, Bailey E (2003). FISH analysis comparing genome organization in the domestic horse (*Equus caballus*) to that of the Mongolian Wild horse (*E. przewalskii*). *Cytogenetic and Genome Research* 201:222-225.
- Myka JL, **Lear TL**, Houck ML, Ryder OA, Bailey E (2003). Homologous fission event(s) implicated for chromosomal polymorphisms among 5 species in the genus *Equus*. *Cytogenetic and Genome Research* 201:217-221.
- Chowdhary BP, Raudsepp T, Kata SR, Goh G, Millon LV, Allan V, Piumi F, Guerin G, Swinburne J, Binns M, **Lear TL**, Mickelson J, Murray J, Antczak DF, Womack JE, Skow LC (2003). The first generation whole genome radiation hybrid map in the horse identifies conserved segments in human and mouse genomes. *Genome Research* 13:742-751.
- Tallmadge RL, **Lear TL**, Johnson AK, Guerin G, Millon LV, Carpenter SL, Antczak DF (2003). Characterization of the  $\beta_2$ -microglobulin gene of the horse. *Journal of Immunology* 54:725-733.
- Hanzawa K, **Lear TL**, Piumi F, Bailey E (2002). Mapping of equine potassium chloride cotransporter (SCL12A4) and amino acid transporters (SLC7A10 and SLC7A9) and analysis for effect of polymorphism on osmotic fragility of red blood cells. *Animal Genetics* 33:455-459.
- Milenkovic D, Oustry-Vaiman A, **Lear TL**, Billault A, Mariat D, Piumi F, Schibler L, Crihiu E, Guerin G (2002). Cytogenetic localization of 136 genes in the horse: comparative mapping with the human genome. *Mammalian Genome* 13:524-534.
- Raudsepp T, **Lear TL**, Chowdhary BP (2002). Comparative mapping in equids: the asine X chromosome is rearranged compared to horse and Hartmann's mountain zebra. *Cytogenetics and Genome Research* 96:206-209.
- Lear TL**, Layton G (2002). Use of Zoo-FISH to characterize a reciprocal translocation in a Thoroughbred mare: t(1;16)(q16;q21.3). *Equine Veterinary Journal* 43:207-209.
- Terry RB, Bailey E, **Lear TL**, Cothran EG (2002). Rejection of MITF and MGF as the genes responsible for appaloosa coat colour patterns in horses. *Animal Genetics* 33:72-84.
- Lear TL**, Houck M, Zhang YW, Debnar LA, Sutherland-Smith MR, Young LA, Jones KL, Bernirschke K (2001). Trisomy 17 in a Bonobo (*Pan paniscus*) and deletion of 3q in a Lowland Gorilla (*Gorilla gorilla*): comparison with human trisomy 18 and human deletion 4q syndrome. *Cytogenetics and Cell Genetics* 95: 228-233.
- Lear TL** (2001). Chromosomal distribution of the telomere sequence (TTAGGG)<sub>n</sub> in the Equidae. *Cytogenetics and Cell Genetics* 93:127-130.
- Lear TL**, Brandon R, Piumi F, Terry RR, Guerin G, Thomas S, Bailey E (2001). Mapping of 31 horse genes in BACs by FISH. *Chromosome Research* 9: 261-262.
- Lear TL**, Piumi F, Terry R, Guerin G, Bailey E (2000). Horse v-fes sarcoma viral oncogene homolog, pyruvate kinase muscle type, plasminogen, beta spectrin, thymidilate

- synthetase and microsatellite LEX078 map to 1q14-q15, 1q21, 31q12-q14, 15q22, 8q12-q14 and 14qter, respectively. *Chromosome Research* 8: 361.
- Lear TL**, Brandon R, Masel A, Bell K, Bailey E (1999). Horse alpha-1-antitrypsin, beta-lactoglobulins 1 and 2, and transferrin map to positions 24q15-q16, 28q18-qter and 16q23, respectively. *Chromosome Research* 7: 667.
- Lear TL**, Brandon R, Bell K (1999). Localization of ten horse microsatellite markers by FISH. *Animal Genetics* 30: 235.
- Gallagher P, **Lear TL**, Coogle L, Bailey E (1999). Two SINE families associated with horse microsatellite sequences. *Mammalian Genome* 10: 140-144.
- Lear TL**, Cox JH, Kennedy GA (1999). Autosomal Trisomy in a Thoroughbred Colt: 65,XY,+31. *Equine Veterinary Journal* 31: 85-88.
- Cothran EG, Santos SA, Mazza MCM, **Lear TL**, Sereno JRB (1998). Genetics of the Pantaneiro horse of the Pantanal Region of Brazil. *Genetics and Molecular Biology* 21: 343-349.
- Best RG, Grass FS, **Lear TL**, Crawford E, Diamond D, Janish C, Moore CM (1998). Baboon/human homologies by Spectral Karyotyping (SKY): A visual comparison. *Cytogenetics and Cell Genetics* 82: 83-87.
- Lear TL**, Adams MH, Sullivan ND, McDowell KJ, Bailey E (1998). Chromosomal localization of *ESR* and *PR3* in the horse by FISH. *Cytogenetics and Cell Genetics* 82: 110-111.
- Lear TL**, Coogle LD, Bailey E, (1998). Assignment of the horse mitochondrial glutamate transaminase 2 (*GOT2*) and *v-kit* Hardy-Zuckerman 4 feline sarcoma viral oncogene homolog (*KIT*) to horse chromosome 3 by in situ hybridization. *Cytogenetics and Cell Genetics* 82:112-113.
- Lear TL**, Bailey E, Ponce de Leon FA, Breen M, Coogle L, Ferguson EM, Chambers TM (1998). Cloning and chromosomal localization of *MX1* and *ETS2* to chromosome 26 of the horse (*Equus caballus*). *Chromosome Research* 6: 333-336.
- Bailey E, Reid R, Skow LC, Mathiason K, **Lear TL**, McGuire TC (1997). Linkage of the gene for equine combined immunodeficiency disease to microsatellite markers HTG8 and HTG4; Synteny and FISH mapping to ECA9. *Animal Genetics* 28: 268-273.
- ISCNH (1997), International system for cytogenetic nomenclature of the domestic horse. Bowling AT, Breen M, Chowdhary BP, Hirota K, **Lear TL**, Millon LV, Ponce de Leon FA, Raudsepp T, Stranzinger G, (Committee). *Chromosome Research* 5:433-453.
- Lear TL**, Bailey E (1997). Localization of the U2 linkage group of horses to ECA3 using chromosome painting. *Journal of Heredity* 88:162-164.
- Breen M, Langford CF, Carter NP, Fischer PE, Marti E, Gerstenberg C, Allen T, **Lear TL**, Binns M (1997). Detection of equine X chromosome abnormalities using a horse X chromosome paint. *The Veterinary Journal* 153: 235-238.
- Bailey E, Graves KT, Cothran EG, Reid R, **Lear TL**, Ennis RB (1995). Synteny mapping horse microsatellite markers using a heterohybridoma panel. *Animal Genetics* 26: 177-180.
- Bailey E, **Lear TL** (1994). Comparison of Thoroughbred and Arabian horses using RAPD markers. *Animal Genetics* 25: Suppl. 1, 105-108.
- Lear TL**, Trembicki KA, Ennis RB (1992). Identification of equine chromosomes in horse x mouse somatic cell hybrids. *Cytogenetics and Cell Genetics* 61:58-60.
- Lear TL**, Bailey E (1991). Southern blot analyses of the *MET* locus in horses and cattle.
- Bailey E, **Lear TL**, Cothran EG (1991). Association of *MspI* restriction fragment length polymorphisms with Transferrin in horses. *Animal Genetics* 22:5, 436.

### **Invited Book Chapters**

- Lear TL**, Villagomez D. (2009) The Mare: Techniques in Reproductive Examination - Cytogenetic Abnormalities in mares and foals. In: *Equine Reproduction*. McKinnon AO, Squires EL, Vaala WE and Varner DD (eds), Lea and Febiger, in press.
- Houck ML, **Lear TL**, Suellen Charter (2009). Animal Cytogenetics. In: *The AGT Cytogenetics Laboratory Manual*, Third Edition. Barch M, et al eds., in press.
- Lear TL** (2006). Cytogenetic Evaluation. In: *Current Therapy in Equine Reproduction*. JC Samper, JF Pycock, AO McKinnon (eds), Elsevier Science, St. Louis. (2006).

### **Published Abstracts**

- Lear TL**, R McGee, C Mains, E Bailey (2009). Characterization of SRY deletions in female horses with a 64,XY karyotype. Proceedings of the American Society of Human Genetics, Honolulu Hawaii, November 2009.
- Lear TL** (2009). Assessing chromosome abnormalities in horses with infertility or congenital abnormalities. Proceedings of the Equine Science Society Conference, May 2009, Keystone CO. *Journal of Equine Veterinary Science* 29: 316-317.
- Lear TL** (2008). Chromosome abnormalities in horses. Proceedings of the Hagyard Bluegrass Equine Symposium, October 16-19, 2008, Lexington, KY.
- DeLorenzi L, **Lear TL**, Molteni L, Parma P (2008). The RSPO genes: chromosomal assignment in donkey. Proceedings of the 18<sup>th</sup> International Colloquium on Animal Cytogenetics and Gene Mapping, June 2008, Bucharest, Romania. *Chromosome Research*, 16:1052.
- Villagomez DAF, **Lear TL**, Chenier T, Lee S, Cahill J, King WA (2008). Equine XY and XX sex-reversal syndrome in Sry positive and negative mares. Proceedings of the 18<sup>th</sup> International Colloquium on Animal Cytogenetics and Gene Mapping, June 2008, Bucharest, Romania. *Chromosome Research*, 16:1040.
- Lear TL**, Lundquist J (2008). Chromosomal aberration associated with congenital abnormalities, infertility and repeated early embryonic loss in the domestic horse (*Equus caballus*). Proceedings of the 40<sup>th</sup> Biennial American Cytogenetics Conference, April 10-13, 2008, Monterey, CA. *Cytogenetic and Genome Research*, 121:78-107.
- Lear TL** (2007). Three chromosome translocations associated with early embryonic loss in the domestic horse (*Equus caballus*). Proceedings of the 2007 FGT-SERG Meeting, September 2007, Knoxville, TN.
- Perelygin AA, **Lear TL**, Astakhova NM, Coleman SJ, MacLeod JN, Rios JJ, Adelson DL, Brinton MA (2007). Characterization of the equine innate immunity genes potentially involved in West Nile virus (WNV) susceptibility. Plant & Animal Genome Conference XV, San Diego, CA.
- Brooks SA, **Lear TL**, Adelson DL, Bailey E (2007). Characterization of the breakpoints of a chromosomal inversion associated with tobiano white spotting pattern in horses. Plant & Animal Genome Conference XV, San Diego, CA.
- Astakhova NM, Perelygin AA, **Lear TL**, Brinton MA (2007). Structure and variability of the horse TLR3 and TLR7 genes. Plant & Animal Genome Conference XV, San Diego, CA.
- Myka JL, Boeshart TW, Malloy JN, Lundquist JM, Houck ML, Fronczek JA, Ryder OA, Baiely E, **Lear TL** (2007). FISH analysis of the chromosome organization of the Onager, *Equus hemionus onager*. Plant & Animal Genome Conference XV, San Diego, CA.
- Lear TL**, Houck ML, Lundquist JM, Fronczek JA, Bailey E (2007). Perissodactyl chromosome evolution: comparing genome organization of the horse, rhinoceros and tapir. Plant & Animal Genome Conference XV, San Diego, CA.
- Malloy JN, Boeshart TW, Lundquist JM, Houck ML, Fronczek JA, **Lear TL**, Myka JL (2006). Partial analysis of onager (*Equus hemionus onager*) genome arrangement by means of FISH and comparative gene mapping. 17<sup>th</sup> Annual Argonne Symposium for Undergraduates in Science, Engineering and Mathematics, Chicago, IL.

- Boeshart TW, Malloy JN, Lundquist JM, Houck ML, Fronczek JA, **Lear TL**, Myka JL (2006). Fish mapping of 11 ECA (*Equus caballus*) genes to onager (*E. hemionus onager*) chromosomes. 17<sup>th</sup> Annual Argonne Symposium for Undergraduates in Science, Engineering and Mathematics, Chicago, IL.
- Lear TL** (2006), Perissodactyl chromosome evolution – not just fissions and fusions anymore. 17<sup>th</sup> European Colloquium on Animal Cytogenetics and Gene Mapping, Lisbon, Portugal.
- Brooks SA, **Lear T**, Adelson D, Murphy B, Bailey E (2006). Characterization of a paracentric inversion on ECA3 associated with the Tobiano spotting pattern in horses. Plant & Animal Genome Conference XIV, San Diego, CA.
- Lear TL**, Houck ML, Lundquist J, Fronczek J, Bailey E (2005). Chromosome Evolution in Perissodactyls: Horse Chromosome 1. 14<sup>th</sup> North American Colloquium on Animal Cytogenetics and Gene Mapping, Puerto Vallarta, Mexico.
- Bellone R, **Lear TL**, Durkin K, Adelson D, Bailey E (2005). Fish Mapping Appaloosa candidate genes in the Horse. Havemeyer International Horse Genome Workshop, Dublin, Ireland.
- Brooks S, **Lear TL**, Adelson D, Murphy B, Bailey E (2005). Inversion on ECA3 Associated with Tobiano Spotting Pattern. Havemeyer International Horse Genome Workshop, Dublin, Ireland.
- Murphy BA, **Lear TL**, Brooks SA, Adelson D, Fitzgeralds BP (2005). A functional genomics approach to investigating the biological clock in the horse. Havemeyer International Horse Genome Workshop, Dublin, Ireland.
- Perrocheau M, Boutreux V, Chadi S, Mata X, Decaunes P, Raudsepp T, Durkin K, Incarnato D, Iannuzzi L, **Lear TL**, Hirota K, Hasegawa T, Zhu B, de Jong P, Cribru EP, Chowdhary BP, Guérin G (2005). Construction of a medium density equine gene map. Havemeyer International Horse Genome Workshop, Dublin, Ireland.
- Perrocheau M, Boutreux V, Chadi-Taourit S, Chowdhary BP, Cribru EP, de Jong PJ, Durkin K, Hasegawa T, Hirota K, Iannuzzi L, Incarnato D, **Lear TL**, Raudsepp T, Percuatti A, Pia Di Meo G, Zhu B, Guerin G (2005). Cytogenetic mapping of 150 genes on the horse genome. Plant & Animal Genome Conference XIII, San Diego, CA.
- Lear TL** (2005). Using horse gene mapping tools to study chromosome evolution in Perissodactyls. Plant & Animal Genome Conference XIII, San Diego, CA.
- Lear TL**, Houck ML, Lundquist JM, Fronczek JA, Ryder OA (2005). Comparative gene mapping of endangered rhinoceros species. Plant & Animal Genome XIII, San Diego, CA.
- Perelygin A, **Lear T**, Brinton M (2004). Genomic structure and chromosomal localization of the equine homolog of the murine flavivirus resistance gene. 7th International Symposium on Positive-Strand RNA viruses, San Francisco, CA.
- Myka JL, **Lear TL**, Houck ML, Ryder OA, Bailey E (2004). A comparative map for the onager (*Equus hemionus onager*). Plant & Animal Genome Conference XII, San Diego, CA.
- Lear TL**, Myka JL, Piumi F, Antczak DF, Bailey E (2003). Addition of FISH mapped markers to the Horse Gene Map and comparative mapping of a chromosome number polymorphism in the Equidae. 5<sup>th</sup> International Equine Gene Mapping Workshop, Kruger National Park, South Africa (oral presentation).
- Mains CM, **Lear TL**, Houck ML, Tallmadge R, Antczak D, Bailey E (2003). Comparative mapping of the Major Histocompatibility Complex Locus in the family Equidae. 13<sup>th</sup> North American Colloquium on Animal Cytogenetics and Gene Mapping, Louisville, KY.
- Myka JL, **Lear TL**, Houck ML, Ryder OA, Bailey E (2003). A comparative gene map for the onager, *Equus hemionus onager*. 13<sup>th</sup> North American Colloquium on Animal Cytogenetics and Gene Mapping, Louisville, KY.

- Myka JL, **Lear TL**, Houck ML, Ryder OA, Bailey E (2003). Conservation of a Robertsonian chromosome polymorphism in the Equidae. 13<sup>th</sup> North American Colloquium on Animal Cytogenetics and Gene Mapping, Louisville, KY.
- Myka JL, Lear TL, Houck ML, Ryder OA, Bailey E (2003). A comparative gene map for the Przewalski horse, *Equus przewalskii*. 13<sup>th</sup> North American Colloquium on Animal Cytogenetics and Gene Mapping, Louisville, KY
- Lear TL**, Houck ML, Ryder OA (2003). Comparative cytogenetics and gene mapping in Rhinoceroses. 13<sup>th</sup> North American Colloquium on Animal Cytogenetics and Gene Mapping, Louisville, KY (oral presentation).
- Lear TL**, E Bailey (2003). Immune genome of the horse. Havemeyer Foundation Workshop: Genomic applications to equine immunity, Ithaca, NY (invited presentation).
- Bailey E, **Lear TL** (2003). Havemeyer Foundation Workshop: The genomics shortcut for equine immunology research, Ithaca, NY.
- Wagner B, **Lear TL**, Antczak DF (2003). The immunoglobulin constant heavy chain region of the horse. American Association of Immunology, Denver, CO.
- Ward T, Mickelson J, Valberg S, **Lear TL**, Guerin G, Swinburne J, Binns M, Chowdhary B, Raudsepp T, Skow L (2003). Mapping of equine GBE1 and other HSA3p12 genes to ECA26. Plant & Animal Genome XI, San Diego, CA.
- Lear TL**, Houck M, Ryder OA (2001). Comparative gene mapping in the Equidae and other Perissodactyls. 12<sup>th</sup> North American Colloquium on Animal Cytogenetics and Gene Mapping, Davis, CA.
- Lear TL**, Layton G (2001). Use of Zoo-FISH to characterize a reciprocal translocation in a Thoroughbred mare: t(1;16)(q16;q21.3). 12<sup>th</sup> North American Colloquium on Animal Cytogenetics and Gene Mapping, Davis, CA.
- Lear TL**, Piumi F, Terry RR, Guerin G, Thomas S, Biroš I, Bailey E (2001). The horse physical map: an update and the report of additional markers. 4<sup>th</sup> International Equine Gene Mapping Workshop, Brisbane, Australia.
- Terry RR, Bailey E, Bernoco D, **Lear T**, Cothran EG (2001). Investigation of MITF as the candidate gene for appaloosa spotting in horses. 4<sup>th</sup> International Equine Gene Mapping Workshop, Brisbane.
- Lear TL**, Houck M, Zhang YW, Debnar LA, Sutherland-Smith MR, Young L, Bernirschke K, Jones KL, Ryder OA (2001). Comparative clinical cytogenetics of hominoid primates: *Pan paniscus* equivalent of human trisomy 18 and equivalent of human deletion 4q associated with developmental anomalies in *Gorilla gorilla*. American Genetic Association Annual Meeting, San Diego.
- Lear TL**, Brandon R, Piumi F, Terry R, Guerin G, Bell K, Bailey E (2000). Cloning and physical mapping of horse (*Equus caballus*) EST markers. ISAG 2000, Minneapolis.
- Terry RR, Bernoco D, Bailey E, **Lear TL**, Cothran EG (2000). Rejection of *KIT* as the gene responsible for appaloosa coat color spotting patterns in horses. ISAG 2000, Minneapolis.
- Gallagher PC, **Lear TL**, Bailey E (2000). Discovery of a genomic clone with homology to centromeric and telomeric regions of chromosomes among species of *Equus*. ISAG 2000, Minneapolis.
- Lear TL**, Gallagher P, Bailey E (2000). Comparative genomics of the Equidae. HUGO2000, Vancouver.
- Lear TL**, Piumi F, Skow L, Terry R, Guérin G, Bailey E (2000). Physical mapping of 31 horse BAC clones containing Type I and Type II loci. Plant & Animal Genome VIII, San Diego.

- Breen M, **Lear TL** (2000). A horse chromosome-arm-specific probe collection for fluorescence *in situ* hybridization studies. Plant & Animal Genome VIII, San Diego.
- Lear TL** (1999). The horse karyotype, physical map and the future. Plant & Animal Genome VII, San Diego.
- Lear TL**, Houck ML, Ryder OA (1999). Chromosomal distribution of the telomere sequence (TTAGGG)<sub>n</sub> in the Equidae. Plant & Animal Genome VII, San Diego.
- Lear TL**, Brandon R, Masel A, Bell K, Bailey E (1998). Molecular cloning and chromosomal localization of horse alpha-1-antitrypsin (AAT), beta lactoglobulin 1 and 2 (BLG1, BLG2), lactotransferrin (LTF) and transferrin (TF). *Animal Genetics* 29 (Suppl 1): 43.
- Skow LC, **Lear TL**, Davis S, Sunden S, Bailey E (1998). Localization of BAC clones to horse chromosomes. *Animal Genetics* 29 (Suppl 1): 43.
- Fraser DG, Bailey E, Swinburne, Binns M, **Lear TL**, Skow LC (1998). Two MHC class II DQA loci for the horse. *Animal Genetics* 29 (Suppl 1): 29.
- Lear TL**, Irwin Z, Brandon R, Bell K, Mathiason K, Skow L, Bailey E (1998). Physical assignment of microsatellite markers to horse chromosomes using FISH. Plant & Animal Genome VI, San Diego.
- Lear TL**, Adams MH, McDowell KJ, Ponce de Leon FA, Sullivan ND, Coogle L, Ferguson E, Chambers TM, Bailey E (1997). Chromosomal location of the genes for *ESR*, *ETS2*, *GOT2*, *KIT*, *MX1* and *PGR* to in the horse, *Equus caballus*. 10<sup>th</sup> North American Colloquium on Gene Mapping and Cytogenetics in Human and Domestic Species, Apalachicola.
- Lear TL**, Cox JH, Kennedy GA (1997). Autosomal trisomy in a thoroughbred colt: 65,XY,+31. 10<sup>th</sup> North American Colloquium on Gene Mapping and Cytogenetics in Human and Domestic Species, Apalachicola.
- Lear TL**, Bailey E (1997). Chromosome evolution in equids: Zoo-FISH studies of the horse, donkey and Hartmann's zebra using human, whole chromosome paints. International Plant & Animal Genome Conference V, San Diego.
- Bailey E, Reid R, Skow L, Mathiason K, **Lear TL**, McGuire T (1997). Linkage of the genes for equine combined immunodeficiency disease (CID), two microsatellite markers and *DNA-pk*. International Plant & Animal Genome Conference V, San Diego.
- Adams MH, Sullivan ND, Behrendt CY, Daniel KS, **Lear TL**, McDowell KJ (1997). Molecular cloning of estrogen and progesterone from equine. Society for the Study of Reproduction, 30th Annual Meeting, Portland.
- Lear TL**, Bailey E (1996). Human chromosome paints identify conserved regions on the chromosomes of the horse, donkey and zebra. Conference on the Human Genome Project, Tuskegee University, Tuskegee.
- Bailey E, **Lear TL**, Coogle L, Fraser DG, Reid R, Breathnach C, Cothran EG, Graves KT, Raney N (1996). Gene map of the horse. Conference on the Human Genome Project, Tuskegee University, Tuskegee.
- Lear TL**, Bailey E (1995). The use of human whole chromosome paints to identify homologous segments on horse chromosomes. Proceedings of the Ninth North American Colloquium on Domestic Animal Cytogenetics & Gene Mapping. Texas A&M University, College Station, p. 45.
- Coogle L, **Lear TL**, Reid R, Henney P, Graves KT, Cothran EG, Bailey E (1995). Identification and synteny mapping of equine microstatellite DNA markers. Proceedings of the XX Beltsville Symposium, Beltsville.

- Lear TL**, Bailey E, Cothran EG (1994). Phylogenetic studies of Equids using RAPD markers. *Animal Genetics* 25:2, 34.
- Graves KT, Ennis RB, **Lear TL** (1992). Isozyme production and enumeration of horse chromosomes in equine-murine somatic cell lines. *Animal Genetics* 23:1, 83.
- Lear TL**, Bennett SD, Behling H, Foster WR, Jackson SG (1989). The analysis of metaphase chromosomes from equine amniocytes. Sixth North American Colloquium on Cytogenetics of Domestic Animals, Purdue, p. 5.
- Bennett SD, Behling H, **Lear T**, Jackson S (1989). Equine amniocentesis. *Equine Veterinary Journal* 8: 86.

### **Popular Press**

- Bailey E, **Lear TL** (2009). Closing in on the cause of swayback. *American Saddlebred*, The American Saddlebred Horse Association.
- Lear TL** (April 2009). Early embryonic loss and genetics. *Equine Disease Quarterly*.
- Lear TL** (Oct 2008). Contracted foal syndrome. *Equine Disease Quarterly*.
- Bailey E, **Lear TL**, MacLeod J (September 2006). UK Researchers See Future Equine Health Breakthroughs Resulting From Recently Announced Genomic Sequencing Project. *Business Lexington*.
- Lear TL** (August 2006). The Horse Genome Project: what does it mean? *American Saddlebred*, The American Saddlebred Horse Association.
- Lear TL** (April 2002). Atavisms or “what goes around, comes around”, *Pony Express, Florida Museum of Natural History (1<sup>st</sup> quarter 2002)*.
- Lear TL** (Jan, 2001). “Chromosomal abnormalities in horses”, *Equine Disease Quarterly*.
- Lear TL** (Oct 2000). Chromosome image, *The Texas Thoroughbred*.
- Lear TL** (April, 2000). “Equine Genome Project”, *Equine Disease Quarterly*.
- Lear TL** (June, 1999). Images of horse chromosomes, *Equus*.
- Lear TL** (1999). Images of horse chromosomes, *Odyssey*, (spring).
- Lear TL** (1999). Images of horse chromosomes, University of Kentucky Department of Veterinary Science Graduate Program brochure.
- Lear TL** (1998). Images of Zoo-FISH to equid chromosomes, *Lexington Herald-Leader* business section and cover.
- Lear TL** (1996). Images of Zoo-FISH to equid chromosomes, *Lexington Herald-Leader* business section.
- Lear TL** (1994). Images of horse DNA hybridized to horse x mouse somatic cell hybrids, *Modern Horse Breeding*, August, Cover Photograph.

### **Professional Activities**

- 3<sup>rd</sup> Annual National Breeder’s Conference, “The Use of Cytogenetics in Contemporary Breeding”, The Pyramid Society, September 2009, Lexington, KY.
- Genetics Institute, University of Florida, “*The horse genome project: changing the stride of equine research*”, Gainesville, March 2009 (Invited Speaker).
- Equine genetics for unraveling equine evolution. Department of Paleontology, University of Florida, Gainesville, March 2009 (Invited speaker).
- Plant & Animal Genome Conference XV, January 2009, San Diego, CA.
- San Diego Zoological Society, Conservation and Research for Endangered Species, “*Clinical Cytogenetics of Equines*”, San Diego, CA, December 2008, (Invited Speaker).
- 3<sup>rd</sup> Annual Double Helix Speaker, “Perissodactyl Chromosome Evolution: Not just fissions and fusions anymore”, Dept of Life Sciences, Indiana State University, March 2008, Terre Haute, IN.
- American Society of Human Genetics Conference, November 2008, Philadelphia, PA.
- Hagyard Bluegrass Equine Symposium, October 2008, Keynote Speaker, Lexington, KY.

Kentucky State 4-H Horse Contest, June 2008, Quiz Bowl Judge, Lexington, KY.  
Regional Dysmorphology and Cytogenetics Conference, May 2008, Cincinnati, Ohio.  
International Equine Summit, April 2008, Lexington, KY.  
40<sup>th</sup> Biennial American Cytogenetics Conference, “Chromosomal aberrations associated with congenital abnormalities, infertility and repeated early embryonic loss in the domestic horse (*Equus caballus*)”, April 2008, Monterey, CA (Invited Speaker).  
3<sup>rd</sup> Annual Double Helix Speaker, “Perissodactyl Chromosome Evolution: Not just fissions and fusions anymore”, Dept of Life Sciences, Indiana State University, March 2008, Terre Haute, IN (Invited Speaker).  
Presentation to Gluck Equine Research Center Foundation Board, “Equine Cytogenetic Services”, October 2007, Lexington, KY.  
2007 FGT-SERG Meeting, “Three chromosome translocations associated with early embryonic loss in the domestic horse (*Equus caballus*)”. September 2007, Knoxville, TN (Plenary Speaker).  
Hagyard Bluegrass Equine Symposium 2007, October 2007, Lexington, KY.  
7<sup>th</sup> Dorothy Russell Havemeyer International Equine Genome Mapping Workshop, “Anchoring supercontigs by FISH” (poster). August 2007, Lake Tahoe, CA.  
Veterinary Science Clinical Seminar Series, “Chromosome abnormalities as a cause of infertility and congenital abnormalities in horses” (invited oral presentation). LDDC, May 31, 2007, Lexington, KY.  
Hagyard Bluegrass Equine Symposium 2006, October 2006, Lexington, KY.  
Kentucky State 4-H Horse Contest, June 12, 2006, Quiz Bowl Judge, Marriott Griffin Gate Hotel, Lexington, KY.  
17<sup>th</sup> European Colloquium on Animal Cytogenetics and Gene Mapping, “Perissodactyl chromosome evolution – not just fissions and fusions anymore”, June 18-21, 2006, Lisbon, Portugal (Plenary speaker and Session Chair).  
American Horse Council Annual Meeting, “Genomics for horse owners and breeders”, April 4, 2006, Washington, D.C. (invited presentation).  
Plant & Animal Genome Conference XIV, January 2006, San Diego, CA.  
Kentucky Geological Survey Open House, “Horse evolution and fossil horses”, October 12, 2005, University of Kentucky, Lexington, KY.  
14<sup>th</sup> North American Colloquium on Animal Cytogenetics & Gene Mapping, “Chromosome Evolution in Perissodactyls: Horse Chromosome 1” (oral presentation), July 2005, Puerto Vallarta, Mexico.  
Plant & Animal Genome Conference XIII, “Using horse gene mapping tools to study chromosome evolution in Perissodactyls” (invited presentation at Horse Workshop) and “Comparative gene mapping of endangered rhinoceros species” (poster), January 2005, San Diego, CA.  
Equine Placenta Workshop, University of Kentucky, December 5-6, 2003, Lexington, KY.  
Kentucky Geological Survey Open House, “Horse evolution and fossil horses”, October 15, 2003, University of Kentucky, Lexington, KY.  
WUKY Girl’s Night Out, “Horse evolution and fossil horses”, September 17, 2003, University of Kentucky Art Museum, Lexington, KY.  
Center for Reproduction of Endangered Species, San Diego Zoo, “Molecular cytogenetics: applications toward the conservation of endangered species” (invited presentation), September 3, 2003, San Diego, CA.



5<sup>th</sup> International Equine Gene Mapping Workshop, Kruger National Park, South Africa, August 2003, (oral presentation).

13<sup>th</sup> North American Colloquium on Animal Cytogenetics and Gene Mapping, Louisville KY, July 2003 (oral presentation, three posters).

Havemeyer Foundation Workshop: Genomic applications to equine immunity, Ithaca, NY, June 2003 (invited presentation).

Plant & Animal Genome XI, January 2003, San Diego, CA.

Southern Elementary Science Education Night: "Horse evolution and fossil horses", September 26, 2002, Southern Elementary School, Lexington, KY. (In conjunction with the Lexington Children's Museum).

First Workshop on Mare Reproductive Loss Syndrome, August 2002, University of Kentucky, Lexington, KY.

Fayette County Science Fair: "Horse evolution and fossil horses", March 2002, Tates Creek High School, Lexington, KY (University of Kentucky, Department of Veterinary Science booth, oral presentation and demonstration).

Plant & Animal Genome X, January 2002, San Diego, CA (NRSP8 Equine Session Chair).

Kentucky Veterinary Medical Association Annual Conference, October 2001, Louisville, KY (Department Representative at booth).

12<sup>th</sup> North American Colloquium on Cytogenetics and Gene Mapping in Animals, University of California at Davis, July 2001, Davis, CA (Session chair, presenter, poster).

Cold Spring Harbor Laboratories, Microarray Course (1 of 20 attendees out of 250 applicants), June 2001, Cold Spring Harbor, NY.

American Genetic Association Annual Meeting, May 2001, San Diego, CA (poster).

Keeneland Race Course: "Horse evolution and fossil horses", April 2001, Lexington, KY (oral presentation and demonstration).

Lexington Children's Museum: "Fossil horses", February 2001, Lexington, KY (demonstration).

Plant & Animal Genome IX, January 2001, San Diego, CA (Equine Session Secretary/Chair-elect).

International Society of Animal Genetics, July 2000, Minneapolis, MN (posters).

Genetic Resources for a New Century, San Diego Zoological Society, May 2000, San Diego, CA.

Human Genome Organization 2000, April 2000, Vancouver, BC, Canada (poster).

Plant and Animal Genome VIII, January 2000, San Diego, CA (poster).

International Equine Gene Mapping Workshop, June 1999, Uppsala, Sweden.

Plant and Animal Genome VII, January 1999, San Diego, CA (invited presentation and poster).

1998-2003; National Animal Genome Project; USDA-NRSP-8 Horse Technical Committee (Co-PI).

International Society of Animal Genetics Conference, August 1998, Auckland, NZ (3 posters).

First International Conference on Feline Genetics and Inherited Diseases, June 1998, Philadelphia, PA

Plant and Animal Genome VI, January 1998, San Diego, CA (poster).

10<sup>th</sup> North American Colloquium on Gene Mapping and Cytogenetics in Human and Domestic Species, July 1997, Apalachicola, FL (oral presentation and poster).

Plant & Animal Genome Conference V, January 1997, San Diego, CA (poster).

Conference on the Human Genome Project, September 1996, Tuskegee University, Tuskegee, AL (poster).

Tristate Regional Dysmorphology and Cytogenetics Meeting, May 1996, Childrens Hospital Medical Center, Cincinnati, OH.

Committee for the Standardization of the Ideogram for the Horse Karyotype, March 1996, University of California, Davis, CA (committee member).

First International Equine Gene Mapping Workshop, October 1995, University of Kentucky, Lexington, KY (Co-host and poster).

9<sup>th</sup> North American Colloquium on Domestic Animal Cytogenetics & Gene Mapping, July 1995, Texas A&M University, College Station, TX (poster).

Beltsville Symposium XX, Biotechnology's Role in the Genetic Improvement of Farm Animals, May 1995, USDA, Beltsville, MD (poster).

Human Genome International Conference, October 1994, Washington, D.C.

XXIV International Conference on Animal Genetics, July 1994, Prague, Czech Republic (poster and invited oral presentation).

Southeast Regional Dysmorphology and Cytogenetics Meeting, May 1993, University of Kentucky, Lexington, Kentucky.

First Seminar on Equine Infectious Anemia, September 1992, Rio de Janeiro, Brazil.

7<sup>th</sup> North American Colloquium for Cytogenetics and Gene Mapping in Domestic Animals, July 1991, University of Pennsylvania, Philadelphia, PA. (Chairperson)

9<sup>th</sup> European Colloquium on Cytogenetics of Domestic Animals, July 1990, Toulouse-Auzeville, France.

6<sup>th</sup> North American Colloquium on Cytogenetics of Domestic Animals, July 1989, Purdue University, West Lafayette, IN (poster).

Southeast Regional Dysmorphology and Cytogenetics Meeting, Indiana University, May 1987, Indianapolis, IN (oral presentation).

Association of Cytogenetic Technologists Annual Meeting, June 1986, Atlanta, GA.

**CURRICULUM VITAE**  
**Eugene Thomas Lyons**  
**Department of Veterinary Science**  
**University of Kentucky**  
**Gluck Equine Research Center**  
**Lexington, KY 40546-0099**

**Birth Date:** 6 May 1931 – Yankton, South Dakota, USA

**Education:** South Dakota State University, Brookings, South Dakota– Zoology (Wildlife) BS – 1956  
Kansas State University, Manhattan, Kansas – Zoology (Parasitology) MS – 1958  
Colorado State University, Fort Collins, Colorado – Zoology (Parasitology) PhD – 1963

**Military Service:** U.S. Coast Guard – 1950-1953

**University Employment:**  
Kansas State University, Graduate Research Assistant, 1956-1958  
University of Kentucky, Asst. Prof. of Animal Pathology, 1958-1960  
Colorado State University, Graduate Research Assistant, 1960-1963  
University of Kentucky, Asst. Prof. of Veterinary Science, 1963-1970  
University of Kentucky, Assoc. Prof. of Veterinary Science, 1970-1977  
University of Kentucky, Professor of Veterinary Science, 1977-present

**Member:** American Society of Parasitologists  
Helminthological Society of Washington  
World Association for Advancement of Veterinary Parasitology  
Wildlife Disease Association  
American Association of Veterinary Parasitologists  
Southeastern Society of Parasitologists  
Midwest Society of Parasitologists  
Kentucky Academy of Science

**Awards:** Thomas Poe Cooper Award (Univ. of KY Research award) – 1976  
Distinguished Veterinary Parasitologist (American Association of Veterinary Parasitologists) – 1991 (co-awardee – J. H. Drudge)

**Honorary Member:** Kentucky Veterinary Medical Association

**Publications:** 200+ journal articles and book chapters

**Research Interests:** Major research includes treatment, transmission, life cycles, and prevalence of internal parasites of domestic animals-particularly horses; special interest is on hookworms in pinnipeds

## Publications

1. Lyons, E.T. Helminth Parasites of the Black-Tailed Jack Rabbit (*Lepus californicus melanotis* (Mearns) in Southwestern Kansas. Master of Science Thesis, Kansas State University, Manhattan, KS, 67 pp., 10 pl., 1958.
2. Lyons, E.T., Hansen, M.F. and Tiemeier, O.W. Helminth Parasites of Black-Tailed Jack Rabbit in Southwestern Kansas. Trans. Kansas Acad. Sci. 63(3): 135-140, 1960.
3. Drudge, J.H., Haws, D.A., Leland, S.E., Jr., Lyons, Eugene, and Rust, J.W. Anthelmintic Activity of Four Organic Phosphates in Cattle. Vet. Med. 56: 135-138, March 1961.
4. Lyons, E.T. and Hansen, M.F. Observation on *Micipsella brevicauda* n. sp. (Nematoda: Filarioidea) from the Black-Tailed Jack Rabbit, *Lepus californicus melanotis* Mearns, in Southwestern Kansas. Trans. Am. Micro. Soc. 80(2): 204-210, April 1961.
5. Drudge, J.H., Leland, S.E., Jr., Wyant, Z.N., Elam, George, and Lyons, Eugene. Critical Tests with the Organic Phosphate Insecticide, Dimethoate, against *Gastrophilus* spp. in the Horse, with Observations on its Anthelmintic Action. Am. J. Vet. Res. 22(91): 1106-1111, November 1961.
6. Drudge, J.H., Lyons, Eugene, Wyant, Z.N., and Elam, George. Anthelmintic Activity of Low Doses of Piperazine in the Horse. JAVMA 140(7): 678-683, April 1, 1962.
7. Olsen, O.W. and Lyons, E.T. Life Cycle of the Hookworm, *Uncinaria lucasi* Stiles, of Northern Fur Seals, *Callorhinus ursinus*, on the Pribilof Islands in the Bering Sea. J. Parasitol. 48 (suppl): 42-43, 1962.
8. Lyons, E.T. Biology of the Hookworm, *Uncinaria lucasi* Stiles, 1901, in the Northern Fur Seal, *Callorhinus ursinus* Linn. on the Pribilof Islands, Alaska. Dissertation, Colorado State University, Ft. Collins, 97 pp., 5 pls., 1963.
9. Hansen, M.L., Bartel, M.H., Lyons, E.T. and El-Rawi, B.M. The Black-Tailed Jack Rabbit in Kansas. II. Helminth and Arthropod Parasites. Tech. Bulletin 140, Kansas State University, 42-64, February 1965.
10. Olsen, O.W. and Lyons, E.T. Life Cycle of *Uncinaria lucasi* Stiles, 1901 (Nematoda: Ancylostomatidae) of Fur Seals, *Callorhinus ursinus* Linn., on the Pribilof Islands, Alaska. J. Parasitol. 51(5): 689-700, October 1965.

11. Drudge, J.H. and Lyons, E.T. Newer Developments in Helminth Control *Strongylus vulgaris* Research. Proc. 11th Meet. Assoc. Eq. Pract., pp 381-389, December 1965.
- +12. Drudge, J.H. and Lyons, E.T. Control of Internal Parasites of the Horse. JAVMA 148(4): 378-383, February 1966.
13. Drudge, J.H., Lyons, E.T., and Szanto, Joseph. Pathogenesis of Migrating Stages of Helminths, with Special Reference to *Strongylus vulgaris*. In: Biology of Parasites, Emphasis on Veterinary Parasites, E.J.L. Soulsby, Editor. Academic Press, New York, pp. 199-214, 1966.
14. Knapp, F.W., Drudge, J.H., and Lyons, E.T. Toxic Effect of Ciodrin and Dichlorvos Applied Topically to Horses and their Efficacy against Internal Parasites. J. Econ. Entomol. 60(2): 330-332, April 1967.
15. Lyons, E.T., Drudge, J.H., and Knapp, F.W. Controlled Test of Anthelmintic Activity of Trichlorfon and Thiabendazole in Lambs, with Observations on *Oestrus ovis*. Am. J. Vet. Res. 28(125): 1111-1116, July 1967.
16. Lyons, E.T., Drudge, J.H., and Tolliver, S.C. Activity of dl-Tetramisole against Gastrointestinal Helminths in a Controlled Test in Lambs. Am J. Vet. Res. 29(11): 2157-2162, November 1968.
17. Partosoedjono, Soetijono, Drudge, J.H., Lyons, E.T., and Knapp, F.W. Evaluation of Naphthalophos against *Oestrus ovis* and a Thiabendazole-Tolerant Strain of *Haemonchus contortus* in lambs. Am. J. Vet. Res. 30(1): 81-83, January 1969.
18. Drudge, J.H., Lyons, E.T., and Szanto, Joseph. Critical Tests of Piperazine-Carbon Disulfide Complex and Phenothiazine Mixtures against Internal Parasites of the Horse. Am. J. Vet Res. 30(6): 947-954, June 1969.
19. Lyons, E.T., Drudge J.H., and Tolliver, S.C. Parasites from Mare's Milk. The Bloodhorse 95(29): 2270-2271, July 19, 1969.
20. Lyons, E.T., Drudge, J.H., and LaBore, D.E. Field Tests of Anthelmintics in Calves. Mod. Vet. Pract. 50(11): 78,80, October 1969.
21. Drudge, J.H. and Lyons, E.T. Internal Parasites of the Equine: Pathogenesis and Current Control Methods. Proc. Eq. Pharmacol. and Therapeutics Sympos., Ohio State University, pp. 102-107, November 1969.
22. Drudge, J.H. and Lyons, E.T. The Chemotherapy of Migrating Strongyle Larvae. Equine Infectious Diseases II, S. Karger, Basel, Publisher, 310-322, 1970.

23. Lyons, E.T., Drudge, J.H., and Tolliver, S.C. Strongyloides Larvae in Milk of Sheep and Cattle. *Mod. Vet.Pract.* 51(5): 65, 68, May 1970.
24. Lyons, E.T. and Drudge, J.H. Critical Tests of Activity of dl-Tetramisole against the Internal Parasites of Horses. *Am. J. Vet. Res.* 31(8): 1477-1480, August 1970.
25. Drudge, J.H. and Lyons, E.T. Activity of Dichlorvos against Horse Bots. *Mod. Vet. Pract.* 51(13): 45-46, 1970.
26. LaBore, D.E., Drudge, J.H, and Lyons, E.T. Stomach Worm Disease of Cattle. *Expt. Sta. Leaflet 340*, 5 pp., 1971.
27. Wise, W.E., Drudge, J.H., and Lyons, E.T. Controlling Internal Parasites of the Horse. *Expt. Sta. Circl. 630 (Vet. 1)*, pp 1-15, 1972.
28. Lyons, E.T., Drudge, J.H., LaBore, D.E., and Tolliver, S.C. Field and Controlled Test Evaluations of Levamisole against Natural Infections of Gastrointestinal Nematodes and Lungworms in Calves. *Am. J. Vet. Res.* 33(1): 65-71, January 1972.
29. Knapp, F.W., Drudge, J.H., and Lyons, E.T. Evaluation of Safety and Anthelmintic Activity of Topically Applied Dichlorvos to Calves. *J. Econ. Entomol.* 65(3): 925-927, June 1972.
30. Drudge, J.H. and Lyons, E.T. Critical Tests of a Resin-Pellet Formulation of Dichlorvos against Internal Parasites of the Horse. *Am. J. Vet. Res.* 33(7): 1365-1375, July 1972.
31. Drudge, J.H., Lyons, E.T., and Swerczek, T.W. Activity of Gel and Paste Formulations of Dichlorvos against First-Instars of *Gasterophilus* spp. *Am. J. Vet. Res.* 33(11): 2192-2193, November 1972.
32. Lyons, E.T., Drudge, J.H., and Tolliver, S.C. On the Life Cycle of *Strongyloides westeri* in the Equine. *J. Parasitol.* 59(5): 780-787, October 1973.
33. Drudge, J. H., E. T. Lyons and T. W. Swerczek. Critical Tests and Safety Studies on a Levamisole-Piperazine Mixture as an Anthelmintic in the Horse. *Am. J. Vet. Res.* 35(1): 67-72, January 1974.
34. Lyons, E.T., J.H. Drudge and S C. Tolliver. Controlled Tests of Parabendazole and Thiabendazole against Natural Infections of Gastrointestinal Helminths of Lambs. *Am. J. Vet. Res.* 35(8): 1065-1070, August 1974.
35. Tolliver, S.C., E.T. Lyons, and J.H. Drudge. Observations on the Specific Location of *Gasterophilus* spp. Larvae in the Mouth of the Horse. *J. Parasit.* 60(5): 891-892, October 1974.

36. Drudge, J.H., Lyons, E.T., and S.C. Tolliver. Critical and Clinical Test Evaluations of Mebendazole Against Internal Parasites of the Horse. *Am. J. Vet. Res.* 35(11): 1409-1412, November 1974.
37. Lyons, E.T., J.H. Drudge, and S.C. Tolliver. Critical Tests of Three Salts of Pyrantel Against Internal Parasites of the Horse. *Am. J. Vet. Res.* 35(12): 1515-1522. December 1974.
38. Lyons, E.T., J.H. Drudge, and S.C. Tolliver. Field Tests of Three Salts of Pyrantel Against Internal Parasites of the Horse. *Am. J. Vet. Res.* 36(2): 161-166, February 1975.
39. Drudge, J.H., E.T. Lyons, and S.C. Tolliver. Activity of Organophosphorus Compounds Against Oral Stages of *Gasterophilus intestinalis* and *Gasterophilus nasalis*. *Am. J. Vet. Res.* 36(3): 251-253, March 1975.
40. Lyons, E.T., D.B. Sisk, and J.H. Drudge. Eyeworm (*Thelazia* sp.) in Cattle. *Mod. Vet. Pract.* 56(4): 260, April 1975.
41. Drudge, J.H., E.T. Lyons, and S.C. Tolliver. Critical Tests of Suspension, Paste, and Pellet Formulations of Cambendazole in the Horse. *Am. J. Vet. Res.* 36(4): 435-439, April 1975.
42. Prasert, V., F.W. Knapp, E.T. Lyons, and J.H. Drudge. Biological Effects of Methoprene on the Sheep Bot Fly. *J. Econ. Ent.* 68(5): 639-640, 1975.
43. Drudge, J. H., E. T. Lyons and S. C. Tolliver. Critical Tests of the Benzimidazole Anthelmintic, Fenbendazole, in the Horse. *VM/SAC* 70: 537-540, May 1975.
44. Lyons, E. T., J. H. Drudge, D. E. LaBore and S. C. Tolliver. Controlled Test of Anthelmintic Activity of Levamisole Administered to Calves via Drinking Water, Subcutaneous Injection, or Alfalfa Pellet Premix. *Am. J. Vet. Res.* 36(6): 777-780, June 1975.
45. Lyons, E. T., J. H. Drudge and S. C. Tolliver. Critical Tests of Levamisole Alone or in Mixtures with Piperazine or Trichlorfon Against Internal Parasites of Horses. *Proc Helm. Soc. Wash.* 42(2): 128-135, July 1975.
46. Drudge, J. H., E. T. Lyons and S. C. Tolliver. Critical and Controlled Tests of the Antiparasitic Activity of Liquid and Paste Formulations of Trichlorfon in the Horse. *VM/SAC* 70: 975-978, August 1975.
47. Sukhapesna, V., F. W. Knapp, E. T. Lyons and J. H. Drudge. Effect of Temperature on Embryonic Development and Egg Hatchability of the Horse Bot, *Gasterophilus intestinalis* (Diptera:Gasterophilidae). *J. Med. Ent.* 12(3): 391-392, September 1975.

48. Drudge, J. H., E. T. Lyons, Z. N. Wyant, and S. C. Tolliver. Occurrence of Second and Third Instars of *Gasterophilus intestinalis* and *Gasterophilus nasalis* in Stomachs of Horses in Kentucky. *Am. J. Vet. Res.* 36(11): 1585-1588, November 1975.
49. Averkin, E. A., C. C. Beard, C. A. Dvorak, J. A. Edwards, J. H. Fried, J. G. Kilian, R. A. Schiltz, T. P. Kistner, J. H. Drudge, E. T. Lyons, M. L. Sharp and R. M. Corwin. Methyl 5(6)-Phenylsulfinyl-2-benzimidazolecarbamate, a New, Potent Anthelmintic. *J. Med. Chem.* 18(11): 1164-1166. 1975.
50. Lyons, E. T. and J. H. Drudge. Two Eyeworms, *Thelazia gulosa* and *Thelazia skrjabini*, in Cattle in Kentucky. *J. Parasit.* 61(6): 1119-1122, December 1975.
51. Lyons, E. T. and J. H. Drudge. Occurrence of the Eyeworm, *Thelazia lacrymalis*, in Horses in Kentucky. *J. Parasit.* 61(6): 1122-1124, December 1975.
52. Drudge, J. H., E. T. Lyons and E. L. Taylor. Critical Tests and Safety Studies on Trichlorfon as an Antiparasitic Agent in the Horse. *Am. J. Vet. Res.* 37(2): 139-144, February 1976.
53. Lyons, E. T., J. H. Drudge and S. C. Tolliver. Critical Tests of Anthelmintic Activity of a Paste Formulation of Thiabendazole in Horses. *Am. J. Vet. Res.* 37(6): 701-702, June 1976.
54. Lyons, E. T., J. H. Drudge and S. C. Tolliver. Studies on the Development and Chemotherapy of Larvae of *Parascaris equorum* (Nematoda:Ascaridoidea) in Experimentally and Naturally Infected Foals. *J. Parasit.* 62(3): 453-459, June 1976.
55. Drudge, J. H. and E. T. Lyons. Zur Pathologie des Endoparasitenbefalls beim Pferd. *Die Blauen Hefte*, 55: 219-227, 1976.
56. Lyons, E. T., J. H. Drudge and S. C. Tolliver. *Thelazia lacrymalis* in Horses in Kentucky and Observations on the Face Fly (*Musca autumnalis*) as a Possible Intermediate Host. *J. Parasitol.* 62(6): 877-880, December 1976.
57. Drudge, J. H. and E. T. Lyons. Control of Equine Parasites. Stud Manager's Course, Lexington, Kentucky, pp 139-148, September 1976 (published 1977).
58. Drudge, J. H., E. T. Lyons and S. C. Tolliver. Resistance of Equine Strongyles to Thiabendazole: Critical Test of Two Strains. *VM/SAC* 72(3): 433-435, 437-438, March 1977.
59. Lyons, E. T., J. H. Drudge and S. C. Tolliver. Observations on the Development of *Strongyloides westeri* in Foals Nursing Dams Treated with Cambendazole or Thiabendazole. *Am. J. Vet. Res.* 38(6): 889-892, June 1977.



60. Lyons, E. T., J. H. Drudge and S. C. Tolliver. Critical Tests of the Antiparasitic Activity of Thiabendazole and Trichlorfon Sequentially Administered to Horses via Stomach Tube. *Am. J. Vet. Res.* 38(6): 721-723, June 1977.
61. Roeckel, I. and Lyons, E.T. Cutaneous Larva Migrans, an Occupational Disease. *Annals of Clinical and Laboratory Science* 7(5): 405-410, September/October 1977.
62. Drudge, J. H. and E.-T. Lyons. Methods in the Evaluation of Antiparasitic Drugs in the Horse. *Am. J. Vet. Res.* 38(10): 1581-1586, October 1977.
63. Lyons, E. T., J. H. Drudge and S. C. Tolliver. Critical Tests of Oxfendazole Against Internal Parasites of Horses. *Am. J. Vet. Res.* 38(12): 2049-2053, December 1977.
64. Drudge, J. H., E. T. Lyons and S. C. Tolliver. Critical and Controlled Tests and Clinical Trials with Suspension and Granule Formulations of the Anthelmintic, Fenbendazole, in the Horse. *J. Eq. Med. & Surg.* 2(1): 22-26, January 1978.
65. Bentley, O. E., S. J. Burns, D. R. McDonald, J. H. Drudge, E. T. Lyons, S. M. Kruckenberg and J. T. Vaughn. Safety Evaluation of Pyrantel Pamoate\* Administered with Trichlorfon\*\* as a Broad-Spectrum Anthelmintic in Horses. *VM/SAC* 73(1): 70, 7273, January 1978.
66. Drudge, J. H. and E. T. Lyons. Equine Parasites -- Problems and Control. *The Practicing Veterinarian* 49(3): 5-9, Winter 1978.
67. Drudge, J. H., E. T. Lyons and S. C. Tolliver. Controlled Test Evaluation of Fenbendazole Against Natural Infections of Lungworms in Calves. *VM/SAC* 73(5): 623-625, May 1978.
68. Lyons, E.T. and Keyes, M.C. Observations on the Infectivity of Parasitic Third-Stage Larvae of *Uncinaria lucasi* Stiles, 1901 (Nematoda:Ancylostomatidae) of Northern Fur Seals, *Callorhinus ursinus* Linn., on St. Paul Island, Alaska. *J. Parasitol.* 64(3): 454-458, June 1978.
69. Lyons, E. T., J. H. Drudge and S. C. Tolliver. Controlled Test of Paste Formulation of Cambendazole Against Natural Infections of *Dictyocaulus viviparus* in Calves. *VM/SAC* 73(7): 921-923, July 1978.
70. Drudge, J. H., E. T. Lyons, and S. C. Tolliver. Critical Tests of the Anthelmintic Febantel in the Horse: Activity of a Paste Formulation Alone or with a Trichlorfon Paste. *Am. J. Vet. Res.* 39(9): 1419-1421, September 1978.
71. Lyons, E.T., Keyes, M.C. and Conlogue, J. Activities of Dichlorvos or Disophenol against the Hookworm (*Uncinaria lucasi*) and Sucking Lice of Northern Fur Seal Pups (*Callorhinus ursinus*) on St. Paul Island, Alaska. *J. Wildlife Diseases* 14: 455-464, October 1978.

72. Drudge, J. H., E. T. Lyons, and S. C. Tolliver. Critical Tests of Febantel in the Horse: Antiparasitic Activity of a Suspension Alone or with Liquid Trichlorfon. *J. Equine Med. & Surg.* 3: 135-140, March, 1979.
73. Drudge, J. H., E. T. Lyons, and S. C. Tolliver. Benzimidazole Resistance of Equine Strongyles - Critical Tests of Six Compounds Against Population B. *Am. J. Vet. Res.* 49(4): 590-594, April 1979.
74. Knapp, F. W., V. Sukhapesna, E. T. Lyons, and J. H. Drudge. Development of Third Instar *Gasterophilus intestinalis* Artificially Removed from the Stomachs of Horses. *Ann. Entomol. Soc. Am.* 72(3): 331-333, May 1979.
75. Drudge, J. H., E. T. Lyons, S. C. Tolliver, and J. E. Kubis. Critical Tests and Clinical Trials on Oxibendazole in Horses with Special Reference to Removal of *Parascaris equorum*. *Am. J. Vet. Res.* 40(6): 758-761, June 1979.
76. Lyons, E.T. Parasite Drug Resistance: Question & Answer Section. *Mod. Vet. Prct.* 60(6): 433-434, June 1979.
77. Lyons, E.T., Kim, K. C. and Keyes, M.C. Variable Activity of Disophenol against Hookworms and Lice of Northern Fur Seal Pups on St. Paul Island, Alaska. *J. Wildl. Dis.* 16(1): 53-57, January 1980.
78. Lyons, E. T., J. H. Drudge, and S. C. Tolliver. Antiparasitic Activity of Parabendazole in Critical Tests in Horses. *Am. J. Vet. Res.* 41(1): 123-124, January, 1980.
79. Lyons, E. T., J. H. Drudge, and S. C. Tolliver. Experimental Infections of *Thelazia lacrymalis*: Maturation of Third-Stage Larvae from Face Flies (*Musca autumnalis*) in Eyes of Ponies. *J. Parasitol.* 66(1): 181-182, February, 1980.
80. Lyons, E. T., J. H. Drudge, and S. C. Tolliver. Age Distribution of Horses in Kentucky Infected with the Eye Worm *Thelazia lacrymalis*. *JAVMA* 176(3): 221-223, February, 1980.
81. Drudge, J. H. and E. T. Lyons. Drug Resistance in Parasites. *The Bloodhorse* 104(9): 1178-1179, March, 1980.
82. Drudge, J. H. and E. T. Lyons. Resistance of Equine Parasites to Anthelmintics. In Proceedings Am. Ass. Vet. Parasit., 25th Ann. Mtg., Page 6, July, 1980.
83. Drudge, J. H., E. T. Lyons, and S. C. Tolliver. Critical Tests of New Benzothiazole Anthelmintic Tioxidazole in the Horse. *Am. J. Vet. Res.* 41(9): 1383-1387, September, 1980.
84. Drudge, J. H., E. T. Lyons, S. C. Tolliver, and J. E. Kubis. Clinical Trials on Strongyle Control with Some Contemporary Anthelmintics. *Equine Pract.* 2(5): 23-26, 30-34, September-October, 1980.

85. Lyons, E. T., J. H. Drudge, and S. C. Tolliver. Antiparasitic Activity of Ivermectin in Critical Tests in Equids. *Am. J. Vet. Res.* 41(12): 2069-2072, December, 1980.
86. Drudge, J. H., E. T. Lyons, S. C. Tolliver, and J. E. Kubis. Clinical Trials with Fenbendazole and Oxibendazole for *Strongyloides westeri* Infection in Foals. *Am. J. Vet. Res.* 42 (3): 526-527, March, 1981.
87. Lyons, E. T., J. H. Drudge, and S. C. Tolliver. Oxibendazole: Anthelmintic Activity Horses. *Am. J. Vet. Res.* 42 (4): 685-686, April, 1981.
88. Drudge, J. H., E. T. Lyons, and S. C. Tolliver. Further Clinical Trials on Strongyle Control with Some Contemporary Anthelmintics. *Equine Practice* 3(3): 27-36, May-June, 1981.
89. Lyons, E. T., J. H. Drudge, and S. C. Tolliver. Haloxon: Critical Tests of Antiparasitic Activity in Equids. *Am. J. Vet. Res.* 42(6): 1043-1045, June, 1981.
90. Lyons, E. T., J. H. Drudge, and S. C. Tolliver. Apparent Inactivity of Several Antiparasitic Compounds against the Eyeworm *Thelazia lacrymalis* in Equids. *Am. J. Vet. Res.* 42(6): 1046-1047, June, 1981.
91. Lyons, E. T., J. H. Drudge, and S. C. Tolliver. Tioxidazole: Evaluation of Antiparasitic Activity of a Micronized Formulation in Horses by the Critical Test Method. *Am. J. Vet. Res.* 42(6): 1048-1049, June, 1981.
92. Lyons, E. T., S. C. Tolliver, J. H. Drudge, and D. E. LaBore. Ivermectin: Controlled Test of Anthelmintic Activity in Dairy Calves with Emphasis on *Dictyocaulus viviparus*. *Am. J. Vet. Res.* 42(7): 1225-1227, July, 1981.
93. Lyons, E. T., S. C. Tolliver, J. H. Drudge, R. W. Hemken, F. S. Button, Jr.. Efficacy of Levamisole Against Abomasal Nematodes and Lungworms in Dairy Calves: Preliminary Tests Indicating Reduced Activity for *Ostertagia ostertagi*. *Am. J. Vet. Res.* 42(7): 1228-1230, July, 1981.
94. Lyons, E. T., J. H. Drudge, S. C. Tolliver, R. W. Hemken, F. S. Button, Jr.. Preliminary Tests for Activity of Levamisole Against Natural Infections of Eyeworms in Dairy Calves. *VM/SAC* 76 (8): 1199-1201, August, 1981.
95. Drudge, J. H., E. T. Lyons, S. C. Tolliver, and J. E. Kubis. Clinical Trials of Oxibendazole for Control of Equine Internal Parasites. *Mod. Vet. Practice* 62 (9): 679-682, September, 1981.
96. Lyons, E.T., Hemken, R.W. and Button, F. S., Jr. Overwintering of Larvae of the Cattle Lungworm (*Dictyocaulus viviparus*) on Pasture in Kentucky. *JAVMA* 179(5): 456-457, September 1981.

97. Drudge, J. H., E. T. Lyons, and S. C. Tolliver. Parasite Control in Horses. VM/SAC 76(10): 1479-1489, October, 1981.
98. Lyons, E. T., J. H. Drudge, T. W. Swerczek, M. W. Crowe, and S. C. Tolliver. Prevalence of *Strongylus vulgaris* and *Parascaris equorum* in Kentucky Thoroughbreds at Necropsy. JAVMA 179(8): 818-819, October, 1981.
99. Lyons, E. T., J. H. Drudge, and S. C. Tolliver. Prevalence of Microfilariae (*Onchocerca* spp) in Skin of Kentucky Horses at Necropsy. JAVMA 179(9): 899-900, November, 1981.
100. Lyons, E. T., S. C. Tolliver, J. H. Drudge, R. W. Hemken, and F. S. Button, Jr. Reduced Activity of Levamisole against *Ostertagia ostertagi* in Dairy Calves. Mod. Vet. Pract. 62: 847-850, November, 1981.

**E. T. Lyons Publications – 101-200**

- 101. Lyons, E. T., J. H. Drudge, and S. C. Tolliver. Field Tests of Fenbendazole and Trichlorfon in Horses. VM/SAC 76(10): 1643-1646, November, 1981.**
- 102. Bigg, M.A. and Lyons, E.T. Clinical Observations on Three Northern Fur Seal Pups Treated with Dichlorvos. JAVMA 179(11): 1284-1286, December 1981.**
- 103. Newby, T. J., D. H. Bliss, R. A. Magonigle, T. R. Bello, J. H. Drudge, and E. T. Lyons. Field Test Evaluation of Pyrantel Pamoate Against Strongyle Infections in Horses. Equine Pract. 4(4): 26-34, April, 1982.**
- 104. Drudge, J. H., E. T. Lyons, S. C. Tolliver, and J. E. Kubis. Pyrantel in Horses: Clinical Trials with Emphasis on a Paste Formulation and Activity on Benzimidazole Resistant Small Strongyles. VM/SAC 77(6): 957-967, June, 1982.**
- 105. Lyons, E. T., S. C. Tolliver, and J. H. Drudge. Controlled Test of the Efficacy of a Feed Premix Formulation of Crufomate on the Parasites of the Gastrointestinal Tract and Lungs of Dairy Calves. Am. J. Vet. Res. 43(6): 1072-1074, June, 1982.**
- 106. Lyons, E. T., J. H. Drudge, and S. C. Tolliver. Ivermectin: Activity Against Larval *Strongylus vulgaris* and Adult *Trichostrongylus axei* in Experimental Infections in Ponies. Am. J. Vet. Res. 43(8): 1449-1450, August, 1982.**
- 107. Drudge, J. H., E. T. Lyons, and S. C. Tolliver. Controlled Tests of Pastes of Dichlorvos and Thiabendazole Against Induced *Strongyloides westeri* Infections in Pony Foals in 1973-1974. Am. J. Vet. Res. 43(9): 1675-1677, September, 1982.**
- 108. Lyons, E. T., J. H. Drudge, M. Zygmunt, J. L. Twehues, R. G. Downing, and H. H. Sutton. Clinical History of Lungworm Disease in a Foal. VM/SAC 77: 1533-1537, October, 1982.**
- 109. Drudge, J. H. and E. T. Lyons: *Strongylus vulgaris*: Variability of Lesions in Experimental Infections and Clinical Implications. Proc. Equine Colic Res. Symp., University of Georgia, College of Veterinary Medicine, Athens, September, 1982, pp 5-8.**
- 110. Drudge, J. H. and E. T. Lyons: Chapters on Strongylosis, Ascariasis, Bots, Strongyloidosis, *Oxyuris* Infection, and Cestode Infections. Current Therapy in Equine Medicine, Edited by N. E. Robinson, W. B. Saunders, Philadelphia, 1983, pp 262-289.**
- 111. Drudge, J. H. and E. T. Lyons: Ivermectin - A New Product for Parasite Control. Equine Data Line, September, 1983, page 4-5.**
- 112. Drudge, J. H., E. T. Lyons, T. W. Swerczek, and S. C. Tolliver. Cambendazole for Strongyle Control in a Pony Band: Selection of a Drug-Resistant Population of**

**Small Strongyles and Teratologic Implications. Am. J. Vet. Res. 44: 110-114, January, 1983.**

**113. Lyons, E.T. and Bigg, M.A. On the Longevity of Larvae of the Hookworm *Uncinaria lucasi* in Tissues of Northern fur Seals (*Callorhinus ursinus*). J. Parasitol. 69(2): 442-443, April 1983.**

**114. Lyons, E. T., S. C. Tolliver, J. H. Drudge, T. W. Swerczek, and M. W. Crowe: Parasites in Kentucky Thoroughbreds at Necropsy: Emphasis on Stomach Worms and Tapeworms. Am. J. Vet. Res. 44: 839-844, May, 1983.**

**115. Lyons, E. T., S. C. Tolliver, and J. H. Drudge: Critical Tests in Equids with Fenbendazole Alone or Combined with Piperazine: Particular Reference to Activity on Benzimidazole Resistant Small Strongyles. Vet. Parasitol. 12: 91-98, 1983.**

**116. Lyons, E. T., J. H. Drudge, and S. C. Tolliver: Controlled Tests with Fenbendazole in Equids: Special Interest on Activity of Multiple Doses Against Natural Infections of Migrating Stages of Strongyles. Am. J. Vet. Res. 44: 1058-1063, June, 1983.**

**117. Drudge, J. H., E. T. Lyons, S. C. Tolliver, and J. E. Kubis: Clinical Trials of 3 Benzimidazoles for *Strongyloides westeri* Infection in Foals. Mod. Vet. Pract. 64:414-417, May, 1983.**

**118. Lyons, E. T., J. H. Drudge, S. C. Tolliver, R. W. Hemken, F. S. Button, Jr.: Further Tests of Activity of Levamisole on *Ostertagia ostertagi* in Dairy Calves with Notes on Overwinter Survival of Gastrointestinal Helminths on Pastures. Am. J. Vet. Res. 44: 1760-1762, September, 1983.**

**119. Drudge, J. H., E. T. Lyons, and S. C. Tolliver: Critical Tests of Morantel-Trichlorfon Paste Formulation Against Internal Parasites of the Horse. Vet. Parasitol. 14: 55-64, 1984.**

**120. Drudge, J. H., E. T. Lyons, S. C. Tolliver, and J. E. Kubis: Febantel in Horses: Activity in Clinical Trials Featuring Benzimidazole-Resistant Small Strongyles. Equine Pract. 6: 19-28, January, 1984.**

**121. Drudge, J. H., S. C. Tolliver, and E. T. Lyons: Benzimidazole Resistance of Equine Strongyles - Critical Tests of Several Classes of Compounds Against Population B from 1977-1981. Am. J. Vet. Res. 45: 804-809, April, 1984.**

**122. Lyons, E. T., J. H. Drudge, S. C. Tolliver, T. W. Swerczek, and M. W. Crowe: Prevalence of *Anoplocephala perfoliata* and Lesions of *Draschia megastoma* in Thoroughbreds in Kentucky at Necropsy. Am. J. Vet. Res. 45: 996-999, May, 1984.**

**123. Klei, T. R., T. R. Bello, H. M. Clayton, J. A. DiPietro, J. H. Drudge, E. T. Lyons, J. N. Moore, J. O. D. Slocombe, and D. Stiller: Research Needs on Internal Parasites of Horses. Am. J. Vet. Res. 45: 1614-1618, May, 1984.**

124. Lyons, E.T. and Keyes, M.C.: Further Indication of Viability of the Hookworm (*Uncinaria lucasi*) for Several Years in Tissues of Northern Fur Seals (*Callorhinus ursinus*). J. Parasitol. 70(3): 459-460, June 1984.
125. Drudge, J. H., E. T. Lyons, and S. C. Tolliver: Controlled Tests of Activity of Ivermectin Against Natural Infections of Migratory Large Strongyles and Other Internal Parasites of Equids. Am. J. Vet. Res. 45(11): 2267-2271, November, 1984.
126. Drudge, J. H., E. T. Lyons, S. C. Tolliver, and J. E. Kubis: Gain Control of Strongyle Infections in Yearlings and Mares. VM/SAC 79: 1513-1517, December, 1984.
127. Lyons, E. T., S. C. Tolliver, J. H. Drudge, T. W. Swerczek, and M. W. Crowe: Prevalence of Some Internal Parasites Recovered at Necropsy in Kentucky of Thoroughbreds Born in 1982. Am. J. Vet. Res. 46: 679-683, March, 1985.
128. Lyons, E. T., J. H. Drudge, S. C. Tolliver, T. W. Swerczek, and M. W. Crowe: Lungworms (*Dictyocaulus arnfieldi*): Prevalence in Live Equids in Kentucky. Am. J. Vet. Res. 46(4): 921-923, April, 1985.
129. Drudge, J. H., E. T. Lyons, and S. C. Tolliver: Clinical Trials Comparing Oxfendazole with Oxibendazole and Pyrantel for Strongyle Control in Thoroughbreds Featuring Benzimidazole-Resistant Small Strongyles. Equine Pract. 7(3): 23-31, March, 1985.
130. Lyons, E. T., S. C. Tolliver, J. H. Drudge, T. W. Swerczek, and M. W. Crowe: Parasites in Lungs of Dead Equids in Kentucky: Emphasis on *Dictyocaulus arnfieldi*. Am J. Vet. Res. 46(4): 924-927, April, 1985.
131. Lyons, E. T., J. H. Drudge, and S. C. Tolliver: Ivermectin: Treating for Naturally Occurring Infections of Lungworms and Stomach Worms in Equids. Vet. Med. 80(5): 58-64. 1985.
132. Drudge, J. H., E. T. Lyons, S. C. Tolliver, and T. W. Swerczek: Use of Oxibendazole for Control of Cambendazole-Resistant Small Strongyles in a Band of Ponies: A Six Year Study. Am. J. Vet. Res. 46(12): 2507-2511, 1985.
133. Tolliver, S. C., E. T. Lyons, and J. H. Drudge: Species of Small Strongyles and Other Internal Parasites Recovered from Donkeys at Necropsy in Kentucky. Proc. Helminthol. Soc. Wash. 52(2): 260-265, 1985.
134. Lyons, E. T., S. C. Tolliver, J. H. Drudge, T. W. Swerczek, and M. W. Crowe: Eyeworms (*Thelazia lacrymalis*) in One- to Four-Year-Old Thoroughbreds at Necropsy in Kentucky (1984-1985). Am. J. Vet. Res. 47(2): 315-316, 1986.

135. Lyons, E. T., J. H. Drudge, and S. C. Tolliver: Fenbendazole in Equids: Further Controlled Tests with Emphasis on Activity of Multiple Doses Against Naturally Occurring Infections of Migratory Large Strongyles. *Am. J. Vet. Res.* 47(2): 317-321, 1986.
136. Lyons, E. T., J. H. Drudge, S. C. Tolliver, and T. W. Swerczek: Pyrantel Pamoate: Evaluating its Activity against Equine Tapeworms. *Vet. Med.* 81(3): 280-285, March, 1986.
- 137 Lyons, E. T., S. C. Tolliver, J. H. Drudge, T. W. Swerczek, and M. W. Crowe: *Onchocerca* spp: Frequency in Thoroughbreds at Necropsy in Kentucky. *Am. J. Vet. Res.* 47(4): 880-882, 1986.
138. Lyons, E. T., J. H. Drudge, and S. C. Tolliver: Activity of Ivermectin against Natural Infections by Abomasal Nematodes in Lambs in Controlled Tests: Evaluation of Equine and Bovine Injectable Formulations Administered Intraorally. *Am. J. Vet. Res.* 47(6): 1345-1346, June, 1986.
139. Drudge, J. H. and E. T. Lyons: Large Strongyles - Recent Advances. In Veterinary Clinics of North America Equine Pract. 2(2): 263-280 (R. P. Herd, editor; W. B. Saunders Co.) August, 1986.
140. Lyons, E. T., J. H. Drudge, and S. C. Tolliver: Prevalence of *Dictyocaulus arnfieldi* (Nematoda) in Equids and Clinical Problems with *Strongylus vulgaris* (Nematoda) Mainly in Donkeys on a Farm in Central Kentucky. *Proc. Helm Soc. Wash.* 53(2):251-253, 1986.
141. Lyons, E. T., J. H. Drudge, and S. C. Tolliver: The Ascaricidal Efficacy of Ivermectin Paste in Horses: As Good as Injectable? *Vet. Med.* 81(1):1062-1068, 1986.
142. Drudge, J. H. and E. T. Lyons: Internal Parasites of Equids with Emphasis on Treatment and Control. Hoechst-Roussel (Monograph), 26 pp, 1986.
143. Drudge, J. H. and E. T. Lyons: Eyeworms of Horses and Cattle (Thelaziasis). *The Merck Vet. Manual*, 6th Ed., p. 290-291, 1986.
144. Lyons, E. T., S. C. Tolliver, J. H. Drudge, T. W. Swerczek, and M. W. Crowe. Common Internal Parasites Found in Stomach, Large Intestine, and Cranial Mesenteric Artery of Thoroughbreds at Necropsy in Kentucky (1985-1986). *Am. J. Vet. Res.* 48(2):268-273, 1987.
145. Tolliver, S. C., E. T. Lyons, and J. H. Drudge. Prevalence of Internal Parasites in Horses in Critical Tests of Activity of Parasiticides Over a 28-Year Period (1956-1983) in Kentucky. *Vet. Parasit.* 23:273-284, 1987.



146. Lyons, Eugene T., J. Harold Drudge, and Sharon C. Tolliver. Epizootiology of Internal Parasites in Lambs and Ewes During the Periparturient Period in Kentucky in 1986. *Proc. Helm. Soc. Wash.* 54(2):233-236, 1987.
147. Lyons, Eugene T., J. Harold Drudge, and Sharon C. Tolliver. Infectivity of *Trichostrongylus axei* for *Bos taurus* Calves after 25 Years of Passages in Rabbits, *Oryctolagus cuniculus*. *Proc. Helm. Soc. Wash.* 54(2):242-244, 1987.
148. Lyons, E. T., J. H. Drudge, and S. C. Tolliver. Natural Infection with *Eimeria lueckarti*: Prevalence of Oocysts in Feces of Horse Foals on Several Farms in Kentucky During 1986. *Am. J. Vet. Res.* 49(1):96-98, 1988.
149. Lyons, E. T., J. H. Drudge, and S. C. Tolliver. Activity of Febantel on Natural Infections of Gastrointestinal Helminths in Lambs in a Controlled Test. *Am. J. Vet. Res.* 49(6):901-902, 1988.
150. Lyons, E. T., J. H. Drudge, and S. C. Tolliver. Verification of Ineffectual Activity of Ivermectin Against Adult *Onchocerca* spp in the Ligamentum Nuchae of Horses. *Am. J. Vet. Res.* 49(7):983-985, 1988.
151. Drudge, J. H., E. T. Lyons, S. C. Tolliver, S. R. Lowry, and E. H. Fallon. Piperazine Resistance in Population-B Equine Strongyles: A Study of Selection in Thoroughbreds in Kentucky from 1966 Through 1983. *Am. J. Vet. Res.* 49(7):986-994, 1988.
152. Lyons, E. T., S. C. Tolliver, J. H. Drudge, and T. W. Swerczek. Oxfendazole: Activity of a Two-Dose Regimen on Natural Infections of Internal Parasites of Equids, with Emphasis on Migrating Large Strongyles in Controlled Tests in 1986 and 1987. *Am. J. Vet. Res.* 49(11):1923-1927, 1988.
153. Dwyer, R.M., Powell, D., Lyons, E., Donahue, J.M., Roberts, A.W., and Osborne, M. The Aetiology of Infectious Diarrhoea in Thoroughbred Foals in Central Kentucky. *Eq. Vet. J. Suppl.* 5: 59-60, 1988.
154. Lyons, E. T., J. H. Drudge, S. C. Tolliver, T. W. Swerczek, and S. S. Collins. Determination of the Efficacy of Pyrantel Pamoate at the Therapeutic Dose Rate Against the Tapeworm *Anoplocephala perfoliata* in Equids Using a Modification of the Critical Test Method. *Vet. Parasit.* 31:13-18, 1989.
155. Drudge, J. H., E. T. Lyons, and S. C. Tolliver. Strongyles - An Update. *Equine Practice Parasitology* 11(43):43-49, 1989.
156. Lyons, Eugene T., J. Harold Drudge, and S. C. Tolliver. Activity of Fenbendazole and Oxfendazole Against Experimental Infections of *Trichostrongylus axei* in Dairy Calves. *Proc. Helm. Soc. Wash.* 56(1):33-34, 1989.

157. Lyons, E. T., J. H. Drudge, and S. C. Tolliver. Critical and Controlled Tests of Activity of a Macrocyclic Lactone (Compound F28249- $\alpha$ ) Against Natural Infections of Internal Parasites of Equids. *Am. J. Vet. Res.* 50(6):970-974, 1989.
158. Lyons, E. T., J. H. Drudge, and S. C. Tolliver. Controlled Test of Anthelmintic  $\alpha$ Activity of a Macrocyclic Lactone (Compound F28249- $\alpha$ ) in Lambs. *Am. J. Vet. Res.* 50(6):975-977, 1989.
159. Drudge, J. H. and E. T. Lyons: Internal Parasites of Equids with Emphasis on Treatment and Control. Hoechst-Roussel (Monograph), 26 pp, 1986 (revised 1989).
160. Drudge, J. H., E. T. Lyons, S. C. Tolliver, and E. H. Fallon. Phenothiazine in the Origin of Benzimidazole Resistance in Population-B Equine Strongyles. *Vet. Parasit.* 35:117-130, 1990.
161. Lyons, E. T., J. H. Drudge, and S. C. Tolliver. Prevalence of Some Internal Parasites Found (1971-1989) in Horses Born on a Farm in Central Kentucky. *Eq. Vet. Sci.* 10(2):99-107, 1990.
162. Lyons, E. T., J. H. Drudge, S. C. Tolliver, and D. E. Granstrom. Anthelmintic Resistance in Equids. In: Resistance of Parasites to Antiparasitic Drugs, J.C. Boray, P.J. Martin, and R.T. Roush, eds. Round Table Conference (VIIth Int. Cong. of Parasit), Paris, pp 67-80, August, 1990.
163. Dwyer, R.M., Powell, D.G., Roberts, W., Donahue, M. Lyons, E.T., Osborne, M. and Woode, G. A Study of the Etiology and Control of Infectious Diarrhea Among Foals in Central Kentucky. *Proc. 36th Ann. Conv. Am. Assoc. Eq. Pract.*, Lexington, KY, pp 337-355, 1990.
164. Granstrom, David E., Ralph C. Giles, Jr., Patricia A. Tuttle, Neil M. Williams, Kockanda B. Poonacha, Marie B. Petrites-Murphy, Robert R. Tramontin, Thomas W. Swerczek, Chuen B. Hong, Grant B. Rezabek, Eugene T. Lyons, and J. Harold Drudge. Immunohistochemical Diagnosis of Protozoan Parasites in Lesions of Equine Protozoal Myeloencephalitis. *J. Vet. Diagn. Invest.* 3:75-77, 1991.
165. Lyons, Eugene T., David E. Granstrom, J. Harold Drudge, and Sharon C. Tolliver. The Role of Intestinal Protozoa in Foal Diarrhea. *Vet. Med. (Eq. Pract.)* 86:193-194; 196-197, February, 1991.
166. Lyons, Eugene T., J. Harold Drudge, Sharon C. Tolliver, and David E. Granstrom. The Role of Intestinal Nematodes in Foal Diarrhea. *Vet. Med. (Eq. Pract.)* 86:320; 322-326; 328, March, 1991.
167. Lyons, Eugene T., Thomas W. Swerczek, J. Harold Drudge, and Sharon C. Tolliver, A Large *Draschia megastoma*-Related Lesion in a Thoroughbred. *Vet. Med.* 86:332-334, March, 1991.

168. Lyons, Eugene T., J. Harold Drudge, and Sharon C. Tolliver. Reflections on Equine Parasitology Research and Clinical Practice. *Comp. Cont. Educ.* 13(5):859-861, May, 1991.
169. Lyons, Eugene T., Sharon C. Tolliver, J. Harold Drudge, David E. Granstrom, Shelby Stamper, and Sandra S. Collins. Transmission of Some Internal Parasites in Horses Born in 1989 on a Farm in Central Kentucky. *J. Helm. Soc. Wash.* 58(2):213-219, 1991.
170. Lyons, Eugene T., Sharon C. Tolliver, J. Harold Drudge, Thomas W. Swerczek, and Shelby Stamper. Transmission of Gastrointestinal Parasites in Dairy Calves on Pasture in Central Kentucky from 1987 through 1989. *J. Helm. Soc. Wash.* 58(2):220-226, 1991.
171. Drudge, J. H., E. T. Lyons, and S. C. Tolliver. Resistance of Population-B Equine Strongyles to Thiabendazole, Oxfendazole, and Phenothiazine (1981-1987). *Am. J. Vet. Res.* 52(8):1308-1312, 1991.
172. Wise, W. E., J. H. Drudge, E. T. Lyons, and S. C. Tolliver. Controlling Internal Parasites of the Horse. *Vet 1 Bull., U.K. Coll. of Ag. Ext. Serv.*, 15 pp (revision of original publication 1972), October, 1991.
173. Lyons, E. T., J. H. Drudge, S. C. Tolliver, and S. Stamper. Controlled Tests on Activity of Contemporary Parasiticides on Natural Infections of Helminths in Lambs, with Emphasis on Strains of *Haemonchus contortus* Isolated in 1955. *Am. J. Vet. Res.* 53(1):91-96, 1992.
174. Lyons, E. T., J. H. Drudge, S. C. Tolliver, D. E. Granstrom, and S. Stamper. Evaluation of Exclusive Use of Ivermectin Vs Alternation of Antiparasitic Compounds for Control of Internal Parasites of Horses. *Am. J. Vet. Res.* 53(1):97-104. January, 1992.
175. Lyons, Eugene T., Sharon C. Tolliver, J. Harold Drudge, David E. Granstrom, and Shelby Stamper. Activity of Praziquantel Against *Anoplocephala perfoliata* (Cestoda) in Horses. *J. Helm. Soc. Wash.* 59(1):1-4, 1992.
176. Lyons, E. T., S. C. Tolliver, J. H. Drudge, D. E. Granstrom, S. S. Collins, and S. Stamper. Critical and Controlled Tests of Activity of Moxidectin (CL 301,423) against Natural Infections of Internal Parasites of Equids. *Vet. Parasit.* 41:255-284, 1992.
177. Lyons, Eugene T., Sharon C. Tolliver, J. Harold Drudge, and Shelby Stamper. Internal Parasites in a Small Flock of Lambs and Ewes During the Periparturient Period in 1987 in Kentucky. *Trans. Ky. Acad. Sci.* 53(1-2):15-18, 1992.
178. Lyons, Eugene T., Sharon C. Tolliver and Shelby Stamper. Observations on the Common Horse Bot (*Gasterophilus intestinalis*) (Diptera:Gasterophilidae):

**Incomplete Molting of a Second Instar Specimen. Trans. Ky Acad. Sci. 53(1-2): 19-25, 1992.**

**179. Lyons, E. T., J. H. Drudge, and S. C. Tolliver. Review of Prevalence Surveys of Internal Parasites Recovered (1951-1990) from Horses at Necropsy in Kentucky. Eq. Vet. Sci. (12(1):916, 1992.**

**180. Drudge, J.H. and Lyons, E.T. Internal Parasites and their Control (Chapt. 7). In: The Health of Horses (D.G. Powell and S.G. Jackson, eds.), Longman Scientific and Technical, Essex, England, pp. 182-199, 1992.**

**181. Berry, Douglass B. II, Eugene T. Lyons, J. Harold Drudge, Sharon C. Tolliver, David E. Granstrom, and Karen J. McDowell. Observations in Horses on the Effects of Ivermectin Treatment on Strongyle Egg Production and Larval Development. J. Helm. Soc. Wash. 60(1):89-92, 1993.**

**182. Rezabek, Grant B., Giles, Ralph C. and Lyons, Eugene T. *Echinococcus granulosus* Hydatid Cysts in the Livers of Two Horses. J. Vet. Diag. Invest. 5: 122-125, 1993.**

**183. Lyons, E. T., J. H. Drudge, S. C. Tolliver, and S. Stamper. Controlled Tests of Activity of Several Antiparasitic Compounds Against Natural Infections of *Haemonchus contortus* and Other Helminths in Lambs from a Flock Established in 1962. Am. J. Vet. Res. 54(3):406-410, March, 1993.**

**184. Tolliver, S. C., E. T. Lyons, J. H. Drudge, S. Stamper, and D. E. Granstrom. Critical Tests of Thiabendazole, Oxibendazole, and Oxfendazole for Drug Resistance of Population-B Equine Small Strongyles (1989 and 1990). Am. J. Vet. Res. 54(6):908-913, 1993.**

**185. Lyons, Eugene T., J. Harold Drudge, Sharon C. Tolliver, and David E. Granstrom. Strongyle Control After Multiyear Use of Ivermectin in Horses on a Farm in Central Kentucky. J. Helm. Soc. Wash. (A Research Note) 60(2):259, 1993.**

**186. Lyons, Eugene T., Sharon C. Tolliver, J. Harold Drudge, David E. Granstrom, and Sandra S. Collins. Natural Infections of *Strongyloides westeri*: Prevalence in Horse Foals on Several Farms in Central Kentucky in 1992. Vet. Parasit. 50:101-107, 1993.**

**187. Lyons, E. T., J. H. Drudge, S. C. Tolliver, T. W. Swerczek, S. Stamper, and D. E. Granstrom. Control of Cambendazole-Resistant Small Strongyles (Population S) with Oxibendazole in a Pony Band: An 8 Year Field Test (1984-1992). Vet. Parasit. 52:271-277, 1994.**

**188. Lyons, E. T., S. C. Tolliver, S. Stamper, J. H. Drudge, D. E. Granstrom, and S. S. Collins. Transmission of Some Species of Internal Parasites in Horses Born in 1990, 1991, and 1992 in the Same Pasture on a Farm in Central Kentucky. Vet. Parasit. 52:257-269, 1994.**

189. Lyons, E.T. Vertical Transmission of Nematodes: Emphasis on *Uncinaria lucasi* in Northern Fur Seals and *Strongyloides westeri* in Equids. J. Helminthol. Soc. Wash. 61(2): 169-178, 1994.
190. Benton, R.E. and Lyons, E.T. Survey in Central Kentucky for Prevalence of *Anoplocephala perfoliata* in Horses at Necropsy. Vet. Parasitol. 55: 81-86, 1994.
191. Lyons, Eugene T., Thomas W. Swerczek, Sharon C. Tolliver, J. Harold Drudge, Shelby Stamper, David E. Granstrom, and Robert E. Holland. A Study of Natural Infections of Encysted Small Strongyles in a Horse Herd in Kentucky. Vet. Med. 89:1146-1149; 1152-1155, 1994.
192. Lyons, E. T., S. C. Tolliver, S. Stamper, J. H. Drudge, D. E. Granstrom, and S. S. Collins. Activity of Praziquantel (0.5 mg kg<sup>-1</sup>) Against *Anoplocephala perfoliata* (Cestoda) in Equids. Vet. Parasit. 56:255-257, 1995.
193. Lyons, E.T., Patterson, D.J., Johns. J.T. Giles, R.C., Tolliver, S.C., Collins, S.S. and Stamper, S. Survey for Internal Parasites in Cattle in Kentucky (1993). Vet. Parasitol. 58: 163-168, 1995.
194. Lyons, Eugene T., Tolliver, Sharon C. and Stamper, Shelby. Nematodes Found in the Opossum (*Didelphis virginiana*) and Four Other Species of Mammals in Central Kentucky in 1991. Trans. Ky. Acad. Sci. 56(3-4): 128-133, 1995.
195. Lyons, Eugene T., Bernard, William V., Hong, Chuen B., and Swerczek, Thomas W. The Pathogenicity of Small Strongyle Larvae in Thoroughbred Yearlings on a Kentucky Farm. Vet. Med. 91: 466-472, 1996.
196. Lyons, Eugene T., J. Harold Drudge, Sharon C. Tolliver and Sandra S. Collins. Some Aspects of Experimental Infections of *Trichostrongylus axei* in Domestic Rabbits (*Oryctolagus cuniculus*). J. Helminthol. Soc. Wash. 63(2): 275-277, 1996.
197. Lyons, E.T. and Tolliver, S.C. Transmission of Helminths of Lambs on a Farm in Central Kentucky in 1993 and 1994. Trans. Ky. Acad. Sci. 57(2): 92-100, 1996..
198. Lyons, E.T., Tolliver, S.C., Drudge, J.H., Stamper, S., Swerczek, T.W., and Granstrom, D.E. Critical Test Evaluation (1977-1992) of Drug Efficacy against Endoparasites Featuring Benzimidazole-Resistant Small Strongyles (Population S) in Shetland Ponies. Vet. Parasitol. 66: 67-73, 1996.
199. Lyons, E.T., Tolliver, S.C., Drudge, J.H., Stamper, S., Swerczek, T.W., and Granstrom, D.E. A Study (1977-1992) of Population Dynamics of Endoparasites Featuring Benzimidazole-Resistant Small Strongyles (Population S) in Shetland Ponies. Vet. Parasitol. 66: 75-86, 1996.

**200. Lyons, E.T., Swerczek, T.W., Tolliver, S.C., and Drudge, J.H. Natural Superinfection of *Parascaris equorum* in a Stall-Confined Orphan Horse Foal. Vet. Parasitol. 66: 119-123, 1996.**

E. T. Lyons Publications - 201 -

201. Lyons, E.T., Tolliver, S.C., Collins, S.S., Drudge, J.H., and Granstrom, D.E. Transmission of Some Species of Internal Parasites in Horses Born in 1993, 1994, and 1995 on the Same Pasture on a Farm in Central Kentucky. *Vet. Parasitol.* 70: 225-240, 1997.
202. Lyons, Eugene T., Tolliver, Sharon C., McDowell, Karen J., and Drudge, J. Harold. Field Test of Activity of the Low Dose Rate (2.64 mg/kg) of Pyrantel Tartrate on *Anoplocephala perfoliata* in Thoroughbreds on a Farm in Central Kentucky. *J. Helminthol. Soc. Wash.* 64: 283-284, 1997.
203. Lyons, Eugene T., Tolliver, Sharon C., and Drudge, J. Harold. Further Evaluation of Pyrantel Pamoate at the Therapeutic Dose Rate (6.6 mg base/kg) against *Anoplocephala perfoliata* in Horses. *J. Helminthol. Soc. Wash.* 64(2): 285-287, 1997.
204. Lyons, Eugene T., Tolliver, Sharon C., McDowell, Karen J., And Drudge, J. Harold. Atypical External Characteristics of *Anoplocephala perfoliata* in Equids in Central Kentucky. *J. Helminthol. Soc. Wash.* 64(2): 287-291, 1997.
205. Brown, Cynthia A., Mackay, Robert J., Chandra, Sundeep, Davenport, Douglas and Lyons, Eugene T. Overwhelming Strongyloidosis in a Foal. *JAVMA* 211(3): 333-334, 1997.
206. Lyons, E.T., DeLong, Robert, L., Melin, Sharon R. and Tolliver, Sharon C. Uncinariasis in Northern Fur Seal and California Sea Lion Pups from California. *J. Wildf. Dis.* 33(4): 848-852, 1997.
207. Lyons, E.T., Tolliver, S.C., Drudge, J.H., and Collins, S.S. Tapeworms in Horses. *Vet-32 Bull., University of Kentucky, Coll. of Ag., Coop. Ext. Serv.*, 7 pp, 1997.
208. Lyons, E.T., Tolliver, S.C., McDowell, K.J., and Drudge, J.H. External Anomalies of *Anoplocephala perfoliata* from Remainder of a Collection from Equids in Kentucky with Notes on *Anoplocephala magna*. *Vet. Parasitol.* 76: 159-161, 1998.
209. Lyons, E.T., Tolliver, S.C., and Ennis, L.E. Efficacy of Praziquantel (0.25 mg kg<sup>-1</sup>) on the Cecal Tapeworm (*Anoplocephala perfoliata*) in Horses. *Vet. Parasitol.* 78: 287-289, 1998.
210. Tolliver, S.C., Swerczek, T.W. and Lyons, E.T. Recovery of *Oxyuris equi* Eggs from Hemomelasma Ilei Lesions on Ileal Serosa of a Thoroughbred Yearling Filly. *Vet. Parasitol.* 80: 353-357, 1999.

211. Lyons, E.T., Tolliver, S.C. and Drudge, J.H. Historical perspective of cyathostomes: prevalence, treatment and control programs. *Vet. Parasitol.* 85: 97-112., 1999.
212. Tolliver, S.C. (Photographs by E.T. Lyons). A Practical Method of Identification of North American Cyathostomes (Small Strongyles) in Equids in Kentucky. Univ. Ky. Ag. Exp. Sta. Bull. No. SR-2000-1, Monograph, 37 pp., 2000.
213. Lyons, E.T., Spraker, T.R., Olson, K.D., Tolliver, S.C. and Bair, H.D. Prevalence of hookworms (*Uncinaria lucasi* Stiles) in northern fur seal (*Callorhinus ursinus* Linnaeus) pups on St. Paul Island, Alaska, U.S.A.: 1986-1999. *Comp. Parasitol.* 67: 218-223, 2000.
214. Bair, H.D., Lyons, E.T., Swerczek, T.W. and Tolliver, S.C. Atypical specimens of helminth parasites (*Anoplocephala perfoliata* and *Thelazia lacrymalis*) of horses in Kentucky, U.S.A. *Comp. Parasitol.* 67: 258-260, 2000.
215. Lyons, E.T., Swerczek, T.W., Tolliver, S.C., Bair, H.D., Drudge, J.H. and Ennis, L.E. Prevalence of selected species of internal parasites in equids at necropsy in central Kentucky (1995-1999) *Vet. Parasitol.* 92: 51-62, 2000.
216. Nadler, S.A., Adams, B.J., Lyons, E.T., DeLong, R.L. and Melin, S.R. Molecular and morphometric evidence for separate species of *Uncinaria* (Nematoda: Ancylostomatidae) in California sea lions and northern fur seals: Hypothesis testing supplants verification. *J. Parasitol.* 86: 1099-1106, 2000.
217. Swerczek, T.W. and Lyons, E.T. Paragonimiasis in a cat in Kentucky. *Vet. Med.* 95: 909-911, 2000.
218. Lyons, E.T., DeLong, R.L., Gulland, F.M., Melin, S.R., Tolliver, S.C. and Spraker, T.R. Comparative biology of *Uncinaria* spp. in the California sea lion (*Zalophus californianus*) and the northern fur seal (*Callorhinus ursinus*) in California. *J. Parasitol.* 86: 1348-1352, 2000.
219. Lyons, E.T., Drudge, J.H. and Tolliver, S.C. Larval Cyathostomiasis. *Vet. Clin. N. Amer.: Equine Pract.* 16: 501-513, 2000.
220. Lyons, E.T., Tolliver, S.C., Drudge, J.H., Collins, S.S. and Swerczek, T.W. Continuance of studies on Population S benzimidazole-resistant small strongyles in Shetland pony herd in Kentucky: effect of pyrantel pamoate (1992-1999). *Vet. Parasitol.* 94: 247-256, 2001.
221. Lyons, E.T., Tolliver, S.C., Collins, S.S., and Drudge, J.H. Transmission of endoparasites in horse foals on the same pasture on a farm in central Kentucky (1996-1999). *Vet. Parasitol.* 97: 113-121, 2001.



222. Lyons, E.T., Melin, S.R., DeLong, R.L., Orr, A.J., Gulland, F.M., and Tolliver, S.C. Current prevalence of adult *Uncinaria* spp. in northern fur seal (*Callorhinus ursinus*) and California sea lion (*Zalophus californianus*) pups on San Miguel Island, California, with notes on the biology of these hookworms. *Vet. Parasitol.* 97: 309-318, 2001.
223. Patterson-Kane, Janet C., Eckerlin, Ralph P., Lyons, Eugene T., and Jewell, Melissa A. Strongyloidiasis in a Cope's grey tree frog (*Hyla chrysoscelis*). *J. Zoo. Wdlf. Med.* 32:106-110, 2001.
223. Lyons, E. T. Habronemiasis of horse. *In* Service, M. W. (ed): *Encyclopedia of Arthropod-transmitted Infections of Man and Domestic Animals*, CABI Publishing, New York, pp 198-200, 2001.
225. Lyons, E. T. Thelaziasis. *In* Service, M. W. (ed): *Encyclopedia of Arthropod-transmitted Infections of Man and Domestic Animals*, CABI Publishing, New York, pp 502-504, 2001.
226. Lyons, E. T. and Swerczek, T. W. Central nervous system disorder in a woodchuck (*Marmota monax*) in central Kentucky caused by a nematode in the genus *Baylisascaris*. *J. Ky. Acad. Sci.* 68(2):142-144, 2001.
227. Duncan, J. L., Abbott, E. M., Arundel, J. H., Eysker, M., Klei, T. R., Krecsek, R. C., Lyons, E. T., Reinemeyer, C., and Slocombe, J. O. D. World Association for the Advancement of Veterinary Parasitology (WAAVP): Second edition of guidelines for evaluating the efficacy of equine anthelmintics. *Vet. Parasitol.* 103:1-18, 2002.
228. Patterson-Kane, Janet, Patton, Sharon, Lyons, Eugene, and Jewell, Melissa. Gastritis Associated with Encysted Abbreviated Parasites in a Black-throated Monitor Lizard (*Varanus exanthematicus ionidesi*). *J. Herp. Med. and Surg.* 12:38-40, 2002.
229. Lyons, E. T., Swerczek, T. W., and Tolliver, S. C. Parasitologic examination of the eyes, esophagus, lungs, rumen, and feces of cattle and small intestine of horses at necropsy in central Kentucky in 2000 and 2001. *Compar. Parasitol.* 70:55-59, 2003.
230. Lyons, E. T., DeLong, R. L., Spraker, T. R., Melin, S. R., and Tolliver, S. C. Observations in 2001 on hookworms (*Uncinaria* spp.) in otariid pinnipeds. *Parasitol. Res.* 89:503-505, 2003.
231. Spraker, T. R., Lyons, E. T., and Tolliver, S. C. Ascaridoid nematodes and associated lesions in stomachs of subadult male northern fur seals (*Callorhinus ursinus*) on St. Paul Island, Alaska: (1987-1999). *J. Vet. Diagn. Invest.* 15:432-437, 2003.

232. Lyons, E. T. and Tolliver, S. C. Field test data on small strongyles in evaluation of activity of fenbendazole given once a day for 5 consecutive days to thoroughbred yearlings on two farms in Kentucky in 2002 and 2003. *Parasitol. Res.* 91:312-315, 2003.
233. Lyons, Eugene. Population-S benzimidazole- and tetrahydropyrimidine-resistant small strongyles in a pony herd in Kentucky (1977-1999): effects of anthelmintic treatment on the parasites as determined in critical tests. *Parasitol. Res.* 91:407-411, 2003.
234. Lyons, E.T. and Tolliver, S.C. Prevalence of parasite eggs (*Strongyloides westeri*, *Parascaris equorum*, and strongyles) and oocysts (*Eimeria leuckarti*) in the feces of Thoroughbred foals on 14 farms in central Kentucky in 2003. *Parasitol. Res* 92:400-404, 2004.
235. Spraker, T.R., Lyons, E.T., DeLong, R.L., and Zink, R.R. Penetration of the small intestine of a California sea lion (*Zalophus californianus*) pup by adult hookworms (*Uncinaria* spp). *Parasitol. Res.* 92:436-438, 2004.
236. Kaplan, Ray M., Klei, Tom R., Lyons, Eugene T., Lester, Guy, Courtney, Charles H., French, Dennis D. Tolliver, Sharon C., Vidyashankar, Anand, N., and Zhao, Ying. Prevalence of Anthelmintic resistant cyathostomes on horse farms. *JAVMA* 225: 903-910, 2004.
237. Lyons, E.T. and DeLong, R.L. Photomicrographic images of some features of *Uncinaria* spp (Nematoda: Ancylostomatidae) from otariid pinnipeds. *Parasitol. Res.* 95: 346-352, 2005.
238. Lyons, E.T. Historic importance of some aspects of research by O. Wilford Olsen on hookworms (*Uncinaria lucasi*) in northern fur seals (*Callorhinus ursinus*) and Steller sea lions (*Eumatopias jubatus*) in 1951 on St. Paul Island, Alaska. *Parasitol. Res.* 95: 353-357, 2005.
239. Tandon, R., Lyons, E. T., Tolliver, S. C., and Kaplan, R. M. Effect of moxidectin selection on the genetic variation within *Cylicocyclus nassatus* based on amplified fragment length polymorphism (AFLP). *Int. J. Parasitol.* 35: 813-819, 2005.
240. Lyons, E. T., DeLong, R. L., Spraker, T. R., Melin, S. R., Laake, J. L., and Tolliver, S. C. Seasonal prevalence and intensity of hookworms (*Uncinaria* spp.) in California sea lion (*Zalophus californinus*) pups born in 2002 on San Miguel Island, California. *Parasitol. Res.* 96: 127-132, 2005.

241. Acevedo-Whitehouse, K, Spraker, T. R., Lyons, E., Melin, S. R., Gulland, F., DeLong, R. L., and Amos, W. Contrasting effects of heterozygosity on survival and hookworm resistance in California sea lion pups. *Molecular Ecology* 15: 1973-1982, 2006.
242. Castinel, A., Duignan, P. J., Pomroy, W. E., Lyons, E. T., Nadler, S.A., Dailey, M. D., Wilkinson, L. S., and Chilvers, B. L. First report and characterization of adult *Uncinaria* spp. in New Zealand sea lion (*Phocarctos hookeri*) pups from the Auckland Islands, New Zealand. *Parasitol. Res.* 98: 304-309, 2006.
243. Lyons, E. T., Tolliver, S. C., and Collins, S. S. Field studies on endoparasites of Thoroughbred foals on seven farms in central Kentucky in 2004. *Parasitol. Res.* 98: 496-500, 2006.
244. Lyons, E. T., Tolliver, S. C., and Collins, S. S. Prevalence of large endoparasites at necropsy in horses infected with Population B small strongyles in a herd established in Kentucky in 1966. *Parasitol. Res.* 99: 114-118, 2006.
245. Bryant, U. K., Lyons, E. T., Bain, F. T. and Hong, C. B. *Halicephalobus gingivalis*-associated meningoencephalitis in a Thoroughbred foal. *J. Vet. Diag. Invest.* 18: 612--615, 2006.
246. Lyons, E. T., Tolliver, S. C., Drudge, J. H., and Coleman, R. J. Controlling Internal Parasites of the Horse. *Vet. 1*, Revised 2006.
247. Lyons, E. T., Tolliver, S. C., Drudge, J. H., and Collins, S. S. Tapeworms in Horses. *Vet* 32, Revised 2006.
248. Lyons, E. T., Tolliver, S. C., Rathgeber, R. A., and Collins, S. S. Parasite field study in central Kentucky on Thoroughbred foals (born in 2004) treated with pyrantel tartrate daily and other parasiticides periodically. *Parasitol. Res.* 100: 473-478, 2007.
249. Castinel, A., Duignan, P. J., Lyons, E. T., Pomroy, W. E., Lopez-Villalobos, N., Wilkinson, L. S., Chilvers, B. L., Gibbs, N. Epidemiology of hookworm (*Uncinaria* spp) infection in New Zealand (Hooker's) Sea Lions (*Phocarctos hookeri*) pups on Enderby Island, Auckland Islands (New Zealand) during the breeding seasons from 1999/2000 to 2004/2005. *Parasitol. Res.* 101: 53-62, 2007.
250. Spraker, T. R., DeLong, R. L., Melin, S. R., and Lyons, E. T. Hookworm enteritis with bacteremia in California sea lion pups on San Miguel Island. *J. Wildlife Dis.* 43: 179-188, 2007.

251. Lyons ET., Tolliver SC. Collins, S.S. Study (1991 to 2001) of drug-resistant Population B small strongyles in critical tests in horses in Kentucky at the termination of a 40-year investigation. *Parasitol. Res.* 101:689-701, 2007.
252. Lyons ET, Tolliver SC, Ionita M, Lewellen A, Collins SS. Field studies indicating reduced activity of ivermectin on small strongyles in horses on a farm in Central Kentucky. *Parasitol Res.* 103:209-215, 2008
253. Lyons ET, Tolliver SC, Ionita M, Collins SS. Evaluation of parasiticidal activity of fenbendazole, ivermectin, oxbendazole, and pyrantel pamoate in horse foals with emphasis on ascarids (*Parascaris equorum*) in field studies on five farms in Central Kentucky in 2007. *Parasitol Res.* 103:287-291, 2008.
- ☑
254. Ionita M, Varela MG, Lyons ET, Spraker TR, Tolliver SC. Hookworms (*Uncinaria lucasi*) and acanthocephalans (*Corynosoma* spp. and *Bolbosoma* spp.) found in dead northern fur seals (*Callorhinus ursinus*) on St. Paul Island, Alaska in 2007. *Parasitol Res.* 103:1025-1029, 2008
255. Lyons ET, Tolliver SC, Collins SS. Probable reason why small strongyle EPG counts are returning “early” after ivermectin treatment of horses on a farm in Central Kentucky. *Parasitol. Res.* 104:569-574, 2009
256. Lyons ET, Ionita M, Tolliver SC. Important Gastrointestinal Parasites of Equids. In *Equine Reproduction*, 2<sup>nd</sup> edition. Angus McMillan , editor (accepted for publication June 12, 2008)
257. Lyons, ET, Tolliver, S.C. Some Historic Aspects of Small Strongyles and Ascarids in Equids Featuring Drug Resistance with Notes on Ovids-Emphasis on Research at the University of Kentucky. SR-102 (Bulletin) Agricultural Experiment Station, University of Kentucky College of Agriculture, Lexington, KY, 40546 (2009)
258. Yeargan MR, Lyons ET, Kania SA, Patton S, Breathnach CC, Horohov DW, Howe DK. Incidental isolation of *Setaria equina* microfilariae in preparations of equine peripheral blood mononuclear cells. *Vet Parasitol.* 161(1-2):142-145. 2009.
259. DeLong, R.L., Orr, A .J., Jenkinson, R.S., Lyons, E.T. Treatment of northern fur seal (*Callorhinus ursinus*) pups with ivermectin reduces hookworm-induced mortality. *Marine Mammal Science.* 25 (4):944-948. 2009.
260. Ionita, Mariana, Howe, Daniel K, Lyons, Eugene T., Tolliver, Sharon C., Kaplan, Ray M. Mitrea, Ioan Liviu, Yeargan, Michelle. Use of a reverse line blot assay to survey small strongyle (Strongylida: Cyathostominae) populations in horses before and after treatment with ivermectin. *Vet. Parasitol* (In Press; published On Line 1 December, 2009)

**CURRICULUM VITAE**

**James N. MacLeod**

**Personal**

Home Address: 624 McGee Lane  
Versailles, Kentucky 40383

Office Address: Gluck Equine Research Center  
University of Kentucky  
Lexington, Kentucky 40546-0099

Date of Birth: January 9, 1959

Place of Birth: Wilmington, Delaware

Citizenship: U.S.A.

Marital Status: Married - Kathleen D. MacLeod

Children: Erin Lindsay MacLeod, born 2-21-95

Telephone: 859-257-4757, extension 81099 (Office)  
859-257-8542 (FAX)  
859-879-6413 (Home)

Email: jnmacleod@uky.edu

**Education**

1980 University of Delaware, College of Agricultural Sciences, B.S., magna cum laude, with distinction.

1984 University of Pennsylvania, School of Veterinary Medicine, V.M.D.

1990 University of Pennsylvania, Faculty of Arts and Sciences, Ph.D.

1992 University of Pennsylvania, School of Medicine, Endocrine Fellowship.

**Academic Positions**

1984-1988 Research Assistant (doctoral thesis research), University of Pennsylvania, College of Arts and Sciences - Biochemistry, Philadelphia, Pennsylvania.

1988-1992 Research Fellow, University of Pennsylvania, School of Medicine and the Howard Hughes Medical Institute, Philadelphia, Pennsylvania.

1992-1999 Assistant Professor of Molecular Genetics, James A. Baker Institute for Animal Health, College of Veterinary Medicine, Cornell University, Ithaca, New York.

1999-2003 Associate Professor of Molecular Genetics, James A. Baker Institute for Animal

- Health, College of Veterinary Medicine, Cornell University, Ithaca, New York.
- 2003-present Adjunct Associate Professor of Molecular Genetics, Department of Biomedical Sciences, College of Veterinary Medicine, Cornell University, Ithaca, New York.
- 2003-present Professor of Veterinary Science, College of Agriculture, University of Kentucky, Lexington, Kentucky.
- 2003-present John S. and Elizabeth A. Knight Chair, Maxwell H. Gluck Equine Research Center, University of Kentucky, Lexington, Kentucky.
- 2007-present Professor of Orthopaedic Surgery, College of Medicine, University of Kentucky, Lexington, Kentucky.
- 2008-present Director of the Equine Initiative, College of Agriculture, University of Kentucky, Lexington, Kentucky.

### **Clinical Appointments**

- 1985-1986 Regulatory Veterinarian, Delaware Racing Association (Thoroughbred horse racing), Wilmington, Delaware.
- 1991-1992 Associate Veterinarian, Burl-Moor-Driben Animal Hospital (small animal private practice - relief work), Moorestown, New Jersey.

### **Medical Licensure (inactive status)**

Maryland (2761)  
 New Jersey (VN 02423)  
 Pennsylvania (BV-005573-L)

### **Awards**

- 1978 Agriculture College Scholar
- 1979 Alpha Zeta Prize
- 1979 Alpha Zeta Honor Society
- 1980 University of Delaware Panel of Scholars by Major
- 1980 American Society of Animal Science Scholarship Award
- 1980 Phi Kappa Phi Honor Society
- 1984 Phi Zeta Honor Society
- 1984 Student Chapter of the American Veterinary Medical Association Prize
- 1986 Phi Zeta Research Award
- 1992 Dorothy Donnelley Faculty Development Award
- 1993 Marilyn M. Simpson Career Development Award
- 1998 Pfizer Award for Research Excellence
- 2008 Dickson Professor of Equine Science and Management

## **Patents**

Mobile Swivel and Tether Device for Attachment to Laboratory Animals, Patent No. 4,756,770, issued July 12, 1988, assigned to the University of Pennsylvania.

Canine Erythropoietin Gene and Recombinant Protein, No. 6,696,411, issued February 24, 2004, assigned to Cornell University.

## **Grants and Fellowships**

### **Research Grants and Fellowships**

- 1980-1986      Veterinary Medical Scientist Training Program. Department of Health and Human Services - Public Health Service, National Institutes of Health: 5 T32 GM07170.
- 1987-1988      Advanced Predoctoral Fellowship in Pharmacology/Toxicology, Pharmaceutical Manufacturers Association Foundation, Inc.
- 1988-1989      Postdoctoral Training in Molecular Genetic Research. University of Pennsylvania, School of Medicine, Department of Human Genetics. National Institute of General Medical Sciences - National Institutes of Health: 1 T32 GM08252.
- 1989-1992      Department of Health and Human Services - Public Health Service, National Institutes of Health: 1 F32 DK/AR08357 (Individual National Research Service Award), Tissue-Specific Expression of the Human GH-Variant Gene.
- 1994-1995      Consolidated Research Grant Program, Cornell University, College of Veterinary Medicine, Cloning and Expression of the Canine Erythropoietin Gene, Principal Investigator, Total direct support: \$49,624.
- 1994-1995      Harry M. Zweig Memorial Fund for Equine Research. Transcriptional Response of Equine Articular Cartilage Chondrocytes to Corticosteroids, Principal Investigator, Total direct support: \$71,000.
- 1994-1995      Travers Committee, Inc. The response of equine articular cartilage chondrocytes to corticosteroids - an investigation at the molecular level, Co-Investigator (Susan L. Fubini, PI), Total direct support: \$8,750.
- 1995-1996      Collie Club of America Foundation, Inc. Clinical Test to Measure Canine Erythropoietin, Principal Investigator, Total direct support: \$2,000.
- 1995-1998      Grayson-Jockey Club Research Foundation, Inc. Molecular Mechanisms Linking Synovitis to Changes in Cartilage Matrix Proteins, Principal Investigator, Total direct support: \$133,757.
- 1995-1998      Morris Animal Foundation. Clinical Efficacy and Safety of Recombinant Canine Erythropoietin, Principal Investigator, Total direct support: \$79,796.

- 1997-2000 Arthritis Foundation. Cartilage-Specific Fibronectin Isoform and Osteoarthritis, Co-Principal Investigator (Nancy Burton-Wurster, Co-PI), Total direct support: \$200,149.
- 1997-2002 Department of Health and Human Services - Public Health Service, National Institutes of Health RO1 AR44340. Cartilage-Specific Fibronectin Isoform, Principal Investigator, Total direct support: \$871,506.
- 1999-2002 Pfizer, Inc. Clinical Efficacy and Safety of Recombinant Canine Erythropoietin, Principal Investigator, Total direct support: \$98,963.
- 1999-2000 Alumni Grants Fund, Cornell University. Development of an Internet-Based Program for Data Collection in Multicenter Studies, Principal Investigator, Total direct support \$3,516.
- 1999-2000 Feline Health Center, Cornell University. Expression of Recombinant Feline Erythropoietin, Principal Investigator, Total direct support: \$30,000.
- 2000-2002 The Winn Feline Foundation. Bioactivity of Recombinant Feline Erythropoietin, Principal Investigator, Total direct support: \$30,000.
- 2001-2004 Arthritis Foundation. The Cartilage-Specific (V+C)- Fibronectin Isoform as an Osteoarthritis Biomarker, Co-Principal Investigator (Nancy Burton-Wurster, PI), Total direct support: \$250,000.
- 2001-2004 Arthritis Foundation. Cartilage-Specific Fibronectin Isoform and Osteoarthritis, Principal Investigator, Total direct support: \$250,000.
- 2005-2008 Morris Animal Foundation. Horse Genomics: Linear Mapping and Microarray Development, Co-Investigator (Ernest Bailey, PI), Total direct support: \$15,000 (MacLeod laboratory portion).
- 2007-2011 Morris Animal Foundation. Program in Equine Medical Genetics, Co-Principal Investigator (James Mickelson, University of Minnesota, Program Director), Total direct support: \$30,000 (MacLeod laboratory portion).
- 2008-2009 University of Kentucky Health Care – Department of Orthopaedic Surgery, Metamorphosis of the Salamander as a Model of Postnatal Maturation of Articular Cartilage in Mammals. Co-Principal Investigator (Christian Lattermann, Co-PI), Total direct support: \$19,500.
- 2009-2012 National Science Foundation. Exon Splice Pattern Characterization of the Whole mRNA Transcriptome, Co-Principal Investigator (Jinze Liu, PI), Total direct support: \$1,027,384.
- 2010-2012 Kentucky Horse Racing Commission. Safety and anti-inflammatory efficacy of glucocorticoids for intra-articular therapy in racehorses. Principal Investigator, Total direct support: \$99,969.



## **Training Grants and Student Sponsorships**

- 1998 Human Growth Foundation. The regulation of chondrocyte proliferation and differentiation by p21<sup>CIP1/WAF1</sup>. Sponsor for Matthew Stewart, Total direct support: \$7,500.
- 1999 Lui Memorial Award. Sponsor for Hao Chen, Total direct support: \$2,000.
- 2003-2006 Department of Health and Human Services - Public Health Service, National Institutes of Health, National Center for Research Resources T32 RR018269. Veterinary Student Training in Biomedical Research, Program Director, Total direct support: \$324,740. (Note- directorship for this training grant was transferred to Dr. Mark S. Roberson due to my relocation to the University of Kentucky)
- 2006-2008 Morris Animal Foundation. Articular Cartilage Maturation and Repair. Sponsor for Michael Mienaltowski, Total direct support: \$70,000.
- 2007 University of Kentucky Undergraduate Summer Research Grant. Sponsor for Marlene Tremblay, Total direct support: \$2,000.
- 2008 University of Kentucky Undergraduate Summer Research Grant. Sponsor for Marlene Tremblay, Total direct support: \$2,000.
- 2009-2011 Morris Animal Foundation. Orthopaedic Pathology and Genetic Associations in Cervical Stenotic Myelopathy. Sponsor for Jennifer Janes, Total direct support: \$100,000.

## **Teaching**

- 1979-1980 Department of Animal Science, University of Delaware, Newark, Delaware - Teaching Assistant, Introduction to Animal Science.
- 1987 Department of Anatomy, School of Veterinary Medicine, University of Pennsylvania, Philadelphia, Pennsylvania - Laboratory Instructor, Structural Adaptation to Function (Gross Anatomy).
- 1991 Department of Human Genetics, School of Medicine, University of Pennsylvania, Philadelphia, Pennsylvania - Small Group Instructor, Human Genetics.
- 1993-2003 College of Veterinary Medicine, Cornell University, Ithaca, New York - Group Instructor, Lecturer, and Lab Instructor, Block II - Genetics and Development.
- 1994, 2000 Section of Physiology, Cornell University, Ithaca, New York - Laboratory Instructor, Advanced Physiological Methods II.
- 2004-2005 Department of Veterinary Science, University of Kentucky, Lexington, Kentucky -Equine Sciences Orientation for Graduate Students.

## **Lectures and Seminars by Invitation**

- 1986 Growth Hormone Mediated Regulation of Murine Hepatic Drug Metabolizing

- Enzymes. Phi Zeta Research Symposium. Philadelphia, Pennsylvania.
- 1988 Chronic Indwelling Right Atrial Catheterization Apparatus for the Unrestrained Mouse. American Association for Laboratory Animal Science (AALAS), Tri-Branch Symposium. Philadelphia, Pennsylvania.
- 1992 Future Directions in Animal Biotechnology Research. The Hastings Center, Ethics in Animal Biotechnology. Briarcliff Manor, New York.
- 1992 Veterinary Student Leadership Program - Career Day. College of Veterinary Medicine, Cornell University. Ithaca, New York.
- 1993 Veterinary Student Leadership Program - Career Day. College of Veterinary Medicine, Cornell University. Ithaca, New York.
- 1994 Transgenic Animals and Genetic Medicine. Nosanchuk Lecture Series, Ithaca High School. Ithaca, New York.
- 1994 Veterinary Student Leadership Program - Career Day. College of Veterinary Medicine, Cornell University, Ithaca, New York.
- 1997 Efficacy & Safety of Recombinant Canine Erythropoietin. 89th Annual Conference for Veterinarians, College of Veterinary Medicine, Cornell University. Ithaca, New York.
- 1998 Expression, Activity, and Safety of Recombinant Canine Erythropoietin. The Animal Medical Center. New York, New York.
- 1998 Cartilage-Specific Fibronectin Isoform. School of Medicine, University of California-San Francisco, San Francisco, California.
- 1998 Expression, Activity, and Safety of Recombinant Canine Erythropoietin. School of Veterinary Medicine, University of California-Davis. Davis, California.
- 1998 Expression, Activity, and Safety of Recombinant Canine Erythropoietin. Pfizer, Inc. Groton, Connecticut.
- 1999 FN-C, a cartilage-specific alternatively spliced form of FN. Gordon Research Conference Fibronectin, Integrins & Related Molecules. Ventura, California.
- 1999 Cartilage-Specific Fibronectin Isoform. Pfizer, Inc., Groton, Connecticut.
- 1999 Development and therapeutic considerations in the use of species-specific recombinant erythropoietin preparations for companion animals. Gordon Research Conference - Comparative Hematopoiesis. Tilton, New Hampshire.
- 2001 Chondrocytic Response to Joint Inflammation and Corticosteroids. Havemeyer Foundation Workshop - Equine Immunology. Santa Fe, New Mexico.
- 2001 Species-specific Recombinant Erythropoietin Preparations for Companion Animals. American College of Veterinary Internal Medicine. Denver, Colorado.
- 2001 Canine Erythropoietin. Intervet. Millsboro, Delaware.
- 2001 Species-specific Recombinant Erythropoietin Preparations for Companion Animals. American Association of Feline Practitioners. Philadelphia,

- Pennsylvania. (October, 2001).
- 2002 Cartilage-Specific Fibronectin Isoform. Gluck Equine Research Center, University of Kentucky. Lexington, Kentucky.
- 2003 Generation of a normalized equine cartilage cDNA library. 5<sup>th</sup> International Equine Gene Mapping Workshop. Pretoria, South Africa.
- 2005 Equine Articular Cartilage Microarray. Plant & Animal Genome XIII - Equine Workshop. San Diego, California.
- 2005 Gene Expression: Basic Terminology and Concepts. American College of Veterinary Internal Medicine. Baltimore, Maryland.
- 2005 Studies of Chondrocyte Cell Biology and Articular Cartilage in Horses. Department of Animal Science, University of Kentucky, Lexington, Kentucky.
- 2006 Studies of Chondrocyte Cell Biology and Articular Cartilage in Horses. Department of Physiology, University of Kentucky, Lexington, Kentucky.
- 2006 The Impact of Equine Genomics on Studies of Articular Cartilage. Hagyard Equine Medical Institute, Hagyard-Davidson-McGee Associates, Lexington, Kentucky.
- 2006 Equine Genomics. KBRIN Bioinformatics Center, University of Kentucky, Lexington, Kentucky.
- 2007 Chair, Equine Workshop. Plant & Animal Genome XV. San Diego, California.
- 2007 Applying Genomic Strategies to Equine Orthopedic Research. Inland Northwest Research Alliance – Intermountain Systems Biology Symposium, Utah State University, Logan, Utah.
- 2007 Applying Genomic Strategies to Equine Orthopedic Research. Hagyard Equine Medical Institute, Hagyard-Davidson-McGee Associates, Lexington, Kentucky.
- 2007 Applying Genomic Strategies to Equine Orthopedic Research. Introduction to Biotechnology ABT 101, University of Kentucky, Lexington, Kentucky.
- 2007 Applying Genomic Strategies to Equine Orthopedic Research. Scientific Method in Biotechnology ABT 201, University of Kentucky, Lexington, Kentucky.
- 2008 Linking of Genetics and Performance. Kentucky International Equine Summit, Lexington, Kentucky.
- 2008 Implications of Revealing Genotype. Kentucky International Equine Summit, Lexington, Kentucky.
- 2008 Transcriptional Profiling for Gene Expression Analyses of Equine Samples. American Society of Animal Science, Indianapolis, Indiana.
- 2008 Musculoskeletal research for equine patients. Scientific Method in Biotechnology ABT 201, University of Kentucky, Lexington, Kentucky.
- 2009 Analyses of the equine mRNA transcriptome using RNA-seq data. Havemeyer Foundation Workshop - Equine Genomics. Newmarket, England.

2009 Equine Genome Project. The International Society of Equine Locomoter Pathology. Lexington, Kentucky.

## **Trainees and Advisees**

### **Postdoctoral Trainees and Visiting Scholars**

Da-Nian Gu	Postdoctoral Associate	1993-1995
Susan F. Fubini	Visiting Scholar - Sabbatical	1994-1995
John F. Randolph	Visiting Scholar - Sabbatical	2002-2003
Naoki Miura	Postdoctoral Associate	2002-2006

### **Graduate Students**

Matthew Stewart	Ph.D. (major advisor)	1995-1999
Hao Chen	Ph.D. (major advisor)	1997-2002
Stephen Coleman	M.S. (major advisor)	2004-2006
Neal A. Jorgenson award recipient, PAG XIII, January, 2005.		
Michael Mienaltowski	Ph.D. (major advisor)	2004-2008
Wenyng Zhu	Ph.D. (major advisor)	2005-present
Stephen Coleman	Ph.D. (major advisor)	2006-present
Jennifer Janes	Ph.D. (major advisor)	2007-present
Recipient of the American Association of Equine Practitioners Past Presidents' Research Fellow award, October, 2009.		
Lauren Detlefsen	M.S.. (major advisor)	2007-present
Rebekah Cosden	Ph.D. (major advisor)	2007-present
Kadie Vandermann	M.S.. (major advisor)	2008-present
Lisa Fortier	Ph.D. (minor advisor)	1994-1999
Leslie Cary	Ph.D. (field appointed advisor)	1995-1999
Beth Albrecht	Ph.D. (minor advisor)	1995-1999
Bonnie Campbell	Ph.D. (minor advisor)	1995-1999
Qianyong Liu	Ph.D. (field appointed advisor)	1997-2002
Laurie Goodrich	Ph.D. (minor advisor)	2001-2004
Rebecca Tallmadge	Ph.D. (minor advisor)	2001-2005
Dawn Sessions	Ph.D. (minor advisor)	2004-2008
Liping Huang	Ph.D. (minor advisor)	2006-2009
Deborah Cook	Ph.D. (minor advisor)	2007-present
Claudia Klein	Ph.D. (minor advisor)	2008-present
James Monaghan	Ph.D. (outside examiner)	2009

### **Veterinary Students - Research**

Gita Nagassar-Mohit	Woodruff Foundation Fellow	1993
Linda Abraham	Havemeyer Foundation Fellow	1993
Joseph Alaimo	Woodruff Foundation Fellow	1994
Kellie Stephenson	Woodruff Foundation Fellow	1995
Susan Klein	Morris Animal Foundation Fellow	1996
Tammy Howard	Simpson Foundation Fellow	1998

Awarded the Molecular Biology Prize in the Summer Leadership Program		
David Detweiler	NIH and Mellon Trust Fellow	2000
Awarded the Program Prize (best overall project) in the Summer Leadership Program		
Daniel Fischer	Biomedical Sciences Fellow	2001
Julie Chevrette	Woodruff Foundation Fellow	2001
Anna Hochstedler	Research Independent Study	2001-2002
Michael Mienaltowski	NIH and Pfizer Fellow	2002

### **Veterinary Students - DVM Curriculum**

Cornell University - Class of 1998:	M. Pixton, M. Sanfilippo
Cornell University - Class of 1999:	H. O'Leary, K. Scuderi, J. Warren
Cornell University - Class of 2000:	C. Cook, J. McCabe, J. Williams
Cornell University - Class of 2001:	K. Anderson, R. Gardner, E. Koster, J. Levine
Cornell University - Class of 2002:	B. Christensen, A. Martin, J. Usiak, J. Wypij
Cornell University - Class of 2003:	C. Byers, K. Garrett
Cornell University - Class of 2005:	H. Culbertson, S. Kimball, J. Poletti, S. Watson

### **Undergraduate Students**

Heather Nardone	Hughes Summer Fellow	1997
Aylin Atilla	Research Independent Study	1999
Brian Trumpatori	Research Independent Study	1999
Benjamin Eckhardt	Hughes Summer Fellow	2001
Lauren Detlefsen	Research Independent Study	2006
Marlene Tremblay	Research Independent Study	2007 - 2009
Eva Bach	Research Independent Study	2007 - 2008
Jessica Houtz	Research Independent Study	2008
Leah Griffith	Research Independent Study	2008
Joseph Knelman	Research Independent Study	2008 – 2009
Travis Trisko	Research Independent Study	2009 – present
Magdalene Stewart	Research Independent Study	2009 – present

### **Editorial and Reviewing Activities**

#### **Publications**

American Journal of Physiology - *ad hoc* reviewer  
 American Journal of Veterinary Research - *ad hoc* reviewer  
 Animal Genetics - *ad hoc* reviewer  
 Animal Health Newsletter, Cornell University - *ad hoc* reviewer  
 Arthritis and Rheumatism - *ad hoc* reviewer  
 Gene - *ad hoc* reviewer  
 Journal of Equine Veterinary Science - *ad hoc* reviewer  
 Osteoarthritis and Cartilage - *ad hoc* reviewer  
 Proceedings of National Academy of Sciences, U.S.A. - *ad hoc* reviewer  
 Trends in Endocrinology and Metabolism - *ad hoc* reviewer  
 Veterinary Dermatology - *ad hoc* reviewer

Veterinary Immunology and Immunopathology - *ad hoc* reviewer

### **Funding Agencies**

American Kennel Club, Canine Health Foundation – *ad hoc* reviewer

Austrian Science Fund (FWF) – *ad hoc* reviewer

Dutch Technology Foundation STW – *ad hoc* reviewer

Grayson-Jockey Club Research Foundation, Inc. – *ad hoc* reviewer

Horserace Betting Levy Board – *ad hoc* reviewer

Texas Equine Research Fund – *ad hoc* reviewer

United States Department of Agriculture – *ad hoc* reviewer

### **Academic Committees**

#### **Cornell University**

1999-2000 Curriculum Committee, Biology Majors in Animal Physiology

1999-2003 Genomics Initiative Task Force

1999-2003 Mammalian Genomics Thrust Committee

2000-2002 Molecular Biology and Genetics Faculty Search Committee

2002 Land Grant Technology Transfer Committee

#### **College of Veterinary Medicine, Cornell University**

1992-1999 Curriculum Design Group, Block II, Genetics and Development.

1994 D.V.M. Curriculum Assessment

1997 Department of Physiology Future Planning

1998-1999 Clinical Sciences (Theriogenology) Faculty Search Committee

1997-2000 Departmental Seminar Series Planning

1999-2000 Biomedical Sciences Faculty Search Committee (Chairperson)

2001-2002 Clinical Sciences (Large Animal Medicine) Faculty Search Committee

2001-2002 Curriculum Review Committee for Biomedical Sciences

2001-2003 DVM/PhD Combined Degree Program (Chairperson)

#### **James A. Baker Institute, Cornell University**

1992-1993 United Way Annual Giving

1992-1996 Equipment

1993-2002 Laboratory Animal Care

1996-2001 Landscape

1999-2000 Internet Website

1999-2002 Development and Fundraising

2001-2002 Faculty search committee

#### **College of Agriculture, University of Kentucky**

2005-2006 Equine Initiative Planning Committee – Phase I

2006-present Equine Initiative Planning Committee – Phase II

2006-present UK/Alltech Nutrigenomics Alliance, Joint Program Management Committee

## **Gluck Equine Research Center, Department of Veterinary Science, University of Kentucky**

2004-2005	Veterinary Science (Virology) faculty search committee – Dr. Udeni Balasuriya
2004-present	University of Kentucky Gluck Equine Research Foundation Board of Directors
2005-present	Kohler Bequest – faculty advisory committee
2005-present	Paul Mellon Postdoctoral Fellowship advisory committee
2005-present	Departmental Communications committee (Chairperson)
2006-2008	Veterinary Science Chair and Gluck Center Director search committee
2008-present	Departmental Advisory and Strategic Planning committee (Chairperson)

## **Bibliography**

### **Papers**

Shapiro BH, Albucher RC, MacLeod JN, Bitar MS. Normal levels of hepatic drug metabolizing enzymes in neonatally-induced, growth hormone deficient adult male and female rats. *Drug Metabolism and Disposition* 14:585-589, 1986.

MacLeod JN, Sorensen MP, Shapiro BH. Strain-independent elevation of hepatic monooxygenase enzymes in female mice. *Xenobiotica* 17:1095-1102, 1987.

MacLeod JN, Shapiro BH. Repetitive blood sampling in unrestrained and unstressed mice using a chronic indwelling right atrial catheterization apparatus. *Laboratory Animal Science* 38:603-608, 1988.

MacLeod JN, Shapiro BH. Growth hormone regulation of hepatic drug metabolizing enzymes in the mouse. *Biochemical Pharmacology* 38:1673-1677, 1989.

Shapiro BH, MacLeod JN, Pampori NA, Morrissey JJ, Lapenson DP, Waxman DJ. Signalling elements in the ultradian rhythm of circulating growth hormone regulating expression of sex-dependent forms of hepatic cytochrome P450. *Endocrinology* 125:2935-2944, 1989.

Waxman DJ, Morrissey JJ, MacLeod JN, Shapiro BH. Depletion of serum growth hormone in adult female rats by neonatal monosodium glutamate treatment without loss of female-specific hepatic enzymes P-450 2d (IIC12) and steroid 5  $\alpha$ -reductase. *Endocrinology* 126:712-720, 1990.

MacLeod JN, Worsley I, Ray J, Friesen HG, Liebhaber SA, Cooke NE. Human growth hormone-variant is a biologically active somatogen and lactogen. *Endocrinology* 128:1298-1302, 1991.

MacLeod JN, Liebhaber SA, MacGillivray MH, Cooke NE. Identification of a splice-site mutation in the human growth hormone-variant gene. *The American Journal of Human Genetics* 48:1168-1174, 1991.

MacLeod JN, Pampori NA, Shapiro BH. Sex differences in the ultradian pattern of plasma growth hormone concentrations in mice. *Journal of Endocrinology* 131:395-399, 1991.

Urbanek M, MacLeod JN, Cooke NE, Liebhaber SA. Expression of a human growth hormone receptor isoform is predicted by tissue specific alternative splicing of exon 3 of the human growth hormone receptor gene transcript. *Molecular Endocrinology* 6:279-287, 1992.

MacLeod JN, Lee AK, Liebhaber SA, Cooke NE. Developmental control and alternative

splicing of the placentally expressed transcripts from the human growth hormone gene cluster. *Journal of Biological Chemistry* 267:14219-14226, 1992.

MacLeod, JN, Burton-Wurster N, Gu DN, Lust G. Fibronectin mRNA splice variant in articular cartilage lacks bases encoding the V, III-15, and I-10 proteins segments. *Journal of Biological Chemistry*, 271:18954-18960, 1996.

Albrecht BA, MacLeod JN, Daels PF. Differential transcription of steroidogenic enzymes in the equine primary corpus luteum during diestrus and early pregnancy. *Biology of Reproduction*, 56:821-829, 1997.

Burton-Wurster N, Lust G, MacLeod JN. Cartilage fibronectin isoforms: in search of functions for a special population of matrix glycoproteins. *Matrix Biology*, 15:441-454, 1997.

Stewart MC, Farnum CE, MacLeod JN. Expression of p21<sup>CIP1/WAF1</sup> in chondrocytes. *Calcified Tissue International*, 61:199-204, 1997.

Todhunter RJ, Fubini SL, Vernier-Singer M, Wootton JAM, Lust G, Freeman KP, MacLeod JN. Experimental acute synovitis and intra-articular methylprednisolone acetate in ponies. *Osteoarthritis and Cartilage*, 6:94-105, 1998.

MacLeod JN, Fubini SL, Gu DN, Tetreault JW, Todhunter RJ. Effect of synovitis and corticosteroids on transcription of cartilage matrix proteins. *American Journal of Veterinary Research*, 59:1021-1026, 1998.

Burton-Wurster N, Borden C, Lust G, MacLeod JN. Expression of the (V+C)- fibronectin isoform is tightly linked to the presence of a cartilaginous matrix. *Matrix Biology*, 17:193-203, 1998.

MacLeod JN, Tetreault JW, Lorsch KAS, Gu DN. Expression and bioactivity of recombinant canine erythropoietin. *American Journal of Veterinary Research*, 59:1144-1148, 1998.

Campbell BG, Wootton JAM, MacLeod JN, Minor RR. Sequence of canine COL1A2: Nucleotide substitutions affecting the cyanogen bromide peptide map of the  $\alpha 2(I)$  chain. *Archives of Biochemistry and Biophysics*, 357:67-75, 1998.

Randolph JF, Stokol T, Scarlett JM, MacLeod JN. Comparison of the biologic activity and safety of recombinant canine erythropoietin to recombinant human erythropoietin in normal Beagle dogs. *American Journal of Veterinary Research*, 60:636-642, 1999.

Burton-Wurster N, Gendelman R, Chen H, Gu DN, Tetreault JW, Lust G, Schwarzbauer JE, MacLeod JN. The cartilage-specific (V+C)- fibronectin isoform exist primarily in homodimeric and monomeric configurations. *Biochemical Journal*, 341:555-561, 1999.

Stewart MC, Saunders KM, Burton-Wurster N, MacLeod JN. Phenotypic stability of articular chondrocytes *in vitro*: the effects of culture models, BMP-2 and serum supplementation. *Journal of Bone and Mineral Research*, 15:116-174, 2000.

Albrecht BA, MacLeod JN, Daels PF. Differential expression of steroidogenic enzymes by the primary corpora lutea of pregnant mares during equine chorionic gonadotropin secretion. *Journal of Reproduction and Fertility*, Suppl. 56:627-634, 2000.



Campbell BG, Wootton JAM, MacLeod JN, Minor RR. Sequence of normal canine COL1A1 cDNA and identification of a heterozygous  $\alpha 1(1)$  collagen Gly208Ala mutation in a severe case of canine osteogenesis imperfecta. *Archives of Biochemistry and Biophysics*, 384:37-46, 2000.

Albrecht BA, MacLeod JN, Daels PF. Expression of  $3\beta$ -hydroxysteroid dehydrogenase, cytochrome P450  $17\alpha$ -hydroxylase/ $17,20$ -lyase and cytochrome P450 aromatase enzymes in corpora lutea of diestrous and early pregnant mares. *Theriogenology*, 55:551-561, 2001.

Fubini SL, Todhunter RJ, Burton-Wurster N, Vernier-Singer M, MacLeod JN. Corticosteroids alter the differentiated phenotype of articular chondrocytes. *Journal of Orthopaedic Research*, 19:688-695, 2001.

Campbell BG, Wootton JAM, MacLeod JN, Minor RR. Canine COL1A2 mutation resulting in C-terminal truncation of pro- $\alpha 2(1)$  and severe osteogenesis imperfecta. *Journal of Bone and Mineral Research*, 16:1147-1153, 2001.

Chen H, Gu DN, Burton-Wurster N, MacLeod JN. Absence of the I-10 protein segment mediates restricted dimerization of the cartilage-specific fibronectin isoform. *Journal of Biological Chemistry*, 277:20095-20103, 2002.

Burton-Wurster N, Chen H, Gendelman R, Jackson ML, Gagliardo LF, Gu, DN, Zelko RR, Lust G, MacLeod JN. Specific immunological detection of the (V+C)<sup>-</sup> fibronectin isoform. *Matrix Biology*, 21:393-398, 2002.

Gendelman R, Burton-Wurster N, MacLeod JN, Lust G. The cartilage-specific fibronectin isoform has a high affinity binding site for the small proteoglycan decorin. *Journal of Biological Chemistry*, 278:11175-11181, 2003.

Mertens WD, MacLeod JN, Fubini SL, Vernier-Singer M, Nixon AJ, Todhunter RJ. Polysulfated glycosaminoglycans modulate transcription of interleukin-1 treated chondrocytes in monolayer culture. *Veterinary Comparative Orthopaedics and Traumatology*, 2:93-98, 2003.

Randolph JF, Scarlett JM, Stokol T, MacLeod JN. Clinical efficacy and safety of recombinant canine erythropoietin in dogs with anemia of chronic renal failure and dogs with recombinant human erythropoietin-induced red cell aplasia. *Journal of Veterinary Internal Medicine*, 18:81-91, 2004.

Stewart MC, Kadlcek RM, Robbins P, MacLeod JN, Ballock TR. Expression and activity of the CDK inhibitor p57<sup>Kip2</sup> in chondrocytes undergoing hypertrophic differentiation. *Journal of Bone and Mineral Research*, 19:123-132 2004.

Randolph JF, Scarlett JM, Stokol T, Saunders KM, MacLeod JN. Expression, bioactivity, and clinical assessment of recombinant feline erythropoietin. *American Journal of Veterinary Research*, 65:1355-1366, 2004.

Steffey MA, Miura N, Todhunter RJ, Nykamp SG, Freeman KP, Scarpino V, Vernier-Singer MA, Erb HN, MacLeod JN, Lust G, Burton-Wurster N. The potential and limitations of cartilage-specific (V+C)<sup>-</sup> fibronectin and cartilage oligomeric matrix protein as osteoarthritis biomarkers in canine synovial fluid. *Osteoarthritis and Cartilage*, 12:818-825, 2004.

- Walker MC, Mandell TC, Crawford PC, Simon GG, Cahill KS, Fernandes PJ, MacLeod JN, Byrne BJ, Levy JK. Expression of erythropoietin in cats treated with a recombinant adeno-associated viral vector. *American Journal of Veterinary Research*, 66:450-456, 2005.
- Coleman SJ, Gong G, Gaile DP, Chowdhary BP, Bailey E, Liu L, MacLeod JN. Evaluation of COMPASS as a comparative mapping tool for ESTs using horse radiation hybrid maps. *Animal Genetics*, 38:294-302, 2007.
- Huang L, Zhu W, Saunders CP, MacLeod JN, Zhou M, Stromberg AJ, Bathke A. A novel application of quantile regression for identification of cartilage biomarkers in equine microarray data. *BMC Bioinformatics*, 9:300, 2008.
- Raudsepp T, Gustafson-Seabury A, Durkin K, Wagner ML, Goh G, Seabury CM, Brinkmeyer-Langford C, Lee E-J, Agarwala R, Stallknecht-Rice E, Schäffer AA, Tozaki T, Yasue H, Penedo MC, Lyons LA, Khazanehdari KA, Binns MM, MacLeod JN, Distl O, Guérin G, Leeb T, Mickelson JR, Chowdhary BP. A 4103 marker integrated map of the horse genome. *Cytogenetic and Genome Research*, 122:28-36, 2008.
- Mienaltowski MJ, Huang L, Stromberg AJ, MacLeod JN. Differential gene expression associated with postnatal articular cartilage maturation. *BMC Musculoskeletal Disorders*, 9:149, 2008.
- Haneda S, Nagaoka K, Nambo Y, Kikuchi M, Nakano Y, Matsui M, Miyake Y, MacLeod JN, Imakawa K. Expression of interleukin-1 receptor antagonist (IL-1RN) in the equine endometrium is regulated by a steroid hormone derived from the conceptus. *Domestic Animal Endocrinology*, 36:209-218, 2009.
- Astakhova NM, Perelygin AA, Zharkikh AA, Lear TL, Coleman SJ, MacLeod JN, Brinton MA. Characterization of equine and other vertebrate TLR3, TLR7, and TLR8 genes. *Immunogenetics*. 61:529-39, 2009.
- Mienaltowski MJ, Huang L, Frisbie DD, McIlwraith CW, Stromberg AJ, Bathke A, MacLeod JN. Transcriptional profiling differences for articular cartilage and repair tissue in equine joint surface lesions. *BMC Medical Genomics*, 14:2:60, 2009.
- Wade CM, Giulotto E, Sigurdsson S, Zoli M, Gnerre S, Imsland F, Lear TL, Adelson DL, Bailey E, Bellone RR, Blöcker H, Distl O, Edgar RC, Garber M, Leeb T, Mauceli E, MacLeod JN, Penedo MC, Raison JM, Sharpe T, Vogel J, Andersson L, Antczak DF, Biagi T, Binns MM, Chowdhary BP, Coleman SJ, Della Valle G, Fryc S, Guérin G, Hasegawa T, Hill EW, Jurka J, Kiialainen A, Lindgren G, Liu J, Magnani E, Mickelson JR, Murray J, Nergadze SG, Onofrio R, Pedroni S, Piras MF, Raudsepp T, Rocchi M, Røed KH, Ryder OA, Searle S, Skow L, Swinburne JE, Syvänen AC, Tozaki T, Valberg SJ, Vaudin M, White JR, Zody MC; Broad Institute Genome Sequencing Platform; Broad Institute Whole Genome Assembly Team, Lander ES, Lindblad-Toh K. Genome sequence, comparative analysis, and population genetics of the domestic horse. *Science*, 326:865-7, 2009.
- McGivney BA, Eivers SS, MacHugh DE, MacLeod JN, O’Gorman GM, Park SDE, Katz LM, and Hill EW. Transcriptional modifications following exercise in Thoroughbred horse skeletal muscle highlight molecular mechanisms that lead to muscle hypertrophy. *BMC Genomics*, 10:638, 2009.

Mienaltowski MJ, Huang L, Bathke A, Stromberg AJ, MacLeod JN. Transcriptional comparisons between articular repair tissue, neonatal cartilage, cultured chondrocytes, and mesenchymal stromal cells. Briefings in Functional Genomics & Proteomics, submitted.

### **Reviews, Book Chapters, and Educational Literature**

Cooke NE, Jones BK, Urbanek M, Misra-Press A, Lee AK, Russell JE, MacLeod JN, Liebhaber SA. Placental Expression and Function of the Human Growth Hormone Gene Cluster. In: Trophoblast Cells: Pathways for Maternal-Embryonic Communication, Soares MJ, Handwerger S, Talamantes F (eds.), Springer-Verlag, New York, 1993.

Coffman WR, Alexander JE, BenDaniel DJ, Carey PL, Craighead HG, Fay CR, Gould PA, Gross JS, Hunter JE, Lesser WH, Loker S, MacLeod JN, Mingle JJ, Scott NR, Krattiger AF. The future of technology transfer at a major land grant university. IP Strategy Today, 6:1-41, 2003.

Buchanan MF, Carter WC, Cowgill LM, Hurley DJ, Lewis SJ, MacLeod JN, Melton TR, Moore JN, Pessah IM, Roberson MS, Robertson TP, Smith ML, Vandenplas ML. Using 3-D animations to teach intracellular signal transduction mechanisms: taking the arrows out of cells. Journal of Veterinary Medical Education, 32:72-78, 2005.

### **Abstracts (2006 - present only)**

Coleman SJ, Gong G, Liu L, Gaile, D, Bailey E, Chowdhary BP, MacLeod JN. Comparative mapping of equine cartilage ESTs on horse chromosomes 17 and X. Plant and Animal Genome XIV, P598, 2006.

Miura N, Saunders CP, Huang L, Stromberg AJ, MacLeod JN. Transcriptional profiling of equine chondrocytes under hypoxic culture conditions. Plant and Animal Genome XIV, P605, 2006.

Seabury CM, Adelson DL, Gustafson-Seabury A, Antczak DF, MacLeod JN, Chowdhary BP. An 8,000 element cDNA microarray for functional analysis of the equine genome. Plant and Animal Genome XIV, P729, 2006.

Mienaltowski MJ, Saunders CP, Huang L, Stromberg AJ, MacLeod JN. Transcriptional profiling of equine chondrocyte de-differentiation in culture. Plant and Animal Genome XIV, P772, 2006.

Raeside JI, Christie HL, MacLeod JN. Plasma testosterone levels in relation to age in Thoroughbred stallions. Ninth International Symposium on Equine Reproduction, 2006.

Perelygin A, Lear T, Astakhova N, Coleman S, MacLeod J, Rios J, Adelson D, Brinton M. Characterization of equine innate immunity genes potentially involved in West Nile virus (WNV) susceptibility. Plant and Animal Genome XV, P601, 2007.

Coleman SJ, Clinton R, MacLeod JN. Construction of a master gene list for a 9322 feature equine cDNA microarray. Plant and Animal Genome XV, P587, 2007.

- Mienaltowski MJ, Huang L, Stromberg AJ, MacLeod JN. Transcriptional profiling of equine articular chondrocytes to study postnatal maturation. *Plant and Animal Genome XV*, P604, 2007.
- Zhu W, Huang L, Saunders CP, Bathke A, Stromberg AJ, MacLeod JN. Identification of genes with a cartilage-restricted pattern of expression. *Plant and Animal Genome XV*, P605, 2007.
- Huang L, Zhu W, Saunders C, MacLeod J, Zhou M, Stromberg AJ, Bathke A. A novel application of quantile regression for identification of cartilage biomarkers in equine microarray data. *Proceedings of the Joint Statistical Meetings, American Statistical Association*, 277-284, 2007.
- Mienaltowski MJ, Huang L, Frisbie DD, McIlwraith CW, Stromberg AJ, Bathke A, MacLeod JN. Transcriptional differences between articular chondrocytes and cells that populate repair tissue within full thickness articular lesions. *Plant and Animal Genome XVI*, W153, 2008.
- Cosden RS, Staniar WB, MacLeod JN. The influence of age and dietary energy source on postnatal equine articular chondrocyte gene expression. *Plant and Animal Genome XVI*, P582, 2008.
- Huang L, Miura N, Mienaltowski, MJ, MacLeod J, Stromberg AJ, Bathke A, Wood CL. Rediscovering the power of well-planned comparisons: normalization and analysis of cDNA microarray using linear combinations. *Proceedings of the Joint Statistical Meetings, American Statistical Association*, 2008.
- MacLeod JN. Transcriptional profiling for gene expression analyses of equine samples. *American Dairy Science – American Society of Animal Science*, 30, 2008.
- Raeside JJ, Christie HL, MacLeod JN. Plasma testosterone and estrogen sulfate concentrations in relation to age in Thoroughbred stallions. *Fifth International Symposium on Stallion Reproduction*, 2008.
- Coleman SJ, Zeng Z, Mienaltowski, M, Liu J, MacLeod JN. Analysis of Equine Gene Structural Annotation by RNA Sequencing. *Plant and Animal Genome XVII*, W152, 2009.
- MacLeod JN, Zeng Z, Coleman SJ, Liu J. Analysis of Equine Gene Expression by RNA Sequencing. *Plant and Animal Genome XVII*, W153, 2009.
- Tremblay M, Huang L, Zhu W, Mienaltowski MJ, Bathke, A MacLeod JN. Ontology of genes with stable and constitutive expression across eleven equine tissues. *Plant and Animal Genome XVII*, P539, 2009.
- Cosden RS, Romine S, Voss, SR, MacLeod JN, Lattermann C. *Ambystoma mexicanum*: a vertebrate model for articular cartilage repair. *55th Annual Meeting of The Orthopaedic Research Society*, P1093, 2009.
- Cosden RS, Romine S, Voss, SR, MacLeod JN, Lattermann C. A new vertebrate model for cartilage repair. *8th World Congress of the International Cartilage Repair Society*. 15.2.3, 2009.
- Coleman, S., Wang, K., Zeng, Z., Mienaltowski, M., Liu, J., MacLeod, J. Equine Gene Structure Annotation by RNA Sequencing. *Journal of Equine Veterinary Science*, 29(5), 319-320, 2009.

Liu J, Wang K, Zeng Z, Coleman SJ, MacLeod JN, Prins J, Map RNA-seq Short Reads for Splice Junction Discovery, 17<sup>th</sup> Annual International Conference on Intelligent Systems for Molecular Biology (ISMB/ECCB), 2009.

MacLeod JN, Coleman SJ, Liu J. Analyses of the equine mRNA transcriptome using RNA-seq data. Eighth International Equine Genome Workshop. 2009

**Karen Jean McDowell**  
Associate Professor  
Department of Veterinary Science  
Joint Appointment: Department of Clinical Sciences  
University of Kentucky, Lexington KY 40546-0099  
(859)257-4757 kmcd@uky.edu

### **Education**

University of Tennessee	B.S.	1976	Animal Science
University of Tennessee	M.S.	1980	Animal Science
University of Florida	Ph.D.	1986	Animal Science
Colorado State University	NIH Postdoctoral Fellow	1987	Physiology
University of Kentucky	Graduate Certificate	2006	Clinical Reproductive Sciences

### **Employment**

1978-1980	Graduate Teaching Assistant, University of Tennessee
1980-1986	Graduate Research Assistant, University of Florida
1986-1987	NIH Postdoctoral Fellow, Colorado State University
1988-1992	Assistant Professor, University of Kentucky
1993 - Present	Associate Professor, University of Kentucky
1999- 2008	Community Based Faculty in Clinical Sciences, UK College of Allied Health
2008-Present	Joint appointment, Regular Title Series, Department of Clinical Sciences, College of Allied Health

### **Awards and Honors**

Adams Science Award for Excellence in Chemistry and Physics, 1972.  
Sigma Phi Sigma Award for Excellence in Physics Laboratory Work, 1974.  
Merriman Award for Outstanding Teaching, University of Tennessee, 1980.  
Equine Nutrition and Physiology Society Outstanding Presentation Award, 1985.  
University of Kentucky Faculty Futures Award in Recognition of Achievement, 2004.

### **Professional Memberships:**

Society for the Study of Reproduction, 1981 - Present.  
Equine Nutrition and Physiology Society, 1983 – 2000; 2009-Present.  
Society for the Study of Fertility, 1988 - 2005.  
Society for Developmental Biology, 1994 - 2000.

USDA-NRICGP grant review Panel Member for Reproductive Efficiency, 1999.

Outstanding Dissertation Award, College of Agriculture, University of Florida, 1986

**Dissertation Research:** Establishment of Pregnancy in Mares: Interrelationships Among Uterine Proteins, Prostaglandin F<sub>2α</sub> and Conceptus Secretory Proteins.

## **Research Interests**

### Reproductive Biology

- Maternal-embryonic communication
- Embryonic development and embryonic loss
- Mare Reproductive Loss Syndrome
- Contribution of maternal age to embryonic loss
- Regulation of luteal function during the estrous cycle and pregnancy
- Regulation of gene expression in embryonic development and reproductive tract function
- Effects of endophyte infected tall fescue on reproduction in horses

## **Grant Support**

- Grayson Foundation, Inc. The Role of Conceptal Secretory Proteins in Luteal Maintenance in Mares. Sept 1988 - August 1991. \$58,883.
- UK Major Research Equipment Grant for the purchase of a Tokyo-Keiki ultrasound machine for equine obstetrics. 1988. \$13,185.
- UK Research Committee Grant. Timing of Activation of Alpha-fetoprotein, Albumin, Transferrin and Alpha-interferon genes in the Equine Conceptus. 1988 - 1989. \$7,226.88
- UK Major Research Equipment Fund for the purchase of an Olympus Stereo-Zoom Microscope. 1989. \$14,086.50
- NIH Biomedical Research Support Grant. Timing of Activation of Genes for Chorionic Gonadotropin. 1990 - 1991. \$4,967.
- Kentucky Agricultural Experiment Station (HATCH). How Conceptus Proteins Influence of Prostaglandin F<sub>2α</sub> in Mare Endometrium. April 1, 1992 to March 31, 1997. \$950,000.
- UK Research Support Minigrant. 1997. \$610.
- USDA National Need Graduate Fellowship Grant. "Animal Biotechnology." 1997-1998. \$228,000. (Co-PI).
- University of Kentucky Major Research Equipment Grant. "Zeiss Axioskop 20 Microscope for Transmitted Light Bright Field and Epi-fluorescence." 1997. \$16,744.32. (Co-PI)
- Kentucky Agricultural Experiment Station (HATCH). Changes in Gene Expression in Equine Conceptuses and Uteri During the Estrous Cycle and Early Gestation April 1, 1998 - March 31, 2002. \$317,500.
- NIH HD07436. "NIH Training Program in Reproductive Sciences". In addition to serving as a faculty researcher, I was the Trainee-Coordinator. This grant also supported Kristen Simpson, a PhD candidate in my laboratory for 1998-1999. May 1994 - April 1999. \$664,360 (Co-investigator)
- Grayson-Jockey Club Research Foundation, Inc. "Interactions Among Prostaglandin F<sub>2α</sub>, Oxytocin and Conceptuses" April 1999 – March 2001. \$40,500.
- University of Kentucky Research Committee Grant. "Molecular Characterization of Bacteria Associated with Nocardioform Placentitis." Drs JM Donahue, KJ McDowell, and NM Williams. July 1999 - June 2001. \$4,985.
- Pin Oak Stud Endowed Research Fund for the study of Nocardioform Placentitis. M Donahue, K McDowell, and N Williams. July 1999 – June 2001. \$60,000.

- Morris Animal Foundation. "Functional Genomics of the Horse." E Bailey & K McDowell (Univ KY), D Antczak (Cornell), A Bowling & J Murray (UC Davis), J Mickelson (Univ Minnesota) and L Skow (Texas A&M Univ). Sept 2000 – Aug 2002. \$200,000.
- USDA Agreement No. 99-34400-8510. "Pathogenicity Studies of Contagious Equine Metritis (CEM) & Related Infections" P Timoney, J Timoney, M Donahue, K McDowell, L Harrison, S Sells. Sept 99 – Sept 01. \$233,900.
- NIH. HD07436 "NIH Training Program in Reproductive Sciences" May 1, 1999 - April 30, 2004. \$844,540 (Co-investigator)
- USDA-NRICGP Strengthening Grant. "Proteomic Analysis Equipment for Study of Mammalian and Microbial Cells." JC Matthews, H J Strobel, B Hennig, M Toborek, and K McDowell. Sept 2001 - Aug 2002. \$40,835.
- Grayson-Jockey Club Research Foundation, Inc. "MRLS: Are Estrogens or Anti-estrogens Responsible ?" KJ McDowell, TT Tobin, NM Williams. Oct 01 – March 03. \$5,480.
- USDA-ARS and University of Kentucky College of Agriculture. "Safety of Recommended Insecticides: Tebufenozide and Spinosad, for Use with Pregnant Mares". KJ McDowell. Feb 02 – Jan 03. \$4,480.
- USDA-ARS and University of Kentucky College of Agriculture. "MRLS: Are Estrogens or Anti-estrogens Involved ?" KJ McDowell. Feb 02 – Jan 07. \$33,000.
- USDA-ARS and University of Kentucky College of Agriculture. "Detection of Certain Mycotoxins in Urine to Confirm the Presence of these Toxins and their Possible Roles in Mare Reproductive Loss Syndrome". K Newman and KJ McDowell. Feb 02 – Jan 03. \$42,500.
- USDA-ARS and University of Kentucky College of Agriculture. "Evaluation of the Role of Cyanide and its Metabolites in Mare Reproductive Loss Syndrome". TT Tobin, KJ McDowell, J Crutchfield. Feb 02 – Jan 03. \$45,000.
- USDA-ARS and University of Kentucky College of Agriculture. "Assessment of Direct and Indirect Interactions Between Eastern Tent Caterpillars and Mares as a Contributing Factor in Mare Reproductive Loss Syndrome". BA Webb and KJ McDowell. Feb 02 – Jan 04. \$70,000
- USDA-ARS and University of Kentucky College of Agriculture. "Two Track Deductive Approach to Investigating MRLS". BA Webb and KJ McDowell. Feb 03 – Jan 07. \$87,869.
- USDA-ARS and University of Kentucky College of Agriculture. "Domestic Pigs as an Experimental Model for MRLS". KJ McDowell, BA Webb, NM Williams and MD Lindemann. Feb 03- Jan 07. \$15,900.
- USDA-ARS, with the KY Thoroughbred Owners and Breeders Association. "2003 MRLS Contingency and Monitoring Plan". J Henning, L Bush, KJ McDowell, and BA Webb. Jan 04 – Dec 04. \$50,000.
- Kentucky Thoroughbred Owners and Breeders Foundation, "Progressive Investigation of Mare Reproductive Loss Syndrome". B Webb, KJ McDowell, K Newman, NM Williams, JH Donahue, David Horohov, W deVilliers. May 04-April 05. \$322,082 (McDowell portion: \$185K)
- USDA-ARS "Effects of the Herbicides Plateau® and Cimarron® on Pregnancy Maintenance in Broodmares". KJ McDowell, W Witt, L Bush, NM Williams, D Williams, JM Donahue. April 05 – March 07. \$86,750.
- USDA-ARS "Upgrade of Ultrasound Machine for use in Equine Reproduction" Equipment grant. KJ McDowell. 2006. \$27,400.



- USDA-ARS "Effect of Endophyte Infected Tall Fescue Seed on Placental Changes in Pregnant Mares". L Lawrence and KJ McDowell. 2006-2007. \$23,976.
- USDA-ARS. "Vascular Changes Associated with Consumption of E+ Tall Fescue by Broodmares. KJ McDowell, L Lawrence, G Aiken, L Bush and D Horohov. 2007-2010. \$187,044.
- University of Kentucky College of Agriculture Research Activity Award for travel to and participation in the Gamete and Embryo Molecular Biology Training Course in Philadelphia, PA, presented by the Primate Embryo Gene Expression Resource (PREGER), the Fels Institute for Cancer Research and Molecular Biology, and Temple University School of Medicine. July 26-Aug 7, 2009. \$3,118.68.

### Refereed Journal Publications

- McDowell KJ**, DC Sharp, A Fazleabas, RM Roberts, FW Bazer. 1982. Partial characterization of the equine uteroferrin-like protein. *J Reprod Fert Suppl* 32:329-334.
- Grubaugh W, DC Sharp, LA Berglund, **KJ McDowell**, DM Kilmer, LS Peck, KW Seamans. 1982. Effects of pinealectomy in pony mares. *J Reprod Fert Suppl* 32:293-295.
- Kilmer DM, DC Sharp, LA Berglund, W Grubaugh, **KJ McDowell**, LS Peck. 1982. Melatonin rhythms in pony mares and foals. *J Reprod Fert Suppl* 32:303-307.
- Sharp DC, W Grubaugh, LA Berglund, **KJ McDowell**, DM Kilmer, LS Peck, KW Seamans, CL Chen. 1982. Effects of pituitary stalk transection on endocrine function in pony mares. *J Reprod Fert Suppl* 32:297-302.
- McDowell KJ**, DC Sharp, LS Peck, LL Cheves. 1985. The effect of restricted conceptus mobility on maternal recognition of pregnancy in mares. *Equine Vet J Suppl* 3: 23-24.
- Sharp DC, **KJ McDowell**. 1985. Critical events surrounding the maternal recognition of pregnancy in mares. *Equine Vet J Suppl* 3:19-22.
- McDowell KJ**, DC Sharp, W Grubaugh. 1987. Comparison of progesterone versus progesterone + oestrogen on total and specific uterine proteins in pony mares. *J Reprod Fert Suppl* 35:335-342.
- McDowell KJ**, DC Sharp, W Grubaugh, WW Thatcher, CJ Wilcox. 1988. Restricted conceptus mobility results in failure of pregnancy maintenance in mares. *Biol Reprod* 39:340-348.
- Sharp DC, **KJ McDowell**, J Weithenauer. 1988. Establishment of pregnancy and embryo loss in the mare. 11th International Congress on Animal Reproduction and Artificial Insemination. Dublin, Ireland. Vol 5. pp 347-353.
- Sharp DC, **KJ McDowell**, J Weithenauer, K Franklin, M Mirando, FW Bazer. 1989. Is an interferon-like molecule involved in the maternal recognition of pregnancy in mares? *Equine Vet J Suppl* 8:7-9.
- Sharp DC, **KJ McDowell**, J Weithenauer, WW Thatcher. 1989. The continuum of events leading to maternal recognition of pregnancy in mares. *J Reprod Fert Suppl* 37: 101-107.
- McDowell KJ**, DC Sharp, AT Fazleabas, RM Roberts. 1990. Two-dimensional polyacrylamide gel electrophoresis of proteins synthesized and released by pony conceptuses and endometria. *J Reprod Fert* 89:107-115.
- Baker CB, MH Adams, **KJ McDowell** 1991. Lack of expression of alpha or omega interferons by the horse conceptus. *J Reprod Fert Suppl* 44:439-443.
- Ball BA, A Altschul, **KJ McDowell**, G Ignatz, WB Currie. 1991. Trophoblastic vesicles and maternal recognition of pregnancy in mares. *J Reprod Fert Suppl* 44:445-454.

- McDowell KJ**, DG Powell, CB Baker. 1992. Effect of book size and age on foaling rates in Thoroughbred horses. *J Equine Vet Sci* 12:364-367.
- McDowell KJ**, MH Adams, NM Williams. 1993. Characterization of oviductal proteins synthesized and released at estrus and at day 4 after ovulation in bred and nonbred mares. *J Exp Zool* 267:217-224.
- McDowell KJ**, MH Adams, TL Smith, CB Baker. 1993. Retinol binding protein in equine endometrium. *Equine Vet J Suppl* 15:19-23.
- McDowell KJ**, MH Adams, CB Baker. 1993. Chorionic gonadotropin  $\alpha$  and  $\beta$  subunit RNA's are present in equine placental membranes by day 30 of pregnancy. *J Equine Vet Sci* 13:515-518.
- Baker CB, TV Little, **KJ McDowell**. 1993. The per live cycle foaling rate in mares. *Equine Vet J Suppl* 15:28-30.
- Berry DB, ET Lyons, JH Drudge, SC Tolliver, DE Granstrom, **KJ McDowell**. 1993. Observations in horses on the effects of ivermectin treatment on strongyle egg production and larval development. *J Helminthological Soc Washington* 60:89-92.
- McDowell KJ**, MH Adams, CB Baker. 1995. Cloning and sequencing equine transferrin cDNA: synthesis and secretion of transferrin by conceptus membranes. *Biol Reprod Mono* 1:141-149.
- McDowell KJ**, MH Adams, KM Franklin, CB Baker. 1995. Changes in equine endometrial retinol binding protein RNA during the estrous cycle, early pregnancy and with exogenous steroids. *Biol Reprod* 52:438-443.
- McDowell KJ**, TV Little, PJ Timoney, MH Adams. 1996. Characterisation of proteins in seminal plasma of stallions, geldings, and geldings supplemented with testosterone. *Res Vet Sci* 61:33-37.
- Adams MH, CB Baker, **KJ McDowell**. 1996. Molecular cloning and sequencing of equine inhibin  $\alpha$  cDNA. *Animal Biotechnology* 7:1-10.
- Guruprasad K, T Blundell, S Xie, J Green, B Szafranska, RJ Nagel, **K McDowell**, CB Baker, RM Roberts. 1996. Comparative modeling and analysis of amino acid substitutions suggests that the family of pregnancy-associated glycoproteins includes both active and inactive aspartic proteinases. *Protein Engineering* 9:849-856.
- Farmerie TA, RA Abbud, PR Budworth, CM Clay, RA Keri, **KJ McDowell**, MW Wolfe, JH Nilson. 1997. Characterization of the equine glycoprotein hormone alpha-subunit gene reveals divergence in the mechanism of pituitary and placental expression. *Biol Reprod* 57:1104-1114.
- Lyons ET, SC Tolliver, **KJ McDowell**, JH Drudge. 1997. Atypical external characteristics of *Anoplocephala perfoliata* in equids in central Kentucky. *J Helminthol Soc Wash* 64:287-291.
- Lyons ET, SC Tolliver, **KJ McDowell**, JH Drudge. 1997. Field test of activity of the low dose rate (2.64 mg/kg) of Pyrantel Tartrate on *Anoplocephala perfoliata* in Thoroughbreds on a farm in central Kentucky. *J Helminthological Soc Washington* 64:283-285.
- Lyons ET, SC Tolliver, **KJ McDowell**, JH Drudge. 1997. External anomalies of *Anoplocephala perfoliata* from remainder of a collection from equids in Kentucky with notes on *Anoplocephala magna*. *Vet Parasit* 76:159-161.
- Lear TL, MH Adams, ND Sullivan, **KJ McDowell**, E Bailey. 1998. Assignment of the horse progesterone receptor (PGR) and estrogen receptor (ESR1) to horse chromosomes 7 and 31, respectively, by in situ hybridization. *Cytogenetics and Cell Genetics* 82:110-111.

- McDowell KJ**, MH Adams, CY Adam, KS Simpson. 1999. Changes in equine endometrial oestrogen receptor alpha and progesterone receptor mRNA's during the oestrous cycle, early pregnancy and with exogenous steroids. *J Reprod Fertil* 117:135-142.
- Simpson KS, MH Adams, CY Behrendt-Adam, CB Baker, **KJ McDowell**. 1999. Identification and initial characterization of calyculin and phospholipase A<sub>2</sub> in equine conceptuses. *Mol Reprod Dev* 53:179-187.
- Behrendt-Adam CY, MH Adams, KS Simpson, **KJ McDowell**. Oxytocin-neurophysin I mRNA expression by equine endometrium. 1999. *Dom Anim Endo* 16:183-192.
- Green JA, S Xie, B Szafranska, X Gan, AG Newman, **K McDowell**, RM Roberts. 1999. Identification of a new aspartic proteinase expressed by the outer chorionic cell layer of the equine placenta. *Biol Reprod* 60:1069-1077.
- Behrendt-Adam CY, MH Adams, KS Simpson, **KJ McDowell**. 2000. The effects of steroids on endometrial oxytocin mRNA production. *J Reprod Fertil Suppl* 56:297-304.
- Simpson KS, MH Adams, CY Behrendt-Adam, CB Baker, **KJ McDowell**. 2000. Differential gene expression between day 12 and day 15 equine conceptuses. *J Reprod Fertil Suppl* 56: 539-547.
- Thway TM, CM Clay, JK Maher, DK Reed, **KJ McDowell**, DF Antczak, RL Eckert, JH Nilson, MW Wolfe. 2001. Immortalization of equine trophoblast cell lines of chorionic girdle cell lineage by simian virus-40 large T antigen. *J Endocrinology* 171: 45-55.
- Hughes C, F Lehner, L Dirikolu, D Harkins, J Boyles, **K McDowell**, T Tobin, J Crutchfield, M Sebastian, L Harrison, SI Baskin. 2003. A simple and highly sensitive spectrophotometric method for determination of cyanide in equine blood. *Toxicology Mechanisms and Methods* 13:129-138.
- Dirikolu L., C Hughes, D Harkins, J Boyles, J Bosken, F Lehner, A Troppman, **K McDowell**, T Tobin, MM Sebastian, L Harrison, J Crutchfield, SI Baskin, TD Fitzgerald. 2003. The toxicokinetics of cyanide and mandelonitrile in the horse and their relevance to the Mare Reproductive Loss Syndrome. *Toxicology Mechanisms and Methods* 13:199-211.
- Camargo F, L Dirikolu, M Sebastian, C Hughes, J Crutchfield, JD Harkins, J Boyles, AF Lehner, A Troppmann, **K McDowell**, L Harrison, T Tobin. 2003. Cyanide and mandelonitrile and their role in the Mare Reproductive Loss Syndrome: A preliminary communication. *Proceedings of the 14th International Conference of Racing Analysts & Veterinarians*, Orlando, FL, pp 303-307.
- Webb BA, WE Barney, DL Dahlman, SN DeBorde, C Weer, NM Williams, JM Donahue, **KJ McDowell**. 2004. Eastern Tent Caterpillars Cause Mare Reproductive Loss Syndrome. *J Insect Physiol* 50:185-193.
- McDowell KJ**, BA Webb, NM Williams, JM Donahue, KE Newman, MD Lindemann, and DW Horohov. 2010. Editorial Board Invited Review: The role of caterpillars in mare reproductive loss syndrome – a model for environmental causes of abortion. *J Animal Sci*, published online Jan 15, 2010.

### Book Chapters

- Sharp DC, W Grubaugh, LA Berglund, KW Seamans, **KJ McDowell**, DM Kilmer, LS Peck. 1981. The interaction of photoperiod and pineal gland on seasonal reproductive patterns in mares. IN: *Photoperiodism and Reproduction in Vertebrates*. Les Colloques de l'INRA (Eds). INRA Publications, Nuzilly, France. pp 201-212.

- McDowell KJ.** 2004. Of caterpillars and horses: recent scientific progress on the cause of mare reproductive loss syndrome. IN: Nutritional Biotechnology in the Feed and Food Industries. TP Lyons and KA Jacques (Eds). Proceedings of Alltech's Twentieth Annual Symposium. Nottingham University Press, Nottingham, England. pp. 355-358.
- McDowell KJ,** DC Sharp. Maternal Recognition of Pregnancy. IN: Equine Reproduction, 2<sup>nd</sup> ed. AO McKinnon, EL Squires, WE Vaala, DD Varner (eds). Blackwell Publishing, Ames, Iowa. In press.

### Published Abstracts

- McDowell KJ,** DC Sharp, MT Zavy, A Fazleabas. 1981. Uterine luminal proteins at the time of maternal recognition of pregnancy in the mare. Univ of Florida Graduate Student Symposium on the Peri-implantation Period in Domestic Animals. pp 60-61.
- Sharp DC, LA Berglund, **KJ McDowell,** RM Roberts, FW Bazer. 1981. The uterine environment and maternal recognition of pregnancy. British Equine Veterinary Association's 20th Ann Congress, Cambridge, UK.
- Sharp DC, W Grubaugh, LA Berglund, DM Kilmer, LS Peck, KW Seamans, **KJ McDowell.** 1981. Seasonal reproductive patterns and possible mechanisms of action. British Equine Veterinary Association's 20th Ann Congress, Cambridge, UK.
- Zavy MT, **KJ McDowell,** DC Sharp, AT Fazleabas, FW Bazer, RM Roberts. 1981. Partial characterization of the uteroferrin-like protein in the mare. 73rd Annual Meeting of the American Society of Animal Science. Raleigh, North Carolina. p 378.
- McDowell KJ,** DC Sharp, A Fazleabas, RM Roberts. 1982. Partial characterization of the equine uteroferrin-like protein. Third International Symposium on Equine Reproduction. Sydney, New South Wales, Australia.
- Grubaugh W, DC Sharp, LA Berglund, **KJ McDowell,** DM Kilmer, LS Peck, KW Seamans. 1982. Effects of pinealectomy in pony mares. Third International Symposium on Equine Reproduction. Sydney, New South Wales, Australia.
- Kilmer DM, DC Sharp, LA Berglund, W Grubaugh, **KJ McDowell,** LS Peck. 1982. Melatonin rhythms in pony mares and foals. Third International Symposium on Equine Reproduction. Sydney, New South Wales, Australia.
- Sharp DC, W Grubaugh, LA Berglund, **KJ McDowell,** DM Kilmer, LS Peck, KW Seamans, CL Chen. 1982. Effects of pituitary stalk transection on endocrine function in pony mares. Third International Symposium on Equine Reproduction. Sydney, New South Wales, Australia.
- Peck LS, DC Sharp, W Grubaugh, LA Berglund, DM Kilmer, **KJ McDowell.** 1982. Pineal secretion of melatonin following  $\beta$ -adrenergic stimulation. Third International Symposium on Equine Reproduction. Sydney, New South Wales, Australia.
- McDowell KJ,** DC Sharp, AT Fazleabas, RM Roberts. 1983. Synthesis and release of polypeptides by pregnant mare endometrium. *J Anim Sci* 57 Suppl 1:357.
- McDowell KJ,** DC Sharp, AT Fazleabas, RM Roberts. 1983. Intrauterine proteins during early pregnancy in mares. Proc Eighth Equine Nutrition and Physiology Society. Lexington, KY. pp 289-294.
- Fazleabas AT, **KJ McDowell.** 1983. Synthesis and release of polypeptides by horse conceptus tissue and extra-embryonic membranes during early and mid-gestation. *Bio Reprod Suppl* 1:138.

- McDowell KJ**, DC Sharp, LS Peck, LL Cheves. 1985. The effect of restricted conceptus mobility on maternal recognition of pregnancy in mares. Proc First International Symposium on Equine Embryo Transfer. Ithaca, NY. pp 23-24.
- Weithenauer J, **KJ McDowell**, SD Davis, TK Rothman. 1986. Effect of exogenous progesterone on early embryonic growth in pony mares. Biol Reprod 34 Suppl 1:102.
- McDowell KJ**, DC Sharp, W Grubaugh. 1986. Comparison of progesterone versus progesterone and estrogen on total and specific uterine proteins in pony mares. Fourth International Symposium on Equine Reproduction. Calgary, Alberta, Canada.
- Davis, SD, DC Sharp, WR Grubaugh, **KJ McDowell**, J Weithenauer. 1986. Seasonal LH response to GnRH in ovariectomized pony mares. Fourth International Symposium on Equine Reproduction. Calgary, Alberta, Canada.
- Weithenauer J, DC Sharp, **KJ McDowell**, SD Davis, M Seroussi, P Sheerin. 1987. Characterization of the equine conceptus prostaglandin-inhibitory product. Biol Reprod 36 Suppl 1:136.
- Grubaugh W, DC Sharp, **KJ McDowell**. 1987. Opiatergic control of LH secretion in the mare. Proc Tenth Equine Nutrition and Physiology Society, Fort Collins, CO.
- Sharp DC, **KJ McDowell**, J Weithenauer. 1988. Establishment of pregnancy and embryonic loss in the mare. Eleventh International Congress on Animal Reproduction and Artificial Insemination. Dublin, Ireland.
- Sharp DC, **KJ McDowell**, J Weithenauer, WW Thatcher. 1988. The continuum of events leading to maternal recognition of pregnancy in mares. International Workshop on Maternal Recognition of Pregnancy and Maintenance of the Corpus Luteum. Jerusalem, Israel.
- Sharp DC, **KJ McDowell**, J Weithenauer, K Franklin, M Mirando, FW Bazer. 1989. Is an OPT-1-like molecule involved in the maternal recognition of pregnancy in mares? Proc Second International Symposium on Equine Embryo Transfer. Banff, Alberta, Canada. p 6.
- Baker CB, **KJ McDowell**, MH Rabb, E Bailey. 1990. Lack of expression of interferon genes by equine embryos. Fifth International Symposium on Equine Reproduction. Deauville, France. p 138.
- Ball BA, A Altschul, **KJ McDowell**, G Ignatz, WB Currie. 1990. Trophoblastic vesicles and maternal recognition of pregnancy in mares. Fifth International Symposium on Equine Reproduction. Deauville, France. p 140.
- Adams MH, TV Little, GR Holyoak, **KJ McDowell**. 1991. *De novo* protein synthesis by stallion accessory sex glands. Biol Reprod 44, Suppl 1:79.
- McDowell KJ**, MH Adams, NM Williams, CA Johnson. 1991. Synthesis and secretion of proteins by horse oviducts. Biol Reprod 44, Suppl 1:165.
- McDowell KJ**, MH Adams, TL Smith, CB Baker. 1992. Retinol binding protein in equine endometrium. Proc Third International Symposium on Equine Embryo Transfer. Buenos Aires, Argentina. p 35.
- Baker CB, TV Little, **KJ McDowell**. 1992. Effect of mare age on per cycle foaling rate. Proc Third International Symposium on Equine Embryo Transfer. Buenos Aires, Argentina. p 14.
- McDowell KJ**, MH Adams, KM Franklin, CB Baker. 1993. Changes in equine endometrial retinol binding protein during the estrous cycle, early pregnancy and with exogenous steroids. Biol Reprod 44, Suppl 1:159.
- McDowell KJ**, MH Adams, CB Baker. 1993. Initiation of transcription of genes for chorionic gonadotropin. Proc Thirteenth Equine Nutrition and Physiology Symposium. Gainesville, Florida. p 307.
- McDowell KJ**, MH Adams, CB Baker. 1994. Cloning and sequencing of equine transferrin: synthesis and secretion of transferrin by conceptus membranes. Sixth International Symposium on Equine Reproduction. Caxambu, Brazil. August 7-13. pp 33-34.

- Green J, S Xie, A Newman, B Szafranska, RM Roberts, CB Baker, **K McDowell**. 1994. Pregnancy-associated glycoproteins of the horse. *Biol Reprod* 50, Suppl 1:152.
- McDowell KJ**, MH Adams, CB Baker. 1995. Molecular cloning and sequencing of equine AFP: synthesis of AFP by conceptus membranes and presence in fetal fluids. *Biol Reprod* 52, Suppl 1:94.
- Adams MH, CB Baker, **KJ McDowell**. 1995. Inhibin alpha subunit in stallion adrenal and testis. *Biol Reprod* 52, Suppl 1:86.
- Daniel KS, MH Adams, CY Behrendt, CB Baker, **KJ McDowell**. 1997. Identification of genes expressed in day 12 and 15 horse conceptuses by suppression subtraction hybridization. *Biol Reprod* 54, Suppl 1:88.
- Behrendt CY, MH Adams, KS Daniel, **KJ McDowell**. 1997. Oxytocin expression by equine endometrium. *Biol Reprod* 54, Suppl 1:134.
- Adams MH, ND Sullivan, CY Behrendt, KS Daniel, TL Lear, **KJ McDowell**. 1997. Molecular cloning of estrogen and progesterone receptors from equine endometrium. *Biol Reprod* 54, Suppl 1:153.
- Farmerie TA, RA Abbud, PR Budworth, CM Clay, RA Keri, **KJ McDowell**, MW Wolfe, JH Nilson. 1997. Characterization of the equine glycoprotein hormone alpha-subunit gene reveals divergence in the mechanism of pituitary and placental expression. *Biol Reprod* 54, Suppl 1:177.
- Lear TL, MH Adams, **KJ McDowell**, FA Ponce de Leon, ND Sullivan, L Coogle, E Ferguson, TM Chambers, E Bailey. 1997. Chromosomal location of the genes for ESR, ETS2, GOT2, KIT, MX1, and PGR in the horse, *Equus caballus*. Tenth North American Colloquium on Gene Mapping and Cytogenetics of Domestic Species (Proceedings), p 24.
- McDowell KJ** MH Adams, CY Adam, KS Simpson. 1998. Modulation of endometrial estrogen receptor gene expression by estradiol and progesterone. Proceedings of the Seventh International Symposium of Equine Reproduction. Pretoria, South Africa, p 81.
- Simpson KS, MH Adams, CY Behrendt-Adam, CB Baker, **KJ McDowell**. 1998. Differential gene expression between day 12 and 15 equine conceptuses. Proceedings of the Seventh International Symposium of Equine Reproduction. Pretoria, South Africa, p 143.
- Behrendt-Adam CY, MH Adams, KS Simpson, **KJ McDowell**. 1998. The effects of steroids on endometrial oxytocin mRNA production. Proceedings of the Seventh International Symposium of Equine Reproduction. Pretoria, South Africa. p 77.
- Williams N, J Donahue, **K McDowell**, D Bolin, R Giles, L Harrison, C Hong, J Patterson-Kane, K Poonacha, T Swerczek, R Tramontin. 1999. Equine nocardioform placentitis. *J Equine Vet Sci* 19:584.
- Adams MH, CY Adam, KS Simpson, **KJ McDowell**. 1999. Distribution of estrogen and progesterone receptor mRNA's in the endometrium of cycling and early pregnant mares. *Biol Reprod* 60 Suppl 1: 243.
- Simpson KS, MH Adams, CY Adam, **KJ McDowell**. 1999. Differential gene expression in early equine embryonic development. *Biol Reprod* 60 Suppl 1: 191.
- Behrendt-Adam CY, MH Adams, KS Simpson, KM Smith, WJ Silvia, PD Burns, **KJ McDowell**. 1999. Oxytocin stimulates prostaglandin F<sub>2α</sub> release from equine endometrium in vitro. *Biol Reprod* 60 Suppl 1: 205.
- Smith KM, CY Behrendt-Adam, MM Ward, MH Adams and **KJ McDowell**. 2000. Oxytocin causes prostaglandin F<sub>2α</sub> release from equine endometrium in a day-, dose- and time-dependent manner. *Biol Reprod* 62 Suppl 1:344.

- Pelehach, LM, DC Sharp, MB Porter, LN Dixon and **KJ McDowell**. 2000. Role of estrogen and progesterone in the control of uterine edema in pony mares. *Biol Reprod* 62 Suppl 1:258.
- Harrison, LR, DC Bolin, JM Donahue, RM Dwyer, RC Giles, JH Hemming, CB Hong, KJ McDowell, K Newman, KB Poonacha, DG Powell, JF Roberts, MM Sebastian, SF Sells, BJ Smith, RA Smith, TW Swerczek, T Tobin, RR Tramontin, ML Vickers, NM Williams. 2001. Kentucky equine abortion storm and related conditions. American Association of Veterinary Laboratory Diagnosticians. Hershey PA.
- McDowell K**. Phytoestrogens and estrogenic activity in white clover samples from no loss and high loss fields during MRLS 2001. First Workshop on Mare Reproductive Loss Syndrome (MRLS), Lexington, KY, 2002, p 40.
- Webb BA, WE Barney, DL Dahlman, C Collins, NM Williams, **K McDowell**. 2002. Induction of MRLS by directed exposure of susceptible mares to eastern tent caterpillar larvae and frass. First Workshop on Mare Reproductive Loss Syndrome (MRLS), Lexington, KY, 43.
- Webb BA, WE Barney, DL Dahlman, C Collins, N Williams, D Williams, **K McDowell** 2002. Induction of MRLS by directed exposure of susceptible mares to eastern tent caterpillar larvae and frass – Experiment 2. Workshop on Mare Reproductive Loss Syndrome (MRLS), Lexington, KY, p 44.
- Dirikolu L, M Sebastian, C Hughes, J Curtchfield,, AF Lehner , **K McDowell**, L Harrison JD Harkins, J Boyles, A Troppmann, SI Baskin, T Tobin T. 2002. Evaluation of the possible role of cyanide in MRLS. First Workshop on Mare Reproductive Loss Syndrome (MRLS), Lexington, KY, p 42.
- Tobin T, **K McDowell**, CG Hughes, AF Lehner, J Crutchfield, JD Harkins, L Dirikolu, M Sebastian, L Harrison, N Williams, R Smith, B Webb, K Newman, R Allman, R Dwyer, D Powell. 2002. The Kentucky 2001 Mare Reproductive Loss Syndrome: overview and preliminary toxicological approaches. Proc 14th Int'l Conf Racing Analysts Vets, Orlando, FL.
- Camargo F, L Dirikolu, M Sebastian, C Hughes, J Crutchfield, JD Harkins, J Boyles, A Troppmann, **K McDowell**, L Harrison, T Tobin. 2002. The toxicokinetics of cyanide and mandelonitrile in the horse and their relevance to the Mare Reproductive Loss Syndrome. Proc 14th Int'l Conf Racing Analysts Vets, Orlando, FL.
- McDowell K**. 2002. Use of recommended insecticides in the vicinity of broodmares. First Workshop on Mare Reproductive Loss Syndrome (MRLS), Lexington, KY, p 50.
- Webb BA, WE Barney, SN DeBorde, **KJ McDowell**, NM Williams, JM Donahue. 2003. Investigating the association of eastern tent caterpillars with mare reproductive loss syndrome. The 2003 Entomology Society of America Annual Meeting and Exhibition. [http://esa.confex.com/esa/2003/techprogram/paper\\_12207.htm](http://esa.confex.com/esa/2003/techprogram/paper_12207.htm)
- McDowell KJ**, MN Williams, JM Donahue, L Poole, B Coe, WE Barney, L Ennis, K Newman, B Lynn, BA Webb. 2003. Deductive investigation of the role of eastern tent caterpillars in mare reproductive loss syndrome. Workshop On The Equine Placenta. Lexington, KY Dec 5-6. 2003. pp 26-27.
- McDowell KJ**, NM Williams, JM Donahue, KE Newman, MD Lindemann, BA Webb. 2004. Initial characterization of abortigenic activity associated with mare reproductive loss syndrome. *J Anim Sci* 82, Suppl 1:101.
- Moore, ES\*, AG Parks, LM Lawrence, **KJ McDowell**. 2008. Endophyte infected fescue seed causes vasoconstriction in horses as measured by Doppler ultrasonography. *J Anim Sci* 86, Suppl 2:403.

**McDowell KJ**, ES Moore, AG Parks, LM Lawrence. 2009. Use of Doppler ultrasonography on horses to detect vasoconstriction caused by endophyte infected fescue. Equine Science Society Proceedings, J Eq Vet Sci 29: 338.

### Nonrefereed Publications

**McDowell KJ**, DC Sharp, MT Zavy, A Fazleabas. 1981. Uterine luminal proteins at the time of maternal recognition of pregnancy in the mare. University of Florida Graduate Student Symposium on the Peri-implantation Period in Domestic Animals. pp 60-61.

**McDowell KJ**, DC Sharp, AT Fazleabas, RM Roberts. 1983. Intrauterine proteins during early pregnancy in mares. Proc Eighth Equine Nutrition and Physiology Society, Lexington, KY. pp 289-294.

**McDowell KJ**. 1984. Pregnancy diagnosis. Proc University of Florida's Breeding Management Short Course. pp 65-66.

**McDowell KJ**, DC Sharp. 1984. Establishment of pregnancy. Proc University of Florida's Breeding Management Short Course. pp 53-60.

Sharp DC, **KJ McDowell**. 1984. Why does it move? Mobility may hold the key to early pregnancy survival. Modern Horse Breeding, Vol 1, No 12:1-5.

**McDowell KJ**. 1986. Pregnancy and its diagnosis. A. Embryonic role in establishing pregnancy. Proc University of Florida's Breeding Management Short Course. pp 52-60.

**McDowell KJ**. 1986. Pregnancy diagnosis by chemical tests. Proc University of Florida's Breeding Management Short Course. pp 66-67.

Sharp DC, **KJ McDowell**. 1987. Unraveling the early embryo's secrets of survival. Modern Horse Breeding. Vol IV No 6:9-15.

Grubaugh W, DC Sharp, **KJ McDowell**. 1987. Opiatergic control of LH secretion in the mare. Proc Tenth Equine Nutrition and Physiology Society. Fort Collins, CO. pp 313-318.

Weithenauer J, DC Sharp, **KJ McDowell**, SD Davis, M Seroussi, P Sheerin. 1987. Characterization of the equine conceptus prostaglandin-inhibitory product. Proc Tenth Equine Nutrition and Physiology Society. Fort Collins, CO. pp 215-220. **McDowell KJ**. 1989. Studies on embryonic development and maternal recognition of pregnancy in mares. The Blood Horse. Dec 2, pp 6711-6712.

**McDowell KJ**. 1989. The use of artificial lighting to induce ovarian cyclicity in mares. Proc Horse Farm Management Symposium, Univ KY. pp 9-12.

Baker CB, TV Little and **KJ McDowell**. 1992. Normal reproductive success rates in Thoroughbreds. Invited Paper. Proc of the Annual Meeting of the Society for Theriogenology. pp 71-78.

Baker CB, TV Little, **KJ McDowell**. 1993. Secrets of a successful breeding season. The Blood Horse. Jan 9, pp 138-141.

**McDowell KJ**, MH Adams, CB Baker. 1993. Initiation of transcription of genes for chorionic gonadotropin. Proc Thirteenth Equine Nutrition and Physiology Symposium. Gainesville, Florida. pp 307-308.



- McDowell, KJ.** 1998. Oxytocin and maternal recognition of pregnancy in mares. *Equine Disease Quarterly* 6(2):2-3.
- McDowell, KJ.** 1998. Conceptus-maternal communication in horses. *Equine Disease Quarterly* 6(3):4-5.
- McDowell, KJ.** 1998. Oxytocin and maternal recognition of pregnancy. *J Equine Vet Sci* 18:158-159.
- McDowell, KJ.** 1998. Conceptus-maternal communication in horses. *J Equine Vet Sci* 18:308-313.
- McDowell, KJ.** 2001. Factors affecting reproductive success in broodmares. Proc 2001 Alberta Horse Breeders and Owners Conference. Red Deer, Alberta, Canada.
- McDowell, KJ.** 2001. Reproductive Success in Broodmares. *Equine Disease Quarterly* 9(3):4-5.
- McDowell, KJ.** 2002. Reproductive Success in Broodmares – Part 2. *Equine Disease Quarterly* 10(2):2-4.
- McDowell, KJ.** 2002. Optimizing reproductive success in broodmares and maternal recognition of pregnancy. Proceedings of the British Equine Veterinary Association Stud Management Course. Newmarket, England..
- McDowell K.** 2003. An Overview of Mare Reproductive Loss Syndrome. Proceedings of the Zwolse International Stallion Show. Zwolse, The Netherlands, p 37-40.
- Webb BA, Barney WE, Dahlman DL, Collins C, Williams N, **McDowell KJ.** 2003. Induction of MRLS by directed exposure of susceptible mares to eastern tent caterpillar larvae and frass. Proceedings of the First Workshop on Mare Reproductive Loss Syndrome (MRLS):78-79.
- Harkins JD, L Dirikolu, M Sebastian, C Hughes, J Curtchfield, A Troppmann, J Boyles, B Webb, **K McDowell,** W Long, J Henning, L Harrison, T Fitzgerald, T Tobin. 2003. Cherry Trees, plant cyanogens, caterpillars and mares reproductive loss syndrome: toxicological evaluation of a working hypothesis. Proceedings of the First Workshop on Mare Reproductive Loss Syndrome (MRLS):68-74.
- McDowell K,** Allman R, Henning J. 2003. Phytoestrogens and estrogenic activity in white clover samples from no loss and high loss fields during MRLS 2001. Proceedings of the First Workshop on Mare Reproductive Loss Syndrome (MRLS): 63-65.
- McDowell K.** 2003. Use of recommended insecticides in the vicinity of broodmares. Proceedings of the First Workshop on Mare Reproductive Loss Syndrome (MRLS): 96-98.
- McDowell KJ,** NM Williams, JM Donahue, L Poole, WE Barney, B Coe, S Deborde, L Ennis, KE Newman, M Lindemann, B Lynn, BA Webb. 2004. Deductive investigations of the role of eastern tent caterpillars in mare reproductive loss syndrome. Proceedings of a Workshop on the Equine Placenta: 99-103
- McDowell K.** 2008. Mare Reproductive Loss Syndrome Update. *Equine Disease Quarterly* 17(2):5.

#### Ad-hoc Reviewer

#### Journals

#### Research Proposals

Biology of Reproduction	USDA-NRICGP Panel Member, Reproductive Efficiency, 1999
British Veterinary Journal	USDA/ARS
Domestic Animal Endocrinology	USDA/NRICGP (Reproductive Efficiency)
Equine Veterinary Journal	USDA/NRICGP (Animal Health/Animal Genome)
Institute for Laboratory Animal Research, National Research Council, National Academy of Sciences	BARD (US-Israel Bionational Ag R&D Fund)
Journal of Andrology	Grayson-Jockey Club Research Fnd
Journal of Equine Veterinary Science	Dynasty Equine Trust, Guelph, Ontario
Journal of Reproduction and Fertility	Univ Kentucky Medical Ctr Research Fnd
Reproduction /	
Reproduction, Fertility and Development	
Theriogenology	

### **Committee Service**

#### **International**

Organizer and Chair: Workshop on Pregnant Mares. Sixth International Symposium on Equine Reproduction. Caxambu, Brazil. August 11, 1994.

Committee Member: Society for the Study of Reproduction Animal Care and Experimentation Committee for 1994-1997.

Chair and Committee Member: Society for the Study of Reproduction Animal Care and Experimentation Committee for 1995-1996.

Organizer and Chair: Workshop on Mare Reproductive Loss Syndrome. Eighth International Symposium on Equine Reproduction. Fort Collins, CO, USA July 22, 2002.

#### **National**

Committee Member, Reproductive Physiology Program. Equine Nutrition and Physiology Society. 1988-1989.

#### **University**

Institutional Animal Care and Use Committee, 1989-2006 (College of Agriculture Chair since 2004)

Search committee for Director, Division of Laboratory Animal Resources. 2005 – 2007.

Trainee Affairs Committee, The University of Kentucky Forum for Reproductive Sciences, 1996 – 2000.

Recruitment Committee, The University of Kentucky Forum for Reproductive Sciences, 1996-1998

Executive Committee Member, The University of Kentucky Forum for Reproductive Sciences, 1988-present.

Director, Eighth Lexington Hormone Research Symposium. 1989. Lexington, Kentucky.

Howard Hughes Medical Institute Undergraduate Research Coordinating Committee. 1992-1999.

Radiation Safety Committee, 1995-1998.

Search Committee for University Radiation Safety Officer, 1997.

Senate Advisory Prior Service Committee. 1995-1998.

Graduate Council Committee on Fellowships and Traineeships, 1998-2001.  
Graduate Council Academic Excellence Scholarship Selection Committee. 1999.  
Graduate Council Dissertation Year Fellowship Committee. 2000-2001.  
Graduate Council Presidential Scholarship Award Committee. 2001.  
UK Graduate School Cralle Foundation Fellowship selection panel 2006.  
Search committee for Director, Division of Laboratory Animal Resources. 2005 – 2007

### **College**

College of Agriculture Curriculum Review Planning Committee, to provide an overall plan for  
conduction the curriculum revitalization for the College of Agriculture, 1991.  
College-wide committee to develop and propose an independent degree program in Agricultural  
Biotechnology. 1992-1994.  
Agricultural Biotechnology Coordinating Committee member, 1991-1997.  
Agricultural Biotechnology Academic Advisor, 1991-1999.  
Thomas Poe Cooper Research Award Committee member, 2002.  
Mare Reproductive Loss Syndrome Toxicology Committee, 2001 – 2002.  
Mare Reproductive Loss Syndrome Liaison Committee, 2003-2005.  
Periodic Review Committee for Entomology Department, 2003-2004.  
Periodic Review Committee for Animal and Food Science Department, 2004-2005.  
Search committee for new faculty members in the Department of Animal and Food Science,  
emphasis equine nutrition / physiology. 2005-2007.  
College Equine Planning Initiative. General committee member and member of Research  
Subcommittee. 2005-current  
Curriculum committee for the Equine Initiative, 2006 – present.  
Search committee for Director, Livestock Disease Diagnostic Center, 2007.  
Search committee for Assistant Dean for Research, College of Agriculture, 2008.

### **Departmental**

Organizer, Department of Veterinary Science Graduate Student Seminar Series. 1988-1989.  
Search Committee for Instructor, Department of Veterinary Science. 1988-1989.  
Animal Resources Advisory Committee, 1992-1998.  
Graduate Faculty Committee, 1992-present.  
Graduate Faculty Subcommittee Chair, Developing Guidelines for Theses and Dissertations. 1996-  
1997.  
Gluck Equine Research Center Safety Committee. 1996-present. Committee Chair 2002 – 2006.  
Hatch/Animal Health Review Committee. 1997-2002.  
Curriculum Planning Committee. 1997-present  
Faculty Performance Advisory Committee. 1996-2002.  
Search for Chair, Department of Veterinary Science. 2001.  
Search Committee for the Albert Clay Endowed Chairperson in Equine Reproduction. 2000-2002;  
2008-present.  
New Building Steering Committee. 2000-2006  
Appointments, Promotion and Tenure Committee, Veterinary Science. 2003 – 2006.  
Paul Mellon Post-Doctoral Scholarship Advisory Selection Committee, 2006-present.

Chair, Animal Resources Advisory Committee, 2008 - present  
Chair, Safety Advisory Committee, 2008 - present.

## **Professional Activities**

### **International**

- Speaker and Participant, Third International Symposium on Equine Reproduction, Sydney, New South Wales, Australia. Jan 24-29, 1982.
- Invited Speaker, Sydney Post-Graduate Veterinarians and Breeders Talks, Sydney, New South Wales, Australia. Jan 31, 1982.
- Invited Speaker, Queensland Post-Graduate Veterinarians and Breeders Talks, Brisbane, Australia. Feb 2 and 3, 1982.
- Speaker and Participant, First International Symposium on Equine Embryo Transfer, Cornell University, Ithaca, New York. Oct 7-10, 1984.
- Participant, 18th Annual Meeting of the Society for the Study of Reproduction. Montreal, Quebec, Canada. July 22-25, 1985.
- Speaker and Participant, Fourth International Symposium on Equine Reproduction, Calgary, Alberta, Canada. Aug 24 - 29, 1986.
- Participant, Second International Symposium on Equine Embryo Transfer. Banff, Alberta, Canada. February 1-5, 1989. I was co-author on one paper presented at the meeting.
- Participant, Fifth International Symposium on Equine Reproduction, Deauville, France, July 1-7, 1990. One paper was presented from my lab and I was co-author on a second.
- Participant, Workshop in Molecular Biology: Techniques in Reproductive Biology. Sponsored by the Society for the Study for Reproduction. Vancouver, British Columbia, Canada. July 28, 1991.
- Speaker and Participant, 24th Annual Meeting of the Society for the Study of Reproduction. Vancouver, British Columbia, Canada. July 29-31, 1991. Two abstracts were presented from my laboratory.
- Invited Speaker, John Hughes International Workshop on Equine Endometritis. Newmarket, England. August 19-20, 1992. Topic: Steroid control of protein secretion by the endometrium.
- Speaker and Participant, Third International Symposium on Equine Embryo Transfer. Nov 15-18, 1992. Buenos Aires, Argentina. Topic: Retinol binding protein in equine endometrium.
- Invited Organizer and Chair of the Workshop on Pregnant Mare during the Sixth International Symposium of Equine Reproduction. Caxambu, Brazil. August 11, 1994.
- Speaker and Participant, Sixth International Symposium of Equine Reproduction. Caxambu, Brazil. August 6-13, 1994. Topic: Cloning and sequencing equine transferrin cDNA: synthesis and secretion of transferrin by conceptus membranes.
- Presented two lectures for the Kentucky International Thoroughbred Institute (KITI) program for overseas students. April 15 and 17, 1996. Topic: Equine Reproduction
- Participant, 29th Annual Meeting of the Society for the Study of Reproduction. London, Ontario, Canada. July 27-30, 1996.
- Presented two lectures for the Kentucky International Thoroughbred Institute (KITI) program for overseas students. April 9 and 18, 1997. Topic: Equine Reproduction
- Speaker and Participant. Seventh International Symposium on Equine Reproduction. Pretoria, South Africa. July 12-18, 1998. Topic: Modulation of endometrial estrogen receptor gene

- expression by estradiol and progesterone. Two additional abstracts were presented by graduate students in my laboratory.
- Presented two lectures for the Kentucky International Thoroughbred Institute (KITI) program for overseas students. April 21 and 23, 1999. Topic: Equine Reproduction
- Invited Speaker, Horse Breeders and Owners Conference, Alberta Canada. Jan 12 – 14, 2001. Topic: Factors Affecting Reproductive Success in Horses.
- Invited Speaker, British Equine Veterinary Association Stud Management Course, Newmarket, England Jan 21-25, 2002. Topic: Optimizing reproductive success in broodmares and maternal recognition of pregnancy.
- Participant, Eighth International Symposium on Equine Reproduction, Fort Collins, CO July 22, 2002.
- Invited Organizer and Chair, of the workshop on MRLS at the Eighth International Symposium on Equine Reproduction, Fort Collins, CO July 22, 2002.
- Invited Speaker: Zwolse International Stallion Show. Zwolse, The Netherlands, February 20, 2003. Topic: Mare Reproductive Loss Syndrome.
- Speaker and Participant: Workshop on the Equine Placenta. Lexington, KY Dec 5-6, 2003.
- Speaker and Participant: 2004 ADSA-ASAS-PSA Joint Meeting. St Louis, MO, July 25-29, 2004.
- Participant: 8th Annual Clinical Embryologist's Summit Conference - Embryo Genetic Screening and Viability Assessment: Current and Future Molecular Methods, Madison, WI, May 5, 2007
- Participant, ADSA-ASAS-PSA Joint Meeting. Indianapolis, IN July 9-11, 2008. One abstract was presented from my laboratory.
- Participant, Equine Science Society Meeting, Keystone CO, May 28-31, 2009. One abstract was presented from my laboratory.
- Invited Speaker: 29<sup>th</sup> Annual Meeting of the American Society for Reproductive Immunology(ASRI) in Orlando, Florida June 5-9, 2009. Topic: The Role of Caterpillars in Mare Reproductive Loss Syndrome – A Model for Environmental Causes of Abortion.
- Participant: Gamete and Embryo Molecular Biology Training Course in Philadelphia, PA, presented by the Primate Embryo Gene Expression Resource (PREGER), the Fels Institute for Cancer Research and Molecular Biology, and Temple University School of Medicine. July 26-Aug 7, 2009.

## **National**

- Speaker and Participant, 73rd Annual Meeting of the American Society of Animal Science. Raleigh, North Carolina. July 26-29, 1981.
- Participant, 14th Annual Meeting of the Society for the Study of Reproduction. Corvallis, Oregon. August 10-13, 1981.
- Invited Speaker, Graduate Student Symposium on the Peri-Implantation Period in Domestic Animals, Gainesville, Fla. Oct 15-16, 1981.
- Speaker and Participant, 75th Annual Meeting of the American Society of Animal Science. Pullman, Washington. July 26-29, 1983.
- Lecturer and Co-Organizer, Breeding Management Short Course, Lowell, Florida. Jan 29, 30, 31 1984.
- Participant, 17th Annual Meeting of the Society for the Study of Reproduction. Laramie, Wyoming. July 23-26, 1984.

- Lecturer and Co-Organizer, Breeding Management Short Course. Lowell, Florida. Feb 1, 2 and 3, 1985.
- Invited Speaker, Equine Embryo Transfer Short Course. Fort Collins, Colorado. Sept 22 and 23, 1986.
- Participant, 21st Annual Meeting of the Society for the Study of Reproduction. Seattle, Washington. August 1-4, 1988.
- Participant, Workshop in Molecular Biology: Techniques in Reproductive Biology. Sponsored by the Society for the Study for Reproduction. Columbia, Missouri. August 6-9, 1989.
- Participant, 81st Annual Meeting of the American Society of Animal Science. Lexington, Kentucky. July 31-August 4, 1989.
- Participant, 22nd Annual Meeting of the Society for the Study of Reproduction. Columbia, Missouri. August 6-9, 1989.
- Participant, Workshop in Molecular Biology: Techniques in Reproductive Biology. Sponsored by the Society for the Study for Reproduction. Raleigh, North Carolina. July 12, 1992.
- Participant, 25th Annual Meeting of the Society for the Study of Reproduction. Raleigh, North Carolina. July 12-15, 1992.
- Participant and Speaker, Thirteenth Equine Nutrition and Physiology Symposium. Gainesville, Florida. Jan 21-23, 1993.
- Program Chair, Neuroendocrine Control of Reproduction, Thirteenth Equine Nutrition and Physiology Symposium. Gainesville, Florida. Jan 22, 1993.
- Participant, 26th Annual Meeting of the Society for the Study of Reproduction. Fort Collins, Colorado. Aug 2-4, 1993.
- Participant, Workshop in Molecular Biology: Techniques in Reproductive Biology. Sponsored by the Society for the Study for Reproduction. Fort Collins, Colorado. Aug 1 1993.
- Participant, Control of Gene Transcription in Embryogenesis. Univ of Cincinnati, Cincinnati, OH. Sept 27-28, 1993.
- Participant, 27th Annual Meeting of the Society for the Study of Reproduction. Ann Arbor, Michigan, July 24-27, 1994.
- Participant, Workshop in Molecular Biology: Techniques in Reproductive Biology. Sponsored by the Society for the Study for Reproduction. Ann Arbor, Michigan. July 23, 1994.
- Participant, Meeting of the Society for Developmental Biology. Williamsburg, Virginia, May 26-28, 1995.
- Participant, 28th Annual Meeting of the Society for the Study of Reproduction. Davis, California, July 9-12, 1995.
- Participant, Scientific Symposium: Reproductive Developmental Biology. San Francisco, California, July 14-15, 1995.
- Participant, Workshop in Molecular Biology: Techniques in Reproductive Biology. Sponsored by the Society for the Study for Reproduction. Portland, OR, Aug 2, 1997.
- Participant, 30th Annual Meeting of the Society for the Study of Reproduction. Portland, OR, Aug 2-5, 1997. Three abstracts were presented from my laboratory.
- Served on the review panel for USDA NRICGP proposals for Animal Reproductive Efficiency, Washington DC. Spring, 1999.
- Participant, 32nd Annual Meeting of the Society for the Study of Reproduction. Pullman, WA July 30-August 3, 1999. Three abstracts were presented from my laboratory.
- Conference attendant: "Making the Right Moves in Handling Research Misconduct Allegations. A Special Video Broadcast by NCURA and the Office of Research Integrity." Washington, DC March 24, 2000.

Participant, Techniques in Reproductive Biology Workshop. “Novel Techniques to Study Reproductive Biology: Strategies for the New Millennium”. July 15, 2000, Madison, WI.

Participant: “Stallion Handling Workshop” sponsored by the Univ Pennsylvania School of Veterinary Medicine. Nov 5-6, 1999. Kennett Square, Pennsylvania.

Participant, 33rd Annual Meeting of the Society for the Study of Reproduction. Univ Wisconsin, WI. July 15-18, 2000. One abstract was presented from my laboratory.

Speaker and Participant: First Workshop on Mare Reproductive Loss syndrome (MRLS). Lexington, KY. August 27-28, 2002.

Invited Speaker: Mid-America Veterinary Conference,. Louisville, KY October 3, 2003. Topic: MRLS Update.

Participant: Hagyard Bluegrass Equine Symposium 2006, held at the McGee Medicine Center and Embassy Suites Hotel, Lexington, KY, October 18 – 21, 2006.

Invited speaker: A workshop in Gainesville, Fl September 12, 2008 honoring Bill Buhi, Mike Fields and Dan Sharp for their life’s work in mammalian reproduction. Topic: MRLS: Deductive Investigations into the Role of Eastern Tent Caterpillars.

Invited speaker: American Association of Laboratory Animal Science (AALAS) Annual Meeting in Louisville KY, May 14 and 15, 2009. Topic: Caterpillars and Mare Reproductive Loss Syndrome – An Environmental Cause of Abortion.

Speaker and Participant: Equine Science Society Meeting, Keystone, CO May 28-June 1, 2009.

Invited speaker: American Society for Reproductive Immunology meeting in Orlando, FL, June 5-9, 2009. Topic: Mare Reproductive Loss Syndrome – A Model for Environmental Causes of Abortion.

### **College/University/Community**

Invited Speaker, Equine Reproduction Workshop, Sponsored by the Department of Animal Science. UK. Craig Wood, organizer. Feb 26, 1988.

Invited Speaker, Kentucky Equine Practitioners Association. Steve Conboy, organizer, Oct 20, 1988.

Participant, Seventh Lexington Hormone Symposium, Lexington, KY May 21-22, 1988.

Director and Participant, Eighth Lexington Hormone Symposium, Lexington, KY May 18-19, 1989.

Invited Speaker, The Horse Farm Management Symposium. Topic: The Use of Artificial Lighting to Induce Ovarian Cyclicity in Mares. Sponsored by the Department of Animal Science, UK. Craig Wood, organizer. Oct 5-6, 1989.

Invited by Agricultural Marketing Research Services to be the scientific advisor to a round-table discussion with local veterinarians on commercial use of GnRH mares. Hyatt Regency, Lexington, KY Oct 24, 1989.

Participant, Ninth Lexington Hormone Symposium, Lexington, KY May 17-18, 1990.

Invited Speaker, Horse Farm Management School. Topic: Early Embryonic Development. Sponsored by the Department of Animal Science, UK. Craig Wood, organizer. Jan 28, 1991.

Invited Speaker, Thoroughbred Farm Manager’s Club. Topic: What is Normal Reproductive Performance in Thoroughbreds? Jan 8, 1991.

Participant, Agriculture in 2001 Symposium, Lexington, KY May 6-7, 1991.

- Participant, Tenth Lexington Hormone Symposium, Lexington, KY May 16-17, 1991.
- Co-Organizer, Eleventh Lexington Hormone Symposium. Lexington, KY May 15-16, 1992.
- Co-Organizer, Twelfth Lexington Hormone Symposium. Lexington, KY May 14-15, 1993.
- Invited Speaker, Art and Science of Equine Production. March 3, 1993. Topic: Embryonic and Fetal Development in Horses. The course was broadcast by satellite to over 200 students in the United States.
- Co-Organizer, Thirteenth Lexington Hormone Symposium. Lexington, KY May 20-21, 1994.
- Co-Organizer. Fourteenth Lexington Hormone Symposium. Lexington, KY May 19-20, 1995.
- Invited Speaker, Breeders and Trainers Exposition and Conference, Nov 10, 1995.
- Invited by Hoechst-Roussel Agri-Vet Company to participate in a discussion on Reproductive Efficiency held at Fasig Tipton, December 13, 1995.
- Co-Organizer. Fifteenth Lexington Hormone Symposium. Lexington, KY May 17-18, 1996.
- Co-Organizer. Sixteenth Symposium in Reproductive Sciences. Lexington, KY May 16-17, 1997.
- Staffed the Gluck Center booth at Equitana, Louisville, KY. June 20 and 22, 1997.
- Co-Organizer. Seventeenth Symposium in Reproductive Sciences. Lexington, KY May 15-16, 1998.
- Co-Organizer. Eighteenth Symposium in Reproductive Sciences. Lexington, KY May 14-15, 1999.
- Staffed the Gluck Center booth at the College of Agriculture Staff Appreciation Day. Sept 10, 1999.
- Workshop attendant: "Research Misconduct" sponsored by the National Science Foundation, the Office of Sponsored Projects and the Office of Research Integrity. Dec 10, 1999.
- Co-Organizer. Nineteenth Symposium in Reproductive Sciences. Lexington, KY May 19-20, 2000.
- Invited Speaker, Horse Farm Manager's Club, Oxytocin-Prostaglandin Interactions. Lexington, KY, Feb 7, 2001
- Participant: MRLS: Preparing for 2002. Fayette County Extension Office, February 4, 2002.
- Speaker and Participant. 2002 Mare Reproductive Loss Syndrome (MRLS) In-House Research Program, The Thoroughbred Club of America, Lexington, KY March 1, 2002.
- Invited by KTOBA to present an update on my MRLS research to farm managers and interested horseman at Overbrook Farm, Nov 11, 2003; at Thoroughbred Club of America. Dec 4, 2003; at Keeneland Racetrack, Jan 6, 2004.
- Invited speaker, Kentucky Association of Equine Practitioners Meeting., Feb 18, 2004. Topic: MRLS update
- I contributed 7 summaries of my MRLS research to the UK/Vet Sci/MRLS WEB page
- My research on MRLS was cited in local, national and international publications, including DVM Magazine (7-23-02); Veterinary Sciences Tomorrow (<http://www.vetscite.org/>; 11-19-03); The Horse (multiple interviews and both print and WEB articles); JAVMA *News* 223:1406. (9-15-03); TV Channel 18 News (9-15-03); and the Louisville Courier Journal (9-26-03).
- Participant: Genetics Workshop. Sponsored by the UK College of Health Sciences, and held at the Crowne Plaze Campbell House, Lexington. March 7, 2006.

### **Interdisciplinary and Interuniversity Research**

(Projects other than those listed under Funding for Research Activities)



Regulation of Equine Chorionic Gonadotropin Expression. Dr. J H Nilson, Case Western Reserve University, Cleveland, OH, principal investigator; KJ McDowell, collaborator. Funded by National Institutes of Health to Dr. Nilson.

Mechanisms of Placenta-Specific Gene Expression. Dr. C Clay, Colorado State University, Fort Collins, CO, principal investigator; KJ McDowell, collaborator. Funded by National Institutes of Health to Dr. Clay.

Inhibin-like Proteins of Conceptuses. Dr. RM Roberts, McKenzie Distinguished Professor, Dept Biochemistry, U Missouri principal investigator, KJ McDowell, collaborator. Funded by National Institutes of Health to Dr. Roberts.

Estrogen Regulation of Endometrial Function in Mares. Dr. DC Sharp, U Florida principal investigator, KJ McDowell, collaborator.

## Teaching

### Activities Undertaken to Improve Teaching

Participant, "Understanding or Memorization: Are We Teaching the Right Thing ?" presented by Dr. Eric Mazur, Gordon McKay Professor, Harvard University. 1996.

Participant, "Credit Where Credit is Due: When Graduate Students and Faculty are in Conflict on Credit for Research" a workshop sponsored by the UK Teaching and Learning Center. April 7, 2003.

### Primary Instructor

Organizer, Department of Veterinary Science Graduate Student Seminar Series. 1988-1990.

Introduction to Biotechnology (GEN 300). Fall semester, 1994. 20 students.

Introduction to Biotechnology (ABT 101). Fall semester, 1995-1998. Average of 32 students per semester

Advanced Techniques in Veterinary Science - Equine Reproduction (VS 791), Spring semester, 1997. 4 students.

### Faculty Guest Lecturer

UK Forum for Reproductive Biology. 1989 - present. I present at least 1 seminar each year.

DSP 130 Natural Sciences – Hoofbeats Mean Horses for Kentucky. 1 lecture Fall 2005.

VS 350 Introductory Anatomy, Physiology and Animal Hygiene. 1989-2005. I taught 2 classes each Fall.

VS 351 Principles of Animal Hygiene and Disease Control. 1990. 2 lectures

ASC 360 Genetics. 1990. 1 lecture

ASC 364 Reproductive Physiology of Farm Animals. 2006 – present. I teach 6 lab sessions each year on equine reproduction.

ASC 410G Horse Science/The Art and Science of Equine Production. 1992, 1996, 1999, 2000. Conducted laboratory on palpation, ultrasound and AI each year.

ASC462G Artificial Insemination/Fertility of Farm Animals. 1995-2003. I conducted 2 lectures/laboratories on palpation, ultrasound and AI each year.

Gee-Whiz in Agriculture - Instructional Television Series. 45 minute television video on reproduction entitled "Chickens and Piglets and Lambs OH MY!" telecast by the Kentucky Educational Network, funded by USDA Agricultural Telecommunications Grant. This satellite program was designed for 4th and 5th grade elementary students. Aired April 15, 1997. It was broadcast in all 50 states. Gee Whiz in Agriculture was honored by the

Association of Kentucky Extension Specialists with the Outstanding Extension Program Award.

PGY 607 Advanced Reproduction. 1997. 1 lecture.

PGY 660 Advanced Physiology of Reproduction. 1999. 4 lectures/discussion sessions.

VS 791 Special Topics in Equine Studies. April 4, 2001. 1 lecture/discussion session.

ASC 793 Special Topics in Animal Sciences. 2006. I co-led this course for graduate students in Reproductive Physiology

#### As a teaching assistant in graduate school

Received the Merriman Award for Outstanding Teaching, University of Tennessee, 1980.

Advanced Reproductive Physiology, graduate level, 1978-1980, University of Tennessee.

Artificial Insemination, graduate level, 1978-1980, University of Tennessee.

Reproductive Physiology, undergraduate level, 1978-1980, University of Tennessee.

Reproductive Physiology, graduate level, 1978-1980, University of Tennessee.

Introduction to Animal Science, undergraduate level, 1978-1980, University of Tennessee.

Advanced Physiology of Reproduction, graduate level, 1983-1985, University of Florida.

### **Student Advising - Graduate Students:**

#### **PhD Students:**

##### Major Advisor:

Christa Adam. 1999. University Graduate Student Travel Fellowship (1997; 1998), John Hughes International Equine Reproduction Fellowship (1998). Larry Ewing Memorial Trainee Fellowship (1999). Dissertation title: Equine Uterine Endometrial Oxytocin: Changes in mRNA Abundance during the Estrous Cycle, Early Pregnancy, and with Exogenous Steroids, and Oxytocin Effects on Uterine PGF<sub>2α</sub> Release *In Vitro*. Dr. Adam obtained a tenure-track assistant professorship at Missouri Western State University when she completed her PhD, a position that she currently holds.

##### Major Advisor:

Kristen Simpson. 1999. NIH-Predocutorial Fellow (1998-1999), Geoffrey C. Hughes Fellow (1994-1998), University Open Competition Fellowship (1996-1997), University Allocated Fellowship (1995-1996). Dissertation title: Differentially expressed genes during early equine conceptus development: temporal and spatial expression from day 12 through day 30 of gestation. Dr. Simpson is currently a post-doctoral fellow in the Department of OB/GYN at the University of Kentucky.

#### **PhD Students:**

##### Advisory Committee Member

Thomas V Little, DVM. 1993. Veterinary Science. Dissertation title: Persistent Equine Arteritis Virus Infection in the Stallion.

Warren B Nothnick. 1993. Physiology. Dissertation title: Ovulatory Dysfunctions Associated with Endometriosis.

- Clara Fenger. 1996. Veterinary Science. Geoffrey C. Hughes Fellow (1993-1996). Dissertation title: Application of the Small Subunit Ribosomal RNA Gene Sequence of *Sarcocystis neurona* Toward Delineation of a Definitive Host and Serological Studies.
- Darrilyn Fraser. 1998. Veterinary Science. Geoffrey C. Hughes Fellowship (1995-1998), University Open Competition Fellowship (1996), University Presidential Fellowship (1997). Dissertation title: Studies on the Organization and Polymorphism of Equine MHC Class II Genes.
- Sandra Burnett. 2000. Veterinary Science. Dissertation title: Development of a Competitive Reverse Transcription-Polymerase Chain Reaction Assay for Quantitation of Equine Interferon Gamma, Interleukin-2, Interleukin-4 and Glyceraldehyde-3-Phosphate Dehydrogenase.
- Rebecca Terry. 2001. Veterinary Science. Dissertation title: Investigations of Candidate Genes for Appaloosa Coat Color in Horses.
- Patrick Gallagher. 2001. Veterinary Science. Dissertation title: Repetitive DNA Sequences in the Horse Genome.
- Jarlath Nally. 2001. Veterinary Science. Maxwell and Muriel Gluck Fellowship in Equine Studies, Dissertation title: Temperature Regulated Antigens of *Leptospira interrogans*.
- Ashley Johnson. 2005. Chemistry. Dissertation title: Group I Intron-Derived Ribozyme Reactions.

Served as Outside Member of PhD Advisory Committee:

- April Forsberg. 1994. Physiology. Dissertation title: Modulation of Nitric Oxide During Pregnancy.
- Lorri Ann Morford. 1995. Microbiology. Dissertation title: Role of Insulin-Like Growth Factor (IGF) and IGF Binding Proteins in Human Glioblastoma Growth, Adherence and Migration.
- Douglas Schelling. 1997. Biology. Dissertation title: Identification and Characterization of the Juvenile Hormone Esterase Core Promoter.
- Ozhan Eyigor. 1999. Anatomy and Neurobiology. Dissertation title: Involvement of Kainate-Preferring Glutamate Receptors in the Regulation of Gonadotropin-Releasing Hormone Neurons.
- Thomas (Ben) Hatler. 2004. Animal Science. Dissertation title: Subluteal Concentrations of Progesterone in Cows with Ovarian Follicular Cysts : the Source of this Progesterone and its Influence on Follicular Phase Events in Cyclic, Lactating Dairy Cows.
- Travis Sexton. 2009. Biological Sciences. Dissertation title: The Distribution of UPAIRED During *Drosophila* Oogenesis.

**MS Students:**

Major Advisor

- Nicole Sullivan. 1997. Lyman T. Johnson Minority Fellow (1995-1997). Thesis title: Molecular Cloning and Chromosomal Localization of the Equine Estrogen Receptor. Ms Sullivan obtained a position as a laboratory technician after she completed her MS degree.
- Kimberly Smith. 2000. Kentucky Research Challenge Fellow (1998-2000), Kentucky Research Challenge Grant (1999). Thesis title: The Relationship Between Oxytocin and Prostaglandin PGF<sub>2 $\alpha$</sub>  at the Expected Time of Luteolysis in Mares. After completing her MS degree, Ms obtained her DVM at Auburn Veterinary School, and is now in private practice in West Virginia.

Michelle Ward. 2001. Grayson-Jockey Club Research Foundation Fellow (1999-2000). Thesis title: Development of a Perfusion Culture System to Examine Oxytocin and Prostaglandin  $PGF_{2\alpha}$  Interaction in the Mare. After obtaining her MS degree, Ms Ward was employed at Washington State University School of Veterinary Medicine in anesthesiology, and is now attending veterinary school.

Scarlett Black, MS. 2008. Thesis topic: Effects of the Herbicides Plateau and Cimarron on Pregnancy Maintenance in Broodmares". Ms Black's stipend and research were funded by a USDA-ARS research grant.

#### Advisory Committee Member

John Langemier. 1991. Veterinary Science. Thesis title: Southern Blot Analysis of T-complex Genes in the Horse.

Shelby Stamper. 1997. Veterinary Science. Thesis title: Seroprevalence of Antibodies in Two Selected Populations of Horses - One Occurring in Central Kentucky and the Other on Land Controlled by the Federal Government.

Steve Schneider. 1998. Veterinary Science, Geoffrey C. Hughes Fellow (1994-1998). Thesis title: The Genetic Comparison of *Sarcosistis neurona* and Related Protozoa Using the Amplified Fragment Length Polymorphism (AFLP) Technique.

Heather Bair. 1999. Veterinary Science. Thesis title: Studies on the Equine Cestode *Anoplocephala Perfoliata* with Emphasis on Prevalence.

Nancy Raney. 1999. Veterinary Science. Thesis title: Equine Gene Mapping using a Characterized Horse/Mouse Somatic Hybrid Panel.

Meredith White. 2009. Reproductive Laboratory Science, College of Health Sciences

Wayne Long. 2009. Plant and Soil Sciences

Grey Parks. 2009. Animal and Food Sciences. Thesis topic:

#### Graduate Student Rotations Performed in my Lab, Department of Veterinary Science

Jennifer Myka, Fall 1993.

Kristen Daniel, Fall 1994.

Christina McManus, Fall 1994.

Kimberly Proffitt, Fall 1998.

Meisha Brown, Fall 1999.

Lee Godman, DVM, Fall 2000

#### Undergraduate Students

##### **Academic Advisor for Agricultural Biotechnology Majors:**

Sarah Anderson	Brandy Lipscomb
----------------	-----------------

Amanda Bishop	Eric Loy
---------------	----------

Cassandra Clemments	Nicole Nicholas
---------------------	-----------------

Michael Condra	Stacey Sanford
----------------	----------------

Staffanie Cottingham	Traci Smith
----------------------	-------------

Emily Craine	Kimberly Staggs
--------------	-----------------

Dawn Dunigan	Tanya Thacker
--------------	---------------

Additionally, I was Co-advisor for the preveterinary students, 90 to 100 students per year, 1990 - 1991.

**Research Advisor for:**

Traci Smith, Agricultural Biotechnology. Research project performed in my lab. Written and oral reports presented to Biotechnology faculty and students titled: Steroid control of retinol binding protein synthesis in equine endometrium.

Ms Smith received the Second Place Award in the University-wide Oswald Research and Creativity Program for this project.

Kimberly Staggs, Agricultural Biotechnology. Research project performed in my lab. Written and oral reports presented to Biotechnology faculty and students titled: Cloning and sequencing the equine inhibin alpha subunit and testing for the presence of the mRNA in various equine tissues. Ms Staggs also received an Undergraduate Research Initiative Award sponsored by the Howard Hughes Medical Institute for 1993-1994 academic year.

Elizabeth Moore, Agricultural Biotechnology. Research project performed in my lab. Written and oral reports presented to Biotechnology faculty and students titled: The use of Doppler ultrasonography to aid in the diagnosis and management of equine fescue toxicosis.

Ms Moore received an Ag Student Council Outstanding Student Award, 2008.

Other:

Hugh Thomas worked in my laboratory as part of the Summer Research Program for Pre-College Teachers sponsored by the Howard Hughes Medical Institute, summer, 1993. He learned how to extract DNA and RNA, perform northern and Southern blotting, screen a cDNA library and clone an equine cDNA.

Wynne Collins, veterinary student from Dublin, Ireland, worked in my laboratory in Summer, 1997, in partial fulfillment of the requirements for her BVSc degree.

Rachael Yavelak worked in my laboratory during Summer, 1997, in partial fulfillment of the requirements for her MS degree in Veterinary Medicine at The Ohio State University.

Amy Graves, student in Clinical Laboratory Sciences, 1999, worked in my laboratory for partial fulfillment of the requirement for her CLS certification program at the University of Kentucky.

Mentored two students (Karen Hancock and Kindra Gehlbach) for the Dunbar High School Math, Science, and Technology Center (MSTC) program. 2001-2002.

Darrell Treece, Bluegrass Community and Technical College, performed his senior internship in my laboratory, 2008. Mr Treece was named the outstanding graduate for the Business Management and Marketing Department at Bluegrass Community and Technical College.



**E.L. Squires****Scholarships, Fellowships, Academic Honors:**

American Society of Animal Science Scholarship Award

Dean's List – 1968-1969

Teaching Assistantship, West Virginia University – 1969-1971

NIH Predoctoral Fellowship, University of Wisconsin – 1971-1974

Young Scientist Award, Western Section American Society of Animal Science – 1984

Colorado State University Faculty Alumni Award – 1985

President, Equine Nutrition and Physiology Society – 1985-1987

Distinguished Service in Equine Science Award, Equine Nutrition and Physiology Society – 1989

Oliver P. Pennock Distinguished Service Award, Colorado State University – 1991

Jack E. Cermak Outstanding Advisor Award for Graduate School, Colorado State University – 1993-94

Outstanding Mentor Award, NIH-funded Science Motivation Program – 1996

Fellows Award, Equine Nutrition and Physiology Society – 1997

Animal Physiology and Endocrinology Award, American Society of Animal Science – 1999

Colorado State University, Sigma Xi Honored Researcher – 1999

College of Theriogenology, Honorary Diplomate – 1999

Society for Theriogenology, Honorary Member – 1999

Board of Governors, International Embryo Transfer Society – 2005-2008

Honorary Vice President, American Quarter Horse Association – 2005

George Stubbs Award, American Association of Equine Practitioners – 2005

Horse Person of the Year Award, Colorado Horse Council – 2006

Induction to University of Kentucky Equine Research Hall of Fame – 2007

Distinguished Alumni Award, West Virginia University College of Agriculture, Forestry and Consumer Sciences – 2007

Equine research Hall of Fame-University of Kentucky 2007

**Professional Societies:**

Equine Nutrition and Physiology Society (President, 1985-87)

Equine Nutrition and Physiology Society, Secretary/Treasurer

Society for the Study of Reproduction

American Society of Animal Science

International Embryo Transfer Society

Society for the Study of Theriogenology

International Symposium on Equine Reproduction-Chair person

**Departmental Committees:**

Equine Drug council Advisory board

Gluck Equine Research intramural research support

Equine Initiative executive council

E.L. Squires

**College/University Committees:**

1. Foothills Animal Research Advisory Committee-CSU
2. Scholarship & Award Committee, College of Veterinary Medicine and Biomedical Sciences-

**Service Activities:**

Supervisor of Equine Reproduction Laboratory (through December 2006) – budget of approximately \$1.5 million/year –Colorado State university

Fundraising efforts for equine research and capital construction (\$9 million 1978-2007)

Stud Book Registration Committee – American Quarter Horse Association 2008-present

Steering Committee – Equine Nutrition and Physiology Society

Consultant – Intervet

Bioniche Animal Health

Select Breeders Service

Yearly Continuing Education Courses at CSU:

Equine Embryo Transfer

Techniques for Handling and Utilization of Transported and Frozen Equine

Equine Spermatozoa and Transported Equine Embryos

Equine Ultrasonography

Artificial Insemination and Reproductive Management I

Artificial Insemination and Reproductive Management II

Artificial Insemination and Reproductive Management III

Advanced Equine Management

Semen Freezing

Cooled Semen

Chair – International Symposium on Equine Reproduction-2006-2014

Organizational Committee – 7th Symposium on Equine Embryo Transfer -2005

Data Retrieval Committee – International Embryo Transfer Society-2000-2009

Chair, Local Arrangements Committee – International Embryo Transfer Society Annual Meeting, Denver, Colorado, 2008

Co-Chair – West Coast Equine Reproduction Symposium, Solvang, CA, 2008

Trustee- International Symposium Equine Reproduction Foundation

**Reviewer:**

*Biology of Reproduction*

*Domestic Animal Endocrinology*

*Equine Practice* – Editorial Board

*Equine Veterinary Journal*

International Symposium on Equine Reproduction

*Ippologia*, Journal of Italian Association of Equine Practitioners – Advisory Board

*Journal of Animal Science*

*Journal of Equine Veterinary Science* – Editor

*Livestock Production Science*

*Molecular Reproduction and Development*

*Theriogenology* – Editorial Board

USDA/CSREES



# CURRICULUM VITAE

**E.L. Squires**

USDA/FAS  
Zweig Memorial Foundation (Cornell University)

## **Courses Taught:**

<u>Course Name</u>	<u>Institution</u>	<u>Dates</u>
Equine Management	University of New Hampshire	1974-1975
Light Horse Production	University of New Hampshire	1974-1975
Reproductive Physiology	University of New Hampshire	1974-1975
Equine Practicum – VM 586 & VM 686	Colorado State University	1976-2002
Equine Practicum – AN 386	Colorado State University	1977-2002
Equine Reproductive Mgmt. – AN 444	Colorado State University	1977-2002
Endocrinology – PS 430	Colorado State University	1977-2002
Thesis – PS 699	Colorado State University	1977-2002

Advised or co-advised 105 Plan A M.S., 3 Ph.D. and 4 post-doctoral students.

## **Research Funding:**

Acquired \$9.0 million 1978-2007. Current budget is \$550,000/year.

**Refereed Journal Publications****Refereed Journal Publications:**

1. Ginther, O.J., M.C. Garcia, E.L. Squires and W.P. Steffenhagen. 1972. Anatomy of vasculature of uterus and ovaries in the mare. *Am. J. Vet. Res.* 33:1561-1568.
2. Ginther, O.J., H.L. Whitmore and E.L. Squires. 1972. Characteristics of estrus, diestrus and ovulation in mares and effects of season and nursing. *Am. J. Vet. Res.* 33:1935-1939.
3. Squires, E.L., R.J. Scaramuzzi and E.K. Inskeep. 1972. LH release and ovulation in the prepuberal lamb. *J. Anim. Sci.* 34:614-619.
4. Douglas, R.H., E.L. Squires and O.J. Ginther. 1974. Induction of abortion in mares with prostaglandin F<sub>2α</sub>. *J. Anim. Sci.* 39:404-407.
5. Sharp, D.C., E.L. Squires, and O.J. Ginther. 1974. A technique for long-term cannulation of the lateral ventricle of the brain of the horse. *Am. J. Vet. Res.* 35:843-845.
6. Squires, E.L., R.H. Douglas, W.P. Steffenhagen and O.J. Ginther. 1974. Ovarian changes during the estrous cycle and pregnancy in mares. *J. Anim. Sci.* 38:330-338.
7. Squires, E.L., M.C. Garcia and O.J. Ginther. 1974. Effects of pregnancy and hysterectomy on the ovaries of pony mares. *J. Anim. Sci.* 38:823-830.
8. Squires, E.L., B.C. Wentworth and O.J. Ginther. 1974. Progesterone concentration in blood of mares during the estrous cycle, pregnancy and after hysterectomy. *J. Anim. Sci.* 39:759-767.
9. Squires, E.L. and O.J. Ginther. 1975. Collection technique and progesterone concentration of ovarian and uterine venous blood in mares. *J. Anim. Sci.* 40:275-281.
10. Squires, E.L. and O.J. Ginther. 1975. Follicular and luteal development in pregnant mares. *J. Reprod. Fert., Suppl.* 23:429-433.
11. Pickett, B.W., J.L. Voss and E.L. Squires. 1977. Impotence and abnormal sexual behavior in the stallion. *Theriogenology* 8:329-347.
12. Squires, E.L., R.P. Amann, B.W. Pickett, W.E. Berndtson, R.K. Shideler and J.L. Voss. 1978. Effect of fenbendazole on reproductive function in stallions. *Theriogenology* 9:447-455.
13. Amann, R.P., D.L. Thompson, Jr., E.L. Squires and B.W. Pickett. 1979. Effects of age and frequency of ejaculation on sperm production and extragonadal sperm reserves in stallions. *J. Reprod. Fert., Suppl.* 27:1-6.
14. Berndtson, W.E., J.H. Hoyer, E.L. Squires and B.W. Pickett. 1979. Influence of exogenous testosterone on sperm production, seminal quality and libido of stallions. *J. Reprod. Fert., Suppl.* 27:19-23.
15. Holtan, D.W., E.L. Squires, D.R. Lapin and O.J. Ginther. 1979. Effect of ovariectomy on pregnancy in mares. *J. Reprod. Fert., Suppl.* 27:457-463.

**Refereed Journal Publications**

16. Levine, H.V., T.H. Wright and E.L. Squires. 1979. Ultrastructure of the corpus luteum of the cycling mare. *Biol. Reprod.* 20:492-504.
17. Nett, T.M., B.W. Pickett and E.L. Squires. 1979. Effects of Equimate (ICI-81008) on levels of luteinizing hormone, follicle-stimulating hormone and progesterone during the estrous cycle of the mare. *J. Anim. Sci.* 48:69-75.
18. Shideler, R.K., E.L. Squires, B.W. Pickett and E.W. Anderson. 1979. Disappearance of spermatozoa from the ejaculates of geldings. *J. Reprod. Fert., Suppl.* 27:25-29.
19. Squires, E.L., B.W. Pickett and R.P. Amann. 1979. The effect of successive ejaculation on stallion seminal characteristics. *J. Reprod. Fert., Suppl.* 27:7-12.
20. Squires, E.L., W.B. Stevens, D.E. McGlothlin and B.W. Pickett. 1979. Effect of an oral progestin on the estrous cycle and fertility of mares. *J. Anim. Sci.* 49:729-735.
21. Squires, E.L., W.B. Stevens, B.W. Pickett and T.M. Nett. 1979. Role of PMSG in luteal function of pregnant mares. *Am. J. Vet. Res.* 40:889-891.
22. Thompson, D.L., Jr., B.W. Pickett, E.L. Squires and R.P. Amann. 1979. Testicular measurements and reproductive characteristics in stallions. *J. Reprod. Fert., Suppl.* 27:13-17.
23. Thompson, D.L., Jr., B.W. Pickett, E.L. Squires and T.M. Nett. 1979. Effect of testosterone and estradiol-17 $\beta$  alone and in combination on LH and FSH concentrations in blood serum and pituitary of geldings and in serum after administration of GnRH. *Biol. Reprod.* 21:1231-1237.
24. Voss, J.L., R.A. Wallace, E.L. Squires, B.W. Pickett and R.K. Shideler. 1979. Effects of synchronization and frequency of insemination on fertility. *J. Reprod. Fert., Suppl.* 27:257-261.
25. Hillman, R.B., T.T. Olar, E.L. Squires and B.W. Pickett. 1980. Temperature of the artificial vagina and its effect on seminal quality and behavioral characteristics of stallions. *J. Am. Vet. Med. Assoc.* 177:720-722.
26. Nash, J.G., J.L. Voss and E.L. Squires. 1980. Urination during ejaculation in a stallion. *J. Am. Vet. Med. Assoc.* 176:224-227.
27. Squires, E.L., R.B. Hillman, B.W. Pickett and T.M. Nett. 1980. Induction of abortion in mares with Equimate: Effect on secretion of progesterone, PMSG and reproductive performance. *J. Anim. Sci.* 50:490-495.
28. Thompson, D.L., Jr., B.W. Pickett, E.L. Squires and T.M. Nett. 1980. Sexual behavior, seminal pH and accessory sex gland weights in geldings administered testosterone and(or) estradiol-17 $\beta$ . *J. Anim. Sci.* 51:1358-1366.
29. Voss, J.L., B.W. Pickett and E.L. Squires. 1981. Stallion spermatozoal morphology and motility and their relationship to fertility. *J. Am. Vet. Med. Assoc.* 178:287-289.

## Refereed Journal Publications

30. Imel, K.J., E.L. Squires, R.P. Elsdon and R.K. Shideler. 1981. Collection and transfer of equine embryos. *J. Am. Vet. Med. Assoc.* 179:987-991.
31. Squires, E.L., W.E. Berndtson, J.H. Hoyer, B.W. Pickett and S.J.R. Wallach. 1981. Restoration of reproductive capacity of stallions after suppression with exogenous testosterone. *J. Anim. Sci.* 53:1351-1359.
32. Squires, E.L., P.R. Loomis, R.K. Shideler, J.L. Voss and B.W. Pickett. 1981. The ovumeter in relation to ovulation in the mare. *J. Equine Vet. Sci.* 1:57-60.
33. Squires, E.L., D.E. McGlothlin, R.A. Bowen, W.E. Berndtson and B.W. Pickett. 1981. Use of antibiotics in stallion semen for the control of *Klebsiella pneumoniae* and *Pseudomonas aeruginosa*. *J. Equine Vet. Sci.* 1:43-48.
34. Squires, E.L., R.A. Wallace, J.L. Voss, B.W. Pickett and R.K. Shideler. 1981. The effectiveness of PGF<sub>2</sub> $\alpha$ , hCG and GnRH for appointment breeding of mares. *J. Equine Vet. Sci.* 1:5-9.
35. Pickett, B.W., E.L. Squires and J.L. Voss. 1982. Techniques for training a stallion to a phantom for seminal collection. *J. Equine Vet. Sci.* 2:66-67.
36. Shideler, R.K., A.E. McChesney, J.L. Voss and E.L. Squires. 1982. Relationship of endometrial biopsy and other management factors on fertility of broodmares. *J. Equine Vet. Sci.* 2:5-10.
37. Shideler, R.K., E.L. Squires, J.L. Voss, D.J. Eikenberry and B.W. Pickett. 1982. Progestagen therapy of ovariectomized pregnant mares. *J. Reprod. Fert., Suppl.* 32:459-464.
38. Squires, E.L., K.J. Imel, M.F. Iuliano and R.K. Shideler. 1982. Factors affecting reproductive efficiency in an equine embryo transfer programme. *J. Reprod. Fert., Suppl.* 32:409-414.
39. Squires, E.L., M.F. Iuliano and R.K. Shideler. 1982. Factors affecting the success of surgical and nonsurgical equine embryo transfer. *Theriogenology* 17:35-41.
40. Squires, E.L., G.E. Todter, W.E. Berndtson and B.W. Pickett. 1982. Effect of anabolic steroids on reproductive function of young stallions. *J. Anim. Sci.* 54:576-582.
41. Voss, J.L., E.L. Squires, B.W. Pickett, R.K. Shideler and D.J. Eikenberry. 1982. Effect of number and frequency of inseminations on fertility of mares. *J. Reprod. Fert., Suppl.* 32:53-57.
42. Webel, S.K. and E.L. Squires. 1982. Control of the oestrous cycle in mares with altrenogest. *J. Reprod. Fert., Suppl.* 32:193-198.
43. Berndtson, W.E., E.L. Squires and D.L. Thompson, Jr. 1983. Spermatogenesis, testicular composition and the concentration of testosterone in the equine testis as influenced by season. *Theriogenology* 20:449-457.

**Refereed Journal Publications**

44. Cochran, J.D., R.P. Amann, E.L. Squires and B.W. Pickett. 1983. Fertility of frozen-thawed stallion semen extended in lactose-EDTA-egg yolk extender and packaged in 1.0-ml straws. *Theriogenology* 20:735-741.
45. Hintz, H.F. and E.L. Squires. 1983. Equine reproduction and nutrition: Recent developments and opportunities for future research. *J. Anim. Sci.* 57, Suppl. 2:58-74.
46. Loomis, P.R., R.P. Amann, E.L. Squires and B.W. Pickett. 1983. Fertility of unfrozen and frozen stallion spermatozoa extended in EDTA-lactose-egg yolk and packaged in straws. *J. Anim. Sci.* 56:687-693.
47. Maher, J.M., E.L. Squires, J.L. Voss and R.K. Shideler. 1983. Effect of anabolic steroids on reproductive function of young mares. *J. Am. Vet. Med. Assoc.* 183:519-524.
48. Shideler, R.K., J.L. Voss, W.M. Aufderheide, C.P. Heesemann and E.L. Squires. 1983. The effect of altrenogest, an oral progestin, on hematologic and biochemical parameters in mares. *Vet. Hum. Toxicol.* 25:250-252.
49. Squires, E.L., C.P. Heesemann, S.K. Weibel, R.K. Shideler and J.L. Voss. 1983. Relationship of altrenogest to ovarian activity, hormone concentrations and fertility of mares. *J. Anim. Sci.* 56:901-910.
50. Squires, E.L., R.K. Shideler, J.L. Voss and S.K. Weibel. 1983. Clinical applications of progestins in mares. *Comp. Cont. Educ. Pract. Vet.* 5:S16-S22.
51. Thompson, D.L., Jr., R.A. Godke and E.L. Squires. 1983. Testosterone effects on mares during synchronization with altrenogest: FSH, LH, estrous duration and pregnancy rate. *J. Anim. Sci.* 56:678-686.
52. Pickett, B.W., J.L. Voss and E.L. Squires. 1983. Fertility evaluation of the stallion. *Comp. Cont. Educ. Pract. Vet.* 5:S194-S202.
53. Pickett, B.W., J.L. Voss and E.L. Squires. 1983. Factors affecting quality and quantity of stallion spermatozoa. *Comp. Cont. Educ. Pract. Vet.* 5:S259-S267.
54. Cristanelli, M.J., E.L. Squires, R.P. Amann and B.W. Pickett. 1984. Fertility of stallion semen processed, frozen and thawed by a new procedure. *Theriogenology* 22:39-45.
55. Hart, P.J., E.L. Squires, K.J. Imel and T.M. Nett. 1984. Seasonal variation in hypothalamic content of gonadotropin-releasing hormone (GnRH), pituitary receptors for GnRH, and pituitary content of luteinizing hormone and follicle-stimulating hormone in the mare. *Biol. Reprod.* 30:1055-1062.
56. Province, C.A., R.P. Amann, B.W. Pickett and E.L. Squires. 1984. Extenders for preservation of canine and equine spermatozoa at 5°C. *Theriogenology* 22:409-415.
57. Squires, E.L., R.H. Garcia and O.J. Ginther. 1984. Factors affecting success of equine embryo transfer. *Equine Vet. J., Suppl.* 3:92-95.

**Refereed Journal Publications**

58. Cristanelli, M.J., R.P. Amann, E.L. Squires and B.W. Pickett. 1985. Effects of egg yolk and glycerol levels in lactose-EDTA-egg yolk extender and of freezing rate on the motility of frozen-thawed stallion spermatozoa. *Theriogenology* 24:681-686.
59. Iuliano, M.F. and E.L. Squires. 1985. Embryo transfer in two-year-old donor mares. *Theriogenology* 24:647-654.
60. Iuliano, M.F., E.L. Squires and V.M. Cook. 1985. Effect of age of equine embryos and method of transfer on pregnancy rate. *J. Anim. Sci.* 60:258-263.
61. Province, C.A., E.L. Squires, B.W. Pickett and R.P. Amann. 1985. Cooling rates, storage temperatures and fertility of extended equine spermatozoa. *Theriogenology* 23:925-934.
62. Slade, N.P., T. Takeda, E.L. Squires, R.P. Elsdon and G.E. Seidel, Jr. 1985. A new procedure for the cryopreservation of equine embryos. *Theriogenology* 24:45-58.
63. Squires, E.L., J.L. Voss, J.M. Maher and R.K. Shideler. 1985. Fertility of young mares after long-term anabolic steroid treatment. *J. Am. Vet. Med. Assoc.* 186:583-587.
64. Villahoz, M.D., E.L. Squires, J.L. Voss and R.K. Shideler. 1985. Some observations on early embryonic death in mares. *Theriogenology* 23:915-924.
65. Iuliano, M.F. and E.L. Squires. 1986. The effect of exogenous progesterone on pregnancy rates after surgical embryo transfer in mares. *Theriogenology* 26:291-298.
66. Jackson, S.A., E.L. Squires and T.M. Nett. 1986. Effect of exogenous progestins on endogenous progesterone secretion in pregnant mares. *Theriogenology* 25:275-279.
67. Squires, E.L., R.H. Garcia, O.J. Ginther, J.L. Voss and G.E. Seidel, Jr. 1986. Comparison of equine pituitary extract and follicle stimulating hormone for superovulating mares. *Theriogenology* 26:661-670.
68. Ralston, S.L., G.A. Rich, S.A. Jackson and E.L. Squires. 1986. The effect of vitamin A supplementation on seminal characteristics and vitamin A absorption in stallions. *J. Equine Vet. Sci.* 6:203-207.
69. Silvia, P.J., E.L. Squires and T.M. Nett. 1986. Changes in the hypothalamic-hypophyseal axis of mares associated with seasonal reproductive recrudescence. *Biol. Reprod.* 35:897-905.
70. Francl, A.T., R.P. Amann, E.L. Squires and B.W. Pickett. 1987. Motility and fertility of equine spermatozoa in a milk extender after 12 or 24 hours at 20°C. *Theriogenology* 27:517-526.
71. Clay, C.M., E.L. Squires, R.P. Amann and B.W. Pickett. 1987. Influences of season and artificial photoperiod on stallions: Testicular size, seminal characteristics and sexual behavior. *J. Anim. Sci.* 64:517-525.

**Refereed Journal Publications**

72. Silvia, P.J., E.L. Squires and T.M. Nett. 1987. Pituitary responsiveness of mares challenged with GnRH at various stages of transition into the breeding season. *J. Anim. Sci.* 64:790-796.
73. McKinnon, A.O., M.B. Wheeler, E.M. Carnevale and E.L. Squires. 1987. Oocyte transfer in the mare - Preliminary observations. *J. Equine Vet. Sci.* 6:306-309.
74. Squires, E.L., G. McClain, O.J. Ginther and A.O. McKinnon. 1987. Spontaneous multiple ovulation in the mare and its effect on the incidence of twin embryos. *Theriogenology* 28:609-614.
75. Amann, R.P., M.J. Cristanelli and E.L. Squires. 1987. Proteins in stallion seminal plasma. *J. Reprod. Fert., Suppl.* 35:105-112.
76. Squires, E.L., A.O. McKinnon, E.M. Carnevale, R.P. Morris and T.M. Nett. 1987. Reproductive characteristics of spontaneous single and double ovulating mares and superovulated mares. *J. Reprod. Fert., Suppl.* 35:399-403.
77. Kubiak, J.R., B.H. Crawford, E.L. Squires, R.H. Wrigley and G.M. Ward. 1987. The influence of energy intake and percentage of body fat on the reproductive performance of nonpregnant mares. *Theriogenology* 28:587-598.
78. Colbern, G.T., E.L. Squires and J.L. Voss. 1987. Use of altrenogest and human chorionic gonadotropin to induce normal ovarian cyclicity in transitional mares. *J. Equine Vet. Sci.* 7:69-72.
79. Colbern, G.T., J.L. Voss, E.L. Squires, R.P. Ellis, R.K. Shideler and A.E. McChesney. 1987. Development of a model to study endometritis in mares. *J. Equine Vet. Sci.* 7:73-76.
80. Colbern, G.T., J.L. Voss and E.L. Squires. 1987. Intrauterine equine plasma as an endometritis therapy: Use of an endometritis model to evaluate efficacy. *J. Equine Vet. Sci.* 7:66-68.
81. Carnevale, E.M., E.L. Squires and A.O. McKinnon. 1987. Comparison of Ham's F10 with CO<sub>2</sub> or Hepes buffer for storage of equine embryos at 5C for 24 H. *J. Anim. Sci.* 65:1775-1781.
82. Clark, K.E., E.L. Squires, A.O. McKinnon and G.E. Seidel, Jr. 1987. Viability of stored equine embryos. *J. Anim. Sci.* 65:534-542.
83. McKinnon, A.O., E.L. Squires and J.L. Voss. 1987. Ultrasonic evaluation of the mare's reproductive tract: Part I. *Comp. Cont. Educ. Pract. Vet.* 9:336-345.
84. McKinnon, A.O., E.L. Squires and J.L. Voss. 1987. Ultrasonic evaluation of the mare's reproductive tract: Part II. *Comp. Cont. Educ. Pract. Vet.* 9:472-482.
85. Clay, C.M., E.L. Squires, R.P. Amann and T.M. Nett. 1987. Effects of daylength or artificial photoperiod on pituitary responsiveness to GnRH in stallions. *J. Reprod. Fert., Suppl.* 35:657-658.
86. McKinnon, A.O. and E.L. Squires. 1988. Morphological assessment of the equine embryo. *J. Am. Vet. Med. Assoc.* 192:401-406.

**Refereed Journal Publications**

87. McKinnon, A.O., E.L. Squires, L.A. Harrison, E.L. Blach and R.K. Shideler. 1988. Ultrasonographic studies on the reproductive tract of mares after parturition: Effect of involution and uterine fluid on pregnancy rates in mares with normal and delayed first postpartum ovulatory cycles. *J. Am. Vet. Med. Assoc.* 192:350-353.
88. McKinnon, A.O., E.L. Squires, E.M. Carnevale and M.J. Hermetet. 1988. Ovariectomized steroid-treated mares as embryo transfer recipients and as a model to study the role of progestins in pregnancy maintenance. *Theriogenology* 29:1055-1063.
89. McKinnon, A.O., E.M. Carnevale, E.L. Squires, J.L. Voss and G.E. Seidel, Jr. 1988. Heterogenous and xenogenous fertilization of in vivo matured equine oocytes. *J. Equine Vet. Sci.* 8:143-147.
90. Clay, C.M., E.L. Squires, R.P. Amann and T.M. Nett. 1988. Influences of season and artificial photoperiod on stallions: Luteinizing hormone, follicle stimulating hormone and testosterone. *J. Anim. Sci.* 66:1246-1255.
91. Ralston, S.L., S. Barbacini, E.L. Squires and C.F. Nockels. 1988. Ascorbic acid supplementation in stallions. *J. Equine Vet. Sci.* 8:290-293.
92. McKinnon, A.O., E.L. Squires, J.L. Voss and V.M. Cook. 1988. Equine embryo transfer. *Comp. Cont. Educ. Pract. Vet.* 10:343-355.
93. Squires, E.L., A.O. McKinnon and R.K. Shideler. 1988. Use of ultrasonography in reproductive management of mares. *Theriogenology* 29:55-70.
94. McKinnon, A.O., E.L. Squires and R.K. Shideler. 1988. Diagnostic ultrasonography of the mare's reproductive tract. *J. Equine Vet. Sci.* 8:329-333.
95. Carnevale, E.M., A.O. McKinnon, E.L. Squires and J.L. Voss. 1988. Ultrasonographic characteristics of the preovulatory follicle preceding and during ovulation in mares. *J. Equine Vet. Sci.* 8:428-431.
96. Wiepz, G.J., E.L. Squires and P.L. Chapman. 1988. Effects of norgestomet, altrenogest and/or estradiol on follicular and hormonal characteristics of late transitional mares. *Theriogenology* 30:181-193.
97. Clay, C.M., E.L. Squires, R.P. Amann and T.M. Nett. 1989. Influences of season and artificial photoperiod on stallions: Pituitary and testicular responses to exogenous GnRH. *J. Anim. Sci.* 67:763-770.
98. Carnevale, E.M., E.L. Squires, A.O. McKinnon and L.A. Harrison. 1989. Effect of human chorionic gonadotropin on time to ovulation and luteal function in transitional mares. *J. Equine Vet. Sci.* 9:27-29.
99. Shoemaker, C.F., E.L. Squires and R.K. Shideler. 1989. Safety of altrenogest in pregnant mares and on health and development of offspring. *J. Equine Vet. Sci.* 9:69-72.



**Refereed Journal Publications**

100. Nett, T.M., C.F. Shoemaker and E.L. Squires. 1989. Changes in serum concentrations of luteinizing hormone and follicle-stimulating hormone following injection of gonadotropin-releasing hormone during pregnancy and after parturition in mares. *J. Anim. Sci.* 67:1330-1333.
101. Squires, E.L., R.K. Shideler and A.O. McKinnon. 1989. Reproductive performance of offspring from mares administered altrenogest during gestation. *J. Equine Vet. Sci.* 9:73-76.
102. Blue, B.J., A.O. McKinnon, E.L. Squires, G.E. Seidel, Jr. and C. Muscari. 1989. Capacitation of stallion spermatozoa and fertilization of equine oocytes *in vitro*. *Equine Vet. J.* 8:111-116.
103. McKinnon, A.O., E.M. Carnevale, E.L. Squires, N.J. Carney and G.E. Seidel, Jr. 1989. Bisection of equine embryos. *Equine Vet. J., Suppl.* 8:129-133.
104. Seidel, G.E., Jr., E.L. Squires, A.L. McKinnon and P.L. Long. 1989. Cryopreservation of equine embryos in 1,2 propanediol. *Equine Vet. J., Suppl.* 8:87-88.
105. Cook, V.M., E.L. Squires, A.O. McKinnon, J. Bailey and P.L. Long. 1989. Pregnancy rates of cooled, transported equine embryos. *Equine Vet. J., Suppl.* 8:80-81.
106. Squires, E.L., G.E. Seidel, Jr. and A.O. McKinnon. 1989. Transfer of cryopreserved equine embryos to progestin-treated ovariectomized mares. *Equine Vet. J., Suppl.* 8:89-91.
107. Ralston, S.L., E.L. Squires and C.F. Nockels. 1989. Digestion in the aged horse. *J. Equine Vet. Sci.* 9:203-205.
108. Baucus, K.L., S.L. Ralston, G.A. Rich and E.L. Squires. 1989. The effect of copper and zinc supplementation on mineral content of mares' milk. *J. Equine Vet. Sci.* 9:206-209.
109. Harrison, L.A., E.L. Squires, T.M. Nett and A.O. McKinnon. 1990. Use of gonadotropin-releasing hormone for hastening ovulation in transitional mares. *J. Anim. Sci.* 68:690-699.
110. Naden, J., R.P. Amann and E.L. Squires. 1990. Testicular growth, hormone concentrations, seminal characteristics and sexual behaviour in stallions. *J. Reprod. Fert.* 88:167-176.
111. Naden, J., E.L. Squires, T.M. Nett and R.P. Amann. 1990. Effect of maternal treatment with altrenogest on pituitary response to exogenous GnRH in pubertal stallions. *J. Reprod. Fert.* 88:177-183.
112. Naden, J., E.L. Squires and T.M. Nett. 1990. Effect of maternal treatment with altrenogest on age at puberty, hormone concentrations, pituitary response to exogenous GnRH, estrous cycle characteristics and fertility of fillies. *J. Reprod. Fert.* 88:185-195.
113. Baucus, K.L., S.L. Ralston, C.F. Nockels, A.O. McKinnon and E.L. Squires. 1990. Effects of transportation on early embryonic death in mares. *J. Anim. Sci.* 68:345-351.
114. Baucus, K.L., E.L. Squires, S.L. Ralston, A.O. McKinnon and T.M. Nett. 1990. Effect of transportation on the estrous cycle and concentrations of hormones in mares. *J. Anim. Sci.* 68:419-426.

**Refereed Journal Publications**

115. Harrison, L.A., E.L. Squires and T.M. Nett. 1990. Gonadotropin response by postpartum mares to gonadotropin releasing hormone. *J. Anim. Sci.* 68:2430-2435.
116. Rowley, H.S., E.L. Squires and B.W. Pickett. 1990. Effect of insemination volume on embryo recovery in mares. *J. Equine Vet. Sci.* 10:298-300.
117. Shideler, R.K., E.L. Squires, G. Trotter and S. Tarr. 1990. Uterine hematoma in a mare. *J. Equine Vet. Sci.* 10:187-193.
118. Traub-Dargatz, J.L., G.W. Trotter, B. Kaser-Hotz, D.G. Bennett, M.L. Kiper, D.N.R. Veeramachaneni and E.L. Squires. 1990. Ultrasonographic detection of chronic epididymitis in a stallion. *J. Am. Vet. Med. Assoc.* 198:1417-1420.
119. Harrison, L.A., E.L. Squires and A.O. McKinnon. 1991. Comparison of hCG, buserelin and luprostiol for induction of ovulation in cycling mares. *J. Equine Vet. Sci.* 11:163-166.
120. Blue, B.J., B.W. Pickett, E.L. Squires, A.O. McKinnon, T.M. Nett, R.P. Amann and K.A. Shiner. 1991. Effects of pulsatile or continuous administration of GnRH on reproductive function of stallions. *J. Reprod. Fert., Suppl.* 44:145-154.
121. Jasko, D.J., B.E. Powers, G.W. Trotter and E.L. Squires. 1991. Testicular teratoma in a stallion. *J. Equine Vet. Sci.* 11:108-110.
122. Jasko, D.J., D.M. Moran, M.E. Farlin and E.L. Squires. 1991. Effect of seminal plasma dilution or removal on spermatozoal motion characteristics of cooled stallion semen. *Theriogenology* 35:1059-1067.
123. Carney, N.J., E.L. Squires, V.M. Cook, G.E. Seidel, Jr. and D.J. Jasko. 1991. Comparison of pregnancy rates from transfer of fresh versus cooled, transported equine embryos. *Theriogenology* 36:23-32.
124. Squires, E.L. and S.F. Tarr. 1991. Advances in the transfer and manipulation of equine embryos. *Vet. Med.* 86:626-631.
125. Jasko, D.J., H.R. Sawyer and E.L. Squires. 1991. Identification of degenerative germ cells in semen from a Quarter Horse stallion. *J. Equine Vet. Sci.* 11:283-286.
126. Ionata, L.M., T.M. Anderson, B.W. Pickett, J.C. Heird and E.L. Squires. 1991. Effect of supplementary sexual preparation on semen characteristics of stallions. *Theriogenology* 36:923-937.
127. Ionata, L.M., B.W. Pickett, J.C. Heird, P.N. Lehner and E.L. Squires. 1991. Seminal characteristics of stallions in novel and routine semen collection sites, with or without restraint. *Theriogenology* 36:913-921.
128. Squires, E.L., A.O. McKinnon and R.K. Shideler. 1992. Influence of bacterial challenge and long-term progesterone on endometritis of mares. *J. Equine Vet. Sci.* 12:24-25.

**Refereed Journal Publications**

129. Squires, E.L., J.M. Martin and D.J. Jasko. 1992. Reproductive response of mares after treatment with progestogens with and without the addition of estradiol. *J. Equine Vet. Sci.* 12:28-32.
130. Dippert, K.D., S. Hofferer, E. Palmer, D.J. Jasko and E.L. Squires. 1992. Initiation of superovulation in mares 5 or 12 days after ovulation using equine pituitary extract with or without GnRH analogue. *Theriogenology* 38:695-710.
131. Jasko, D.J., J.A. Hathaway, V.L. Schaltenbrand, W.D. Simper and E.L. Squires. 1992. Effect of seminal plasma and egg yolk on motion characteristics of cooled stallion spermatozoa. *Theriogenology* 37:1241-1252.
132. Farlin, M.E., D.J. Jasko, J.K. Graham and E.L. Squires. 1992. Assessment of *Pisum sativum* agglutinin in identifying acrosomal damage in stallion spermatozoa. *Molec. Reprod. Devel.* 32:23-27.
133. Kayser, J.P., R.P. Amann, R.K. Shideler, E.L. Squires, D.J. Jasko and B.W. Pickett. 1992. Effects of linear cooling rate on motion characteristics of stallion spermatozoa. *Theriogenology* 38:601-614.
134. DelVento, V.R., R.P. Amann, G.W. Trotter, D.N.R. Veeramachaneni and E.L. Squires. 1992. Ultrasonographic and quantitative histopathologic assessment of sequelae to testicular biopsy in stallions. *Am. J. Vet. Res.* 53:2094-2101.
135. Squires, E.L., D.R. Cohen, M.E. Farlin, D.M. Moran and D.J. Jasko. 1992. Effect of frequency of prostaglandin F<sub>2</sub> $\alpha$  injection on induction of estrus in mares. *Equine Pract.* 14(3):8-12.
136. Shabpareh, V., E.L. Squires and V.M. Cook. 1992. An alternative artificial lighting regime to hasten onset of the breeding season in mares. *Equine Pract.* 14(2):24-27.
137. Jasko, D.J., J.M. Martin and E.L. Squires. 1992. Effect of insemination volume and concentration of spermatozoa on embryo recovery in mares. *Theriogenology* 37:1233-1239.
138. Moran, D.M., D.J. Jasko, E.L. Squires and R.P. Amann. 1992. Determination of temperature and cooling rate induced cold shock in stallion spermatozoa. *Theriogenology* 38:999-1012.
139. Squires, E.L., V.M. Cook, D.J. Jasko and S.F. Tarr. 1992. Pregnancy rates after collection and shipment of equine embryos (1988-1991). *Proc. 38th Am. Assoc. Equine Pract.*, pp. 609-618.
140. Jasko, D.J., D.M. Moran, M.E. Farlin, E.L. Squires, R.P. Amann and B.W. Pickett. 1992. Pregnancy rates utilizing fresh, cooled, and frozen-thawed stallion semen. *Proc. 38th Am. Assoc. Equine Pract.*, pp. 649-660.
141. Squires, E.L. 1993. Use of progestins in open and pregnant mares. *Anim. Reprod. Sci.* 33:183-193.
142. Hermetet, M.J., H.R. Sawyer, B.W. Pickett, R.P. Amann, E.L. Squires and P.L. Long. 1993. Effect of stain, technician, number of spermatozoa evaluated and slide preparation on assessment of spermatozoal viability by light microscopy. *J. Equine Vet. Sci.* 13:449-455.

**Refereed Journal Publications**

143. Jasko, D.J., M.E. Farlin, H. Hutchinson, D.M. Moran, E.L. Squires and P.J. Burns. 1993. Progesterone and estradiol in biodegradable microspheres for control of estrus and ovulation in mares. *Theriogenology* 40:465-478.
144. Cook, N.L., E.L. Squires, B.S. Ray and D.J. Jasko. 1993. Transvaginal ultrasound-guided follicular aspiration of equine oocytes. *Equine Vet. J., Suppl.* 15:71-74.
145. Long, P.L., B.W. Pickett, H.R. Sawyer, R.K. Shideler, R.P. Amann and E.L. Squires. 1993. Relationship between morphologic and seminal characteristics of equine spermatozoa. *J. Equine Vet. Sci.* 13(3):143-149.
146. Long, P.L., B.W. Pickett, H.R. Sawyer, R.K. Shideler and E.L. Squires. 1993. Identification of immature germ cells in semen of stallions. *Equine Pract.* 15:29-33.
147. Knowles, J.E., E.L. Squires, R.K. Shideler, S.F. Tarr and T.M. Nett. 1993. Relationship of progesterone to early pregnancy loss in mares. *J. Equine Vet. Sci.* 13:528-533.
148. Swinker, A.M., E.L. Squires, E.L. Mumford, J.E. Knowles and D.M. Kniffen. 1993. Effect of body weight and body condition score on follicular development and ovulation in mares treated with GnRH analogue. *J. Equine Vet. Sci.* 13:519-520.
149. Farlin, M.E., D.J. Jasko, J.K. Graham and E.L. Squires. 1993. Heparin-induced capacitation: a comparison between the bull and stallion. *Equine Vet. J.* 15:95-102.
150. Shabpareh, V., E.L. Squires, G.E. Seidel, Jr. and D.J. Jasko. 1993. Methods for collecting and maturing equine oocytes in vitro. *Theriogenology* 40:1161-1175.
151. Long, P.L., B.W. Pickett, H.R. Sawyer, R.K. Shideler and E.L. Squires. 1993. Testicular degeneration and presence of immature germ cells in semen of stallions. *J. Equine Vet. Sci.* 15(5):29-33.
152. Mumford, E.L., E.L. Squires, K.D. Peterson, T.M. Nett and D.J. Jasko. 1994. Effect of various doses of a gonadotropin-releasing hormone analogue on induction of ovulation in anestrous mares. *J. Anim. Sci.* 72:178-183.
153. Squires, E.L., D.M. Moran, M.E. Farlin, D.J. Jasko, T.J. Keefe, S.A. Meyers, E. Figueiredo, P.M. McCue and W. Jochle. 1994. Effect of dose of GnRH analog on ovulation in mares. *Theriogenology* 41:757-769.
154. Jasko, D.J., S.J. Bedford, N.L. Cook, E.L. Mumford, E.L. Squires and B.W. Pickett. 1994. Effect of antibiotics on motion characteristics of cooled stallion spermatozoa. *Theriogenology* 40:885-894.
155. Dippert, K.D., D.J. Jasko, G.E. Seidel, Jr. and E.L. Squires. 1994. Fertilization rates in superovulated and spontaneously ovulating mares. *Theriogenology* 41:1411-1423.
156. Mumford, E.L., E.L. Squires, D.J. Jasko and T.M. Nett. 1994. Use of gonadotropin-releasing hormone, estrogen, or a combination to increase releasable pituitary luteinizing hormone in early transitional mares. *J. Anim. Sci.* 72:174-177.

**Refereed Journal Publications**

157. Ray, B.S., E.L. Squires, N.L. Cook, S.F. Tarr, D.J. Jasko and K.L. Hossner. 1994. Pregnancy following gamete intrafallopian transfer in the mare. *J. Equine Vet. Sci.* 14:27-30.
158. Squires, E.L., S.F. Tarr, R.K. Shideler and N.L. Cook. 1994. Use of transvaginal ultrasound-guided puncture for elimination of equine pregnancies during days 50 to 65. *Equine Vet. Sci.* 14:203-206.
159. Mumford, E.L., E.L. Squires, W. Jochle, L.A. Harrison, T.M. Nett and T.E. Trigg. 1995. Use of deslorelin short-term implants to induce ovulation in cycling mares during three consecutive estrous cycles. *Anim. Reprod. Sci.* 39:129-140.
160. Bedford, S.J., D.J. Jasko, J.K. Graham, R.P. Amann, E.L. Squires and B.W. Pickett. 1995. Effect of seminal extenders containing egg yolk and glycerol on motion characteristics and fertility of stallion spermatozoa. *Theriogenology* 43:955-967.
161. Bedford, S.J., J.K. Graham, R.P. Amann, E.L. Squires and B.W. Pickett. 1995. Use of two freezing extenders to cool stallion spermatozoa to 5°C with and without seminal plasma. *Theriogenology* 43:939-953.
162. Knowles, J.E., E.L. Squires, R.K. Shideler, S.F. Tarr and T.M. Nett. 1995. Progestins in mid- to late-pregnant mares. *J. Equine Vet. Sci.* 14:659-663.
163. Heitland, A.V., D.J. Jasko, J.K. Graham, E.L. Squires, R.P. Amann and B.W. Pickett. 1995. Motility and fertility of stallion spermatozoa cooled and frozen in a modified skim milk extender containing egg yolk and liposomes. *Biol. Reprod. Monograph Series* 1:753-759.
164. Discafani, C.M., E.L. Squires and G.D. Niswender. 1995. Functional state of primary and secondary corpora lutea in pregnant mares. *Biol. Reprod. Monograph Series* 1:293-297.
165. Dippert, K.D., B.S. Ray and E.L. Squires. 1995. Aspiration of the dominant follicle in mares and its effect on subsequent follicular development. *Anim. Reprod. Sci.* 40:77-88.
166. Sissener, T.R., E.L. Squires and C.M. Clay. 1996. Differential suppression of endometrial prostaglandin F<sub>2α</sub> by the equine conceptus. *Theriogenology* 45:541-546.
167. Heitland, A.V., D.J. Jasko, E.L. Squires, J.K. Graham, B.W. Pickett and C. Hamilton. 1996. Factors affecting motion characteristics of frozen-thawed stallion spermatozoa. *Equine Vet. J.* 28:47-53.
168. Wilhelm, K.M., J.K. Graham and E.L. Squires. 1996. Effect of phosphatidylserine and cholesterol liposomes on the viability, motility and acrosomal integrity of stallion spermatozoa prior to and after cryopreservation. *Cryobiology* 33:320-329.
169. Anderson, T.M., B.W. Pickett, J.C. Heird and E.L. Squires. 1996. Effect of blocking vision and olfaction on sexual responses of haltered or loose stallions. *J. Equine Vet. Sci.* 16:254-261.

**Refereed Journal Publications**

170. Wilhelm, K.M., J.K. Graham and E.L. Squires. 1996. Comparison of the fertility of cryopreserved stallion spermatozoa with sperm motion analyses, flow cytometric evaluation and zona-free hamster oocyte penetration. *Theriogenology* 46:559-579.
171. Squires, E.L., S.L. Badzinski, R.P. Amann, P.M. McCue and T.M. Nett. 1997. Effects of altrenogest on total scrotal width, seminal characteristics, concentrations of LH and testosterone and sexual behavior of stallions. *Theriogenology* 48:313-328.
172. McCue, P.M., D.K. Vanderwall and E.L. Squires. 1997. Fetal mummification in a mare. *J. Equine Vet. Sci.* 17:267-269.
173. McCue, P.M., S.S. Lemons, E.L. Squires and D.K. Vanderwall. 1997. Efficacy of Synovex-S® implants in suppression of estrus in the mare. *J. Equine Vet. Sci.* 17:327-329.
174. Denniston, D.J., J.K. Graham, E.L. Squires and S.P. Brinsko. 1997. The effect of liposomes composed of phosphatidylserine and cholesterol on fertility rates using frozen-thawed equine spermatozoa. *J. Equine Vet. Sci.* 17:675-676.
175. Kato, H., G.E. Seidel, Jr. and E.L. Squires. 1997. Treatment of equine oocytes with A23187 after intracytoplasmic sperm injection. *Equine Vet. J., Suppl.* 25:51-53.
176. Young, C.A., E.L. Squires, G.E. Seidel, Jr., H. Kato and P.M. McCue. 1997. Cryopreservation procedures for Day 7-8 equine embryos. *Equine Vet. J., Suppl.* 25:98-102.
177. Squires, E.L., J.K. Brubaker, P.M. McCue and B.W. Pickett. 1998. Effect of sperm number and frequency of insemination on fertility of mares inseminated with cooled semen. *Theriogenology* 49:743-749.
178. Brinsko, S.P., E.L. Squires, B.W. Pickett and T.M. Nett. 1998. Gonadal and pituitary responsiveness of stallions is not down-regulated by prolonged pulsatile administration of GnRH. *J. Androl.* 19:100-109.
179. Nickerson, K., P.M. McCue, E.L. Squires and T.M. Nett. 1998. Comparison of two dosage regimens of the GnRH agonist deslorelin acetate on inducing ovulation in seasonally anestrous mares. *J. Equine Vet. Sci.* 18:121-124.
180. Leipold, S.D., J.K. Graham, E.L. Squires, P.M. McCue, S.P. Brinsko and D.K. Vanderwall. 1998. Effect of spermatozoal concentration and number on fertility of frozen equine semen. *Theriogenology* 49:1537-1543.
181. Franz, L.C., J.C. Landon, L.A. Lopes, L.A. Marinho, C. Sarma, J. Bruemmer and E.L. Squires. 1998. Oral and intravenous immunoglobulin therapy in neonatal foals. *J. Equine Vet. Sci.* 18:742-748.
182. McCue, P.M., J. Thayer, E.L. Squires, S.P. Brinsko and D.K. Vanderwall. 1998. Twin pregnancies following transfer of single embryos in three mares: A case report. *J. Equine Vet. Sci.* 18:832-834.

**Refereed Journal Publications**

183. Squires, E.L., P.M. McCue and D.K. Vanderwall. 1999. The current status of equine embryo transfer. *Theriogenology* 51:91-104.
184. Vanderwall, D.K., R.W. Betschart and E.L. Squires. 2000. Effect of PGF<sub>2</sub>α and 13,14-dihydro-15-keto-PGF<sub>2</sub>α on corpora luteal function in nonpregnant mares. *Theriogenology* 53:1263-1271
185. Buchanan, B.R., G.E. Seidel, Jr., P.M. McCue, J.L. Schenk, L.A. Herickhoff and E.L. Squires. 2000. Insemination of mares with low numbers of either unsexed or sexed spermatozoa. *Theriogenology* 53:1333-1344.
186. Vanderwall, D.K., E.L. Squires, S.P. Brinsko and P.M. McCue. 2000. Diagnosis and management of abnormal embryonic development characterized by formation of an embryonic vesicle without an embryo in mares. *JAVMA* 217:58-63.
187. Hurtt, A.E., F. Landim-Alvarenga, G.E. Seidel, Jr. and E.L. Squires. 2000. Vitrification of immature and mature equine and bovine oocytes in an ethylene glycol, ficoll and sucrose solution using open-pulled straws. *Theriogenology* 54:119-128.
188. Brinsko, S.P., E.C. Crockett and E.L. Squires. 2000. Effect of centrifugation and partial removal of seminal plasma on equine spermatozoal motility after cooling and storage. *Theriogenology* 54:129-136.
189. Denniston, D.J., E.L. Squires, J.E. Bruemmer, S.P. Brinsko, P.M. McCue and J.K. Graham. 2000. Effect of antioxidants on the motility and viability of cooled stallion spermatozoa. *J. Reprod. Fert., Suppl.* 56:121-126.
190. Salazar, P., J.K. Graham, J.J. Parrish, J. Susko-Parrish and E.L. Squires. 2000. Indirect determination of stallion sperm capacitation based on esterase release from spermatozoa challenged with lysophosphatidylcholine. *J. Reprod. Fert., Suppl.* 56:407-414.
191. Hinrichs, K., R.W. Betschart, P.M. McCue and E.L. Squires. 2000. Effect of timing of follicle aspiration on pregnancy rate after oocyte transfer in mares. *J. Reprod. Fert., Suppl.* 56:493-498.
192. Brinsko, S.P., G.S. van Wagner, J.K. Graham and E.L. Squires. 2000. Motility, morphology and triple stain analysis of fresh, cooled and frozen-thawed stallion spermatozoa. *J. Reprod. Fert., Suppl.* 56:111-120.
193. McCue, P.M., J.J. Fleury, D.J. Denniston, J.K. Graham and E.L. Squires. 2000. Oviductal insemination of mares. *J. Reprod. Fert., Suppl.* 56:499-502.
194. Schmid, R.L., H. Kato, L.A. Herickhoff, J.L. Schenk, P.M. McCue, Y.G. Chung and E.L. Squires. 2000. Effects of follicular fluid or progesterone on in vitro maturation of equine oocytes before intracytoplasmic sperm injection with non-sorted and sex-sorted spermatozoa. *J. Reprod. Fert., Suppl.* 56:519-525.
195. Bruemmer, J.E., R.C. Coy, A. Olson and E.L. Squires. 2000. Efficacy of altrenogest administration to postpone ovulation and subsequent fertility in mares. *J. Equine Vet. Sci.* 20:450-452.

**Refereed Journal Publications**

196. Farquhar, V.J., P.M. McCue, D.K. Vanderwall and E.L. Squires. 2000. Efficacy of the GnRH agonist deslorelin acetate for inducing ovulation in mares relative to age of mares and season. *J. Equine Vet. Sci.* 20:722-725.
197. Carnevale, E.M., R.J. Ramirez, E.L. Squires, M.A. Alvarenga and P.M. McCue. 2000. Factors affecting pregnancy rates and early embryonic death after equine embryo transfer. *Theriogenology* 54:965-979.
198. Carnevale, E.M., L.J. Maclellan, M.A. Coutinho da Silva, T.J. Scott and E.L. Squires. 2000. Comparison of culture and insemination techniques for equine oocyte transfer. *Theriogenology* 54:981-987.
199. Crockett, E.C., J.K. Graham, J.E. Bruemmer and E.L. Squires. 2001. Effect of cooling of equine spermatozoa before freezing on post-thaw motility: Preliminary results. *Theriogenology* 55:793-803.
200. Carnevale, E.M., E.L. Squires, L.J. Maclellan, M.A. Alvarenga, T.J. Scott. 2001. Use of oocyte transfer in a commercial breeding program for mares with various reproductive pathologies. *J. Am. Vet. Med. Assoc.* 218:87-91.
201. Scott, T.J., E.M. Carnevale, L.J. Maclellan, C.F. Scoggin and E.L. Squires. 2001. Embryo development rates after transfer of oocytes matured in vivo, in vitro, or within oviducts of mares. *Theriogenology* 55:705-715.
202. Franz, L.C., E.L. Squires, M.K. O'Donovan, T.J. Scott and E.M. Carnevale. 2001. Collection and in vitro maturation of equine oocytes from estrus, diestrus and pregnant mares. *J. Equine Vet. Sci.* 21:26-32.
203. Oberstein, N., M.K. O'Donovan, J.E. Bruemmer, G.E. Seidel, Jr., E.M. Carnevale and E.L. Squires. 2001. Cryopreservation of equine embryos by open pulled straw, cryoloop, or conventional slow cooling methods. *Theriogenology* 55:607-613.
204. Farquhar, V.J., P.M. McCue, T.M. Nett and E.L. Squires. 2001. Effect of deslorelin acetate on gonadotropin secretion and ovarian follicle development in cycling mares. *J. Am. Vet. Med. Assoc.* 218:749-752.
205. Lane, M., M.K. O'Donovan, E.L. Squires, G.E. Seidel, Jr. and D.K. Gardner. 2001. Assessment of metabolism of equine morula and blastocysts. *Molec. Reprod. Develop.* 59:33-37.
206. Alvarenga, M.A., P.M. McCue, J. Bruemmer, J.R. Neves Neto and E.L. Squires. 2001. Ovarian superstimulatory response and embryo production in mares treated with equine pituitary extract twice daily. *Theriogenology* 56:879-887.
207. Landim-Alvarenga, F.C., M.A. Alvarenga, G.E. Seidel, Jr., E.L. Squires and J.K. Graham. 2001. Penetration of zona-free hamster, bovine and equine oocytes by stallion and bull spermatozoa pretreated with equine follicular fluid, dilauroylphosphatidylcholine or calcium ionophore A23187. *Theriogenology* 56:937-953.



**Refereed Journal Publications**

208. Choi, Y.H., E.M. Carnevale, G.E. Seidel, Jr. and E.L. Squires. 2001. Effects of gonadotropins on bovine oocytes matured in TCM-199. *Theriogenology* 56:661-670.
209. Lindsey, A.C., J.E. Bruemmer and E.L. Squires. 2001. Low dose insemination of mares using non-sorted and sex-sorted sperm. *Anim. Reprod. Sci.* 68:279-289.
210. Carnevale, E.M., L.J. Maclellan, M.A. Coutinho da Silva, C.M. Checurea and E.L. Squires. 2001. Equine sperm-oocyte interaction: Results after intraoviductal and intrauterine inseminations of recipients for oocyte transfer. *Anim. Reprod. Sci.* 68:305-314.
211. Choi, Y.H., Y.G. Chung, G.E. Seidel, Jr. and E.L. Squires. 2001. Developmental capacity of equine oocytes matured and cultured in equine trophoblast-conditioned media. *Theriogenology* 56:329-339.
212. Bruemmer, J.E., R.C. Coy, E.L. Squires and J.K. Graham. 2002. Effect of pyruvate on the function of stallion spermatozoa stored for up to 48 hours. *J. Anim. Sci.* 80:12-18.
213. Lindsey, A.C., J.L. Schenk, J.K. Graham, J.E. Bruemmer and E.L. Squires. 2002. Hysteroscopic insemination of low numbers of flow sorted fresh and frozen/thawed stallion spermatozoa. *Equine Vet. J.* 34(2):121-127.
214. Lindsey, A.C., L.H.A. Morris, W.R. Allen, J.L. Schenk, E.L. Squires and J.E. Bruemmer. 2002. Hysteroscopic insemination of mares with low numbers of nonsorted or flow sorted spermatozoa. *Equine Vet. J.* 34(2):128-132.
215. Coutinho da Silva, M.A., E.M. Carnevale, L.J. Maclellan, G.E. Seidel, Jr. and E.L. Squires. 2002. Effect of time of oocyte collection and site of insemination on oocyte transfer in mares. *J. Anim. Sci.* 80:1275-1279.
216. Scoggin, C.F., C. Meira, P.M. McCue, E.M. Carnevale, T.M. Nett and E.L. Squires. 2002. Strategies to improve the ovarian response to equine pituitary extract in cyclic mares. *Theriogenology* 58:151-164.
217. McCue, P.M., V.J. Farquhar, E.M. Carnevale and E.L. Squires. 2002. Removal of deslorelin (Ovuplant™) implant 48 h after administration results in normal interovulatory intervals in mares. *Theriogenology* 58:865-870.
218. Maclellan, L.J., E.M. Carnevale, M.A. Coutinho da Silva, C.F. Scoggin, J.E. Bruemmer and E.L. Squires. 2002. Pregnancies from vitrified equine oocytes collected from super-stimulated and non-stimulated mares. *Theriogenology* 58:911-919.
219. Landim-Alvarenga, F.C., S.E.A. Boyazoglu, L.R. Carvalho, Y.H. Choi, E.L. Squires and G.E. Seidel, Jr. 2002. Effects of fetuin on zona pellucida hardening, fertilization and embryo development in cattle. *Anim. Reprod. Sci.* 71:181-191.
220. Farquhar, V.J., P.M. McCue, E.M. Carnevale, T.M. Nett and E.L. Squires. 2002. Deslorelin acetate (Ovuplant™) therapy in cycling mares: Effect of implant removal on FSH secretion and ovarian function. *Equine Vet. J.* 34:417-420.

**Refereed Journal Publications**

221. Squires, E.L., E.M. Carnevale, P.M. McCue and J.E. Bruemmer. 2003. Embryo technologies in the horse. *Theriogenology* 59:151-170.
222. Carnevale, E.M., L.J. Maclellan, M.A. Coutinho da Silva and E.L. Squires. 2003. Pregnancies attained after collection and transfer of oocytes from ovaries of 5 euthanatized mares. *J. Am. Vet. Med. Assoc.* 222:60-62.
223. Li, G.-P., G.E. Seidel, Jr. and E.L. Squires. 2003. Intracytoplasmic sperm injection of bovine oocytes with stallion spermatozoa. *Theriogenology* 59:1143-1155.
224. Reger, H.P., J.E. Bruemmer, E.L. Squires, L.J. Maclellan, S. Barbacini, D. Necchi and G. Zavaglia. 2003. Effects of timing and placement of cryopreserved semen on fertility of mares. *Equine Vet. Ed.*, April pp. 128-136.
225. Franz, L.C., Y.-H. Choi, E.L. Squires, G.E. Seidel, Jr. and K. Hinrichs. 2003. Effects of roscovitine on maintenance of the germinal vesicle in horse oocytes, subsequent nuclear maturation, and cleavage rates after intracytoplasmic sperm injection. *Reproduction* 125:693-700.
226. Choi, Y.H., F.C. Landim-Alvarenga, G.E. Seidel, Jr. and E.L. Squires. 2003. Effect of capacitation of stallion sperm with polyvinylalcohol or bovine serum albumin on penetration of bovine zona-free or partially zona-removed equine oocytes. *J. Anim. Sci.* 81:2080-2087.
227. Barbacini, S., D. Necchi, G. Zavaglia and E.L. Squires. 2003. Retrospective study on the incidence of post-insemination uterine fluid in mares inseminated with frozen/thawed semen. *J. Equine Vet. Sci.* 23:493-496.
228. Niswender, K.D., M.A. Alvarenga, P.M. McCue, Q.P. Hardy and E.L. Squires. 2003. Superovulation in cycling mares using equine follicle stimulating hormone (eFSH). *J. Equine Vet. Sci.* 23:497-500.
229. Coutinho da Silva, M.A., E.M. Carnevale, L.J. Maclellan, K.A. Preis, G.E. Seidel, Jr. and E.L. Squires. 2004. Oocyte transfer in mares with intrauterine or intraoviductal insemination using fresh, cooled and frozen stallion semen. *Theriogenology* 61:705-713.
230. Li, G.-P., G.E. Seidel, Jr. and E.L. Squires. 2004. Improved cleavage of bovine ICSI ova cultured in heparin-containing medium. *Theriogenology* 61:1077-1084.
231. Preis, K.A., E.M. Carnevale, M.A. Coutinho da Silva, V. Caracciolo di Brienza, G.M. Gomes, L.J. Maclellan and E.L. Squires. 2004. In vitro maturation and transfer of equine oocytes after transport of ovaries at 12 or 22°C. *Theriogenology* 61:1215-1223.
232. Backman, T., J.E. Bruemmer, J.K. Graham and E.L. Squires. 2004. Pregnancy rates of mares inseminated with semen cooled for 18 hours and then frozen. *J. Anim. Sci.* 82:690-694.
233. Niswender, K.D., P.M. McCue and E.L. Squires. 2004. Effect of purified equine follicle-stimulating hormone on follicular development and ovulation in transitional mares. *J. Equine Vet. Sci.* 24:37-39.

**Refereed Journal Publications**

234. Glazar, B.S., P.M. McCue, J.E. Bruemmer and E.L. Squires. 2004. Deslorelin on day 8 or 12 postovulation does not luteinize follicles during an artificially maintained diestrous phase in the mare. *Theriogenology* 62:57-64.
235. Bass, L.D., D.J. Denniston, L.J. Maclellan, P.M. McCue, G.E. Seidel, Jr. and E.L. Squires. 2004. Methanol as a cryoprotectant for equine embryos. *Theriogenology* 62:1153-1159.
236. Squires, E.L., S.L. Keith and J.K. Graham. 2004. Evaluation of alternative cryoprotectants for preserving stallion spermatozoa. *Theriogenology* 62:1056-1065.
237. Landim-Alvarenga, F.C., J.K. Graham, M.A. Alvarenga and E.L. Squires. 2004. Calcium influx into equine and bovine spermatozoa during in vitro capacitation. *Anim. Reprod.* 1:96-105.
238. Carnevale, E.M., M.A. Coutinho da Silva, L.J. Maclellan, G.E. Seidel, Jr. and E.L. Squires. 2004. Use of parentage testing to determine optimum insemination time and culture media for oocyte transfer in mares. *Reproduction* 128:623-628.
239. Lindsey, A.C., D.D. Varner, G.E. Seidel, Jr., J.E. Bruemmer and E.L. Squires. 2005. Hysteroscopic or rectally guided, deep-uterine insemination of mares with spermatozoa stored for 18 h at either 5°C or 15°C prior to flow-cytometric sorting. *Anim. Reprod. Sci.* 85:125-130.
240. Eldridge-Panuska, W.D., V. Caracciolo di Brienza, G.E. Seidel, Jr., E.L. Squires and E.M. Carnevale. 2005. Establishment of pregnancies after serial dilution or direct transfer by vitrified equine embryos. *Theriogenology* 63:1308-1319.
241. Moore, A.I., E.L. Squires and J.K. Graham. 2005. Effect of seminal plasma on the cryopreservation of equine spermatozoa. *Theriogenology* 63:2372-2381.
242. Loomis, P.R. and E.L. Squires. 2005. Frozen semen management in equine breeding programs. *Theriogenology* 64:480-491.
243. Carnevale, E.M., M.A. Coutinho da Silva, D. Panzani, J.E. Stokes and E.L. Squires. 2005. Factors affecting the success of oocyte transfer in a clinical program for subfertile mares. *Theriogenology* 64:519-527.
244. Squires, E.L. 2005. Integration of future biotechnologies into the equine industry. *Anim. Reprod. Sci.* 89:187-198.
245. Kirk, E.S., E.L. Squires and J.K. Graham. 2005. Comparison of in vitro laboratory analyses with the fertility of cryopreserved stallion spermatozoa. *Theriogenology* 64:1422-1439.
246. Moore, A.I., E.L. Squires and J.K. Graham. 2005. Adding cholesterol to the stallion sperm plasma membrane improves cryosurvival. *Cryobiology* 51:241-249.
247. Barbacini, S., P. Loomis and E.L. Squires. 2005. The effect of sperm number and frequency of insemination on pregnancy rates of mares inseminated with frozen-thawed spermatozoa. *Anim. Reprod. Sci.* 89:203-205.

**Refereed Journal Publications**

248. Hudson, J., P.M. McCue, E.M. Carnevale, S. Welch and E.L. Squires. 2006. The effects of cooling and vitrification of embryos from mares treated with equine follicle-stimulating hormone on pregnancy rates after nonsurgical transfer. *J. Equine Vet. Sci.* 26:51-54.
249. Denniston, D.J., J.J. Crabb, J.E. Bruemmer and E.L. Squires. 2006. Effects of a gonadotropin-releasing hormone antagonist and altrenogest on luteinizing hormone concentration and ovulation in the mare. *J. Equine Vet. Sci.* 26:95-101.
250. Squires, E., S. Barbacini, P. Matthews, W. Byers, K. Schwenzer, J. Steiner and P. Loomis. 2006. Retrospective study of factors affecting fertility of fresh, cooled and frozen semen. *Equine Vet. Educ.* 18:96-99.
251. Gómez-Cuétara, C., E.L. Squires and J.K. Graham. 2006. In vitro induction of the acrosome in fresh and frozen-thawed equine spermatozoa. *Anim. Reprod. Sci.* 94:165-167.
252. McCue, P.M., N.L. Logan, M.A. Alonso and E.L. Squires. 2006. Superovulation of mares: Effects of eFSH treatment during consecutive or alternate cycles and as short-term therapy before follicular divergence. *Anim. Reprod. Sci.* 94:404-407.
253. Moore, A.I., E.L. Squires, J.E. Bruemmer and J.K. Graham. 2006. Effect of cooling rate and cryoprotectant on the cryosurvival of equine spermatozoa. *J. Equine Vet. Sci.* 26:215-218.
254. Welch, S.A., D.J. Denniston, J.J. Hudson, J.E. Bruemmer, P.M. McCue and E.L. Squires. 2006. Exogenous eFSH, follicle coasting, and hCG as a novel superovulation regimen in mares. *J. Equine Vet. Sci.* 26:262-270.
255. Squires, E.L., N. Logan, S. Welch and P.M. McCue. 2006. Factors affecting the response to administration of equine FSH. *Anim. Reprod. Sci.* 94:408-410.
256. Squires, E.L. and P.M. McCue. 2007. Superovulation in mares. *Anim. Reprod. Sci.* 99:1-8.
257. Purcell, S.H., G.E. Seidel, Jr., P.M. McCue and E.L. Squires. 2007. Aspiration of oocytes from transitional, cycling, and pregnant mares. *Anim. Reprod. Sci.* 100(3-4):291-300.
258. McCue, P.M., M.M. Leblanc and E.L. Squires. 2007. eFSH in clinical equine practice. *Theriogenology* 68:429-433.
259. Logan, N.L., P.M. McCue, M.A. Alonso and E.L. Squires. 2007. Evaluation of three equine FSH superovulation protocols in mares. *Anim. Reprod. Sci.* 102:48-55.
260. McCue, P.M. M.M. LeBlanc, E.L. Squires. 2007. eFSH in clinical equine practice. *Proc. 2007 SFT Meeting. Theriogenology.* 68:429-433.
261. McCue, P.M., M. Patten, D.D. Denniston, J.E. Bruemmer and E.L. Squires. 2008. Strategies for using eFSH for superovulating mares. *J. Equine Vet. Sci.* 28:91-96.

**Refereed Journal Publications**

262. Squires, E.L. 2008. Hormonal manipulation of the mare: A review. *J. Equine Vet. Sci.* 28:627-634.
263. C. Magee, C.D. Foradori, J.E. Bruemmer, J.A. Arreguin-Arevalo, P.M. McCue, R.J. Handa, E.L. Squires, C.M. Clay. 2009. Biological and Anatomical Evidence for Kiospeptin Regulation of the Hypothalamic-pituitary-gonadal axis of the estrous horse mare. *Endocrinology.* 150(6):2831-2821.
264. Barfield JP, McCue PM, Squires EL, and Seidel Jr GE. 2009. Effect of dehydration prior to cryopreservation of large equine embryos. *Cryobiology.* 59(1)36-41.
265. Glazar AL, Mullen SF, Lui J, Benson JD, Critser JK, Squires EL, Graham JK. 2009. Osmotic tolerance limits and membrane permeability characteristics of stallion spermatozoa treated with cholesterol. *Cryobiology.* 59(2)201-206.
266. Spirizziri BE, Fox MH, Bruemmer JE, Squires EL, Graham JK. 2009. Cholesterol-loaded cyclodextrins and fertility potential of stallion spermatozoa. *Animal Reprod. Sci.* Aug 15 (ePub ahead of print) PMID:19762177.
267. Bruemmer JE, Wilson CH, Coutino daSilva M, Squires EL. 2009. Effect of hyaluronan supplementation on cryopreserved equine spermatozoa. *J. Eq. Vet. Sci.* 29(4)223-228.
268. Squires EL. 2009. Changes in Equine Reproduction: Have they been good or bad for the Horse Industry. *J. Eq. Vet. Sci.* 29(5)268-273.
269. Cox TJ, Squires EL, Carnevale EM. 2009. Effect of Follicle Size and Follicle stimulating hormone on induction and embryo recovery in the mare. *J. Eq. Vet. Sci.* 29(4)213-218.
270. McCue PM, Patten M, Denniston D, Bruemmer JE, Squires EL. Strategies for using eFSH superovulating mares. *J. Eq. Vet. Sci.* 28(2)91-96.

E.L. Squires

**Abstracts****Abstracts:**

1. Squires, E.L., R.H. Douglas and O.J. Ginther. 1972. Ovarian changes during pregnancy in mares. *J. Anim. Sci.* 35:1124.
2. Steffenhagen, W.P., E.L. Squires, M.H. Pineda, R.H. Douglas and O.J. Ginther. 1972. Numbers of ova in the oviducts of mares. *J. Anim. Sci.* 35:1125.
3. Squires, E.L. 1974. Follicular and luteal development in pregnant and hysterectomized mares. Ph.D. Thesis Dissertation Abstract, under direction of Dr. O.J. Ginther, Department of Veterinary Sciences, University of Wisconsin.
4. Squires, E.L., M.C. Garcia and O.J. Ginther. 1974. Ovarian changes in hysterectomized and pregnant mares. *J. Anim. Sci.* 37:330.
5. Squires, E.L. and O.J. Ginther. 1974. Progesterone in pregnant and hysterectomized mares. *J. Anim. Sci.* 39:227.
6. Squires, E.L. and O.J. Ginther. 1974. Progesterone in ovarian and uterine veins in mares. *J. Anim. Sci.* 39:227.
7. Nett, T.M., E.L. Squires and B.W. Pickett. 1977. Levels of LH, FSH and progesterone after treatment of mares with ICI-81008 (Equimate). 69th Ann. Mtg. Am. Soc. Anim. Sci., Madison, WI, p. 191.
8. Squires, E.L., R.P. Amann, J.H. Hoyer, T.M. Nett and B.W. Pickett. 1977. Effect of ejaculation on systemic levels of testosterone and LH in stallions. 69th Ann. Mtg. Am. Soc. Anim. Sci., Madison, WI, p. 210.
9. Wallace, R.A., E.L. Squires, J.L. Voss, B.W. Pickett and R.K. Shideler. 1977. Appointment breeding in mares using prostaglandin F<sub>2</sub>, human chorionic gonadotropin and gonadotropin releasing hormone. 69th Ann. Mtg. Am. Soc. Anim. Sci., Madison, WI, p. 214.
10. Wallace, R.A., E.L. Squires, J.L. Voss and B.W. Pickett. 1977. Effectiveness of GnRH or GnRH analog in inducing ovulation and shortening estrus in mares. 69th Ann. Mtg. Am. Soc. Anim. Sci., Madison, WI, p. 215.
11. Squires, E.L., W.B. Stevens, T.M. Nett and B.W. Pickett. 1978. *In vitro* PMSG stimulation of luteal tissue from pregnant mares. *J. Anim. Sci.* 47, Suppl. 1:391, #439.
12. Squires, E.L., M.H. Pineda, G.E. Seidel, Jr. and B.W. Pickett. 1978. Chemical vasectomy of stallions. *J. Anim. Sci.* 47, Suppl. 1:391, #440.
13. Thompson, D.L., Jr., B.W. Pickett and E.L. Squires. 1978. Sexual behavior and seminal characteristics of geldings treated with testosterone propionate or 17-estradiol benzoate. *J. Anim. Sci.* 47, Suppl. 1:395, #448.

## E.L. Squires

## Abstracts

14. McGlothlin, D.E., E.L. Squires and B.W. Pickett. 1979. Effect of an oral progestin (Regumate) on the estrous cycle and fertility of mares. *J. Anim. Sci.* 49, Suppl. 1:316.
15. Olar, T.T., R.B. Hillman, E.L. Squires and B.W. Pickett. 1979. Effect of artificial vagina temperature on stallion seminal quality and behavioral characteristics. *J. Anim. Sci.* 49, Suppl. 1:323.
16. Squires, E.L., R.B. Hillman, B.W. Pickett and T.M. Nett. 1979. Use of Equimate for induction of abortion: Effect on secretion of progesterone, PMSG and reproductive performance. *J. Anim. Sci.* 49, Suppl. 1:338.
17. Todter, G.E., E.L. Squires, W.E. Berndtson and B.W. Pickett. 1979. Effect of anabolic steroids on reproductive functions of young stallions. *J. Anim. Sci.* 49, Suppl. 1:341.
18. Pickett, B.W., E.L. Squires, G.E. Todter and W.E. Berndtson. 1979. Effect of anabolic steroids on reproductive function of stallions. *Third Int. Symp. Equine Med. Cont., Lexington, KY*, p. 9.
19. Voss, J.L., E.L. Squires, J.H. Hoyer, W.E. Berndtson and B.W. Pickett. 1979. Influence of exogenous testosterone on reproductive function in stallions. *Third Int. Symp. Equine Med. Cont., Lexington, KY*, pp. 9-10.
20. Squires, E.L., W.B. Stevens, D.E. McGlothlin and B.W. Pickett. 1979. Control of estrus and ovulation in the mare with a progestin (allyl-trenbolone). *Third Int. Symp. Equine Med. Cont., Lexington, KY*, pp. 12-13.
21. Pickett, B.W., J.L. Voss and E.L. Squires. 1979. Factors affecting sperm output of the stallion. *Australian Advances in Vet. Sci.* 1, pp. 23-24.
22. Voss, J.L., B.W. Pickett and E.L. Squires. 1979. Effects of synchronization and frequency of insemination on fertility in mares. *Australian Advances in Vet. Sci.*, pp. 24-25.
23. Squires, E.L., W.E. Berndtson, G.E. Todter, J.H. Hoyer and B.W. Pickett. 1979. Effect of steroids on seminal and behavioral characteristics of stallions. *116th Mtg. Am. Vet. Med. Assoc., Seattle, WA*.
24. Squires, E.L. and J.H. Hoyer. 1979. Short and long-term effect of exogenous testosterone on secretion of testosterone and LH in stallions. *Soc. Study Reprod., Quebec City, Quebec*.
25. Squires, E.L., W.B. Stevens and D.E. McGlothlin. 1979. Use of an oral progestin for estrus synchronization in mares. *Theriogenology* 11:110.
26. Heesemann, C.P., E.L. Squires, S.K. Webel, R.K. Shideler and B.W. Pickett. 1980. The effect of ovarian activity and allyl trenbolone on estrous cycle and fertility of mares. *J. Anim. Sci.* 51, Suppl. 1:284.
27. Imel, K.J., E.L. Squires, R.P. Elsdon and R.K. Shideler. 1980. Pregnancy rates after surgical and nonsurgical transfer of equine embryos. *J. Anim. Sci.* 51, Suppl. 1:288.

## Abstracts

28. LaBruzzo, V.M., E.L. Squires, H.R. Sawyer and T.M. Nett. 1980. Effect of estradiol-17 on the *in vitro* secretion of testosterone by the stallion testis. *J. Anim. Sci.* 51, Suppl. 1:294.
29. Imel, K.J., E.L. Squires and R.P. Elsdén. 1980. Embryo recovery and effect of repeated uterine flushing of mares. *Theriogenology* 13:97.
30. Squires, E.L. and B.W. Pickett. 1980. Use of allyl-trenbolone for estrus control in mares. Ninth Int. Congr. Anim. Reprod. A.I., Madrid, Spain, 3:90.
31. Voss, J.L., B.W. Pickett and E.L. Squires. 1980. Stallion spermatozoal morphology and motility and their relationship to fertility. *J. Am. Vet. Med. Assoc.* 177:266.
32. Voss, J.L., E.L. Squires, B.W. Pickett and R.K. Shideler. 1980. Clinical use of hormones in the broodmare. *J. Am. Vet. Med. Assoc.* 177:266.
33. Imel, K.J., E.L. Squires and R.K. Shideler. 1981. A comparison of reproductive performance of fertile versus infertile donor mares. *Theriogenology* 15:107.
34. Imel, K.J., E.L. Squires, R.P. Elsdén and R.K. Shideler. 1981. Pregnancy rates after surgical transfer of noncultured and cultured equine embryos. *J. Anim. Sci.* 53, Suppl. 1:332.
35. Squires, E.L., D.J. Eikenberry, J.L. Voss, T.M. Nett and R.K. Shideler. 1981. The effect of progestin therapy on pregnancy maintenance in mares. *J. Anim. Sci.* 53, Suppl. 1:368.
36. Pickett, B.W., J.L. Voss and E.L. Squires. 1981. Management factors affecting stallion seminal characteristics. *British Equine Vet. Assoc. XXth Ann. Congr. Handbook, Programme and Abstracts of Papers*, pp. 19-20.
37. Pickett, B.W., T.M. Nett, E.L. Squires and J.L. Voss. 1982. Impotence and abnormal sexual behaviour in the stallion. *J. Reprod. Fert., Suppl.* 32:636.
38. Squires, E.L., R.K. Shideler, B.W. Pickett and J.L. Voss. 1982. Use of ultrasound for detection of pregnancy in mares. 119th Am. Vet. Med. Assoc., Salt Lake City, UT, #15.
39. Squires, E.L., J.L. Voss, R.K. Shideler and J. Maher. 1982. Effect of anabolic steroids on reproductive performance of mares. 119th Am. Vet. Med. Assoc., Salt Lake City, UT, #18.
40. Clay, C.M., E.L. Squires, R.P. Amann and B.W. Pickett. 1983. Effect of dilution and polyvinyl alcohol on stallion spermatozoal motility. *J. Anim. Sci.* 57, Suppl. 1:325.
41. Hart, P.J., E.L. Squires, K.J. Imel and T.M. Nett. 1983. Seasonal variations in hypothalamic content of GnRH, pituitary receptors for GnRH and pituitary content in the mare. *J. Anim. Sci.* 57, Suppl. 1:343.
42. Iuliano, M.F. and E.L. Squires. 1983. Pregnancy rates after transfer of 7- or 8-day-old equine embryos either surgically or non-surgically. *Theriogenology* 19:134.



## Abstracts

43. Villahoz, M.D., M.F. Iuliano and E.L. Squires. 1983. The use of real-time ultrasound for pregnancy detection in embryo transfer mares. *Theriogenology* 19:149.
44. Villahoz, M.D., J.L. Voss and E.L. Squires. 1984. Comparison of early pregnancy diagnostic tests in the mare. 10th Int. Congr. Anim. Reprod. A.I. I:99.
45. Rich, G.A., D.E. McGlothlin, L.D. Lewis, E.L. Squires and B.W. Pickett. 1984. Effect of vitamin E supplementation on stallion seminal characteristics and sexual behavior. 10th Int. Congr. Anim. Reprod. A.I. I:163.
46. Clay, C.M., N.P. Slade, R.P. Amann and E.L. Squires. 1984. Effects of extender, storage temperature and centrifugation on stallion spermatozoal motility and fertility. 10th Int. Congr. Anim. Reprod. A.I. I:186.
47. Clay, C.M., E.L. Squires, R.P. Amann and B.W. Pickett. 1984. Effect of dilution, polyvinyl alcohol (PVA) and bovine serum albumin (BSA) on stallion spermatozoal motility. 10th Int. Congr. Anim. Reprod. A.I. II:187.
48. Slade, N.P., T.J. Williams, E.L. Squires and G.E. Seidel, Jr. 1984. Production of identical twin pregnancies by microsurgical bisection of equine embryos. 10th Int. Congr. Anim. Reprod. A.I. I:241.
49. Takeda, T., R.P. Elsdén and E.L. Squires. 1984. *In vitro* and *in vivo* development of frozen-thawed equine embryos. 10th Int. Congr. Anim. Reprod. A.I. I:246.
50. Slade, N.P., T. Takeda, E.L. Squires and R.P. Elsdén. 1984. Development and viability of frozen-thawed equine embryos. *Theriogenology* 21:263.
51. Clark, K.E., E.L. Squires, T. Takeda and G.E. Seidel, Jr. 1985. Effect of culture media on viability of equine embryos *in vitro*. *Equine Vet. J., Suppl.* 3:35.
52. Slade, N.P., T. Takeda and E.L. Squires. 1985. Cryopreservation of the equine embryo. *Equine Vet. J., Suppl.* 3:40.
53. Cook, V.M. and E.L. Squires. 1985. Results from a commercial embryo transfer programme. *Equine Vet. J., Suppl.* 3:103.
54. Province, C.A., E.L. Squires, B.W. Pickett and R.P. Amann. 1985. Cooling rates, storage temperatures and fertility of extended equine spermatozoa. *Theriogenology* 23:925-934.
55. Francl, A.T., R.P. Amann, E.L. Squires and B.W. Pickett. 1986. Motility and fertility of equine spermatozoa in milk extenders after 12 or 24 hr at 20C. *J. Anim. Sci.* 63, Suppl. 1:337.
56. Colbern, G.T., E.L. Squires and J.L. Voss. 1986. Management of the transitional period in mares with altrenogest and human chorionic gonadotropin (hCG). *J. Anim. Sci.* 63, Suppl. 1:376.
57. Voss, J.L., B.W. Pickett, J.R. Neil and E.L. Squires. 1987. Effect of ejaculation frequency on spermatozoal output. *J. Reprod. Fert., Suppl.* 35:643.

## Abstracts

58. Clay, C.M., E.L. Squires, R.P. Amann and T.M. Nett. 1987. Effects of daylength or artificial photoperiod on pituitary responsiveness to GnRH in stallions. *J. Reprod. Fert., Suppl.* 35:657-658.
59. Nett, T.M., C. Shoemaker and E.L. Squires. 1987. GnRH-stimulated release of LH during pregnancy and after parturition. *J. Reprod. Fert., Suppl.* 35:729-730.
60. McKinnon, A.O., E.L. Squires and R.K. Shideler. 1987. Diagnostic ultrasonography of the mare's reproductive tract. *Proc. 23rd World Veterinary Congress*, p. 278.
61. Carnevale, E.M., A.O. McKinnon and E.L. Squires. 1988. Effect of preovulatory follicular fluid aspiration upon luteal function in the mare. *Theriogenology* 29:231.
62. Carnevale, E.M., A.O. McKinnon and E.L. Squires. 1988. Ultrasonic characteristics of the preovulatory follicle directly preceding and during ovulation in the mare. *Theriogenology* 29:232.
63. McKinnon, A.O., E.L. Squires, E.M. Carnevale, J.L. Voss and G.E. Seidel, Jr. 1988. Heterogenous and xenogenous fertilization of equine oocytes. *Theriogenology* 29:278.
64. McKinnon, A.O., E.L. Squires and J.L. Voss. 1988. Factors affecting equine embryo transfer pregnancy rates. *11th Int. Congr. Anim. Reprod. A.I.* 1:177.
65. Shideler, R.K., L.A. Harrison, E.L. Squires and A.O. McKinnon. 1988. Effect of sire, dam and recipient on size of embryo transfer foals. *11th Int. Congr. Anim. Reprod. A.I.* 1:194.
66. Amann, R.P., E.L. Squires and B.W. Pickett. 1988. Effects of sample thickness and temperature on spermatozoal motion. *11th Int. Congr. Anim. Reprod. A.I.* 1:221.
67. Squires, E.L., R.P. Amann, A.O. McKinnon and B.W. Pickett. 1988. Fertility of equine spermatozoa cooled to 5 or 20°C. *11th Int. Congr. Anim. Reprod. A.I.* 1:297.
68. Pickett, B.W., J.L. Voss, R.A. Bowen, E.L. Squires and A.O. McKinnon. 1988. Comparison of seminal characteristics of stallions that passed or failed a seminal evaluation. *11th Int. Congr. Anim. Reprod. A.I.* 1:380.
69. Voss, J.L., B.W. Pickett, R.A. Bowen, E.L. Squires and A.O. McKinnon. 1988. Effect of breed, month and age on stallion seminal characteristics. *11th Int. Congr. Anim. Reprod. A.I.* 1:388.
70. Squires, E.L., L.A. Harrison, A.O. McKinnon and J.L. Voss. 1988. Use of hCG, GnRH agonist or prostaglandin analogue for induction of ovulation in mares. *11th Int. Congr. Anim. Reprod. A.I.* 1:460.
71. Ionata, L.M., B.W. Pickett and E.L. Squires. 1989. Effect of supplementary sexual preparation on stallion seminal characteristics. *11th Equine Nutr. Physiol. Symp.*, pp. 178-179.

## E.L. Squires

## Abstracts

72. Terrell, B.T., J.C. Heird, B.W. Pickett, P.N. Lehner and E.L. Squires. 1989. Effect of plastic vs latex artificial vagina liner and mare vs phantom teaser on stallion seminal and behavioral characteristics. 11th Equine Nutr. Physiol. Symp., p. 180
73. Rowley, H.R., E.L. Squires and B.W. Pickett. 1989. Effect of increased insemination volumes on embryo recovery in the mare. 11th Equine Nutr. Physiol. Symp., pp. 194-198.
74. Ionata, L.M., B.W. Pickett, J.C. Heird, P.N. Lehner and E.L. Squires. 1989. Effects of collection area and restraint on stallion seminal characteristics. 11th Equine Nutr. Physiol. Symp., p. 286
72. Clayton, J.S., E.L. Squires and T.M. Nett. 1989. Use of GnRH implants for hastening ovulation in transitional mares. 11th Equine Nutr. and Physiol. Soc. Symp., pp. 287-288.
75. Barnes, C.K., E.L. Squires and B.W. Pickett. 1989. The effect of uterine fluid on sperm motility and embryo recovery. 11th Equine Nutr. Physiol. Symp., pp. 292-294.
77. Cook, V.M., E.L. Squires, A.O. McKinnon and P.L. Long. 1989. Pregnancy rates of cooled, transported equine embryos. Equine Vet. J., Suppl. 8:80-81.
78. Seidel, G.E., Jr., E.L. Squires, A.O. McKinnon and P.L. Long. 1989. Cryopreservation of equine embryos in 1,2 propanediol. Equine Vet. J. Suppl. 8:87-88.
79. Squires, E.L., G.E. Seidel, Jr. and A.O. McKinnon. 1989. Transfer of cryopreserved equine embryos to progestin-treated ovariectomized mares in winter. Equine Vet. J., Suppl. 8:89-91.
80. Blue, B.J., A.O. McKinnon, E.L. Squires, G.E. Seidel, Jr. and C. Muscari. 1989. Capacitation of stallion spermatozoa and in vitro fertilization of equine oocytes. Equine Vet. J. Suppl. 8:111-116.
81. McKinnon, A.O., E.M. Carnevale, E.L. Squires, N.J. Carney and G.E. Seidel, Jr. 1989. Bisection of equine embryos. Equine Vet. J. Suppl. 8:129-133
82. Cook, V.M., E.L. Squires, A.O. McKinnon and P.L. Long. 1989. Pregnancy rates of cooled, transported equine embryos. 2nd Int. Equine Embryo Transfer, Banff, Canada.
83. Squires, E.L., G.E. Seidel, Jr. and A.O. McKinnon. 1989. Transfer of cryopreserved equine embryos to progestin-treated ovariectomized mares in winter. 2nd Int. Equine Embryo Transfer, Banff, Canada.
84. Squires, E.L., H.R. Rowley and T.M. Nett. 1989. Comparison of pulsatile versus constant release of GnRH for superovulation in mares. Proceedings Am. Soc. Anim. Sci. 1(Suppl. 67):391-392.
85. Harrison, L.A., E.L. Squires, T.M. Nett and A.O. McKinnon. 1989. Gonadotropin response of postpartum mares to gonadotropin releasing hormone (GnRH). Am. Soc. Anim. Sci., Lexington, KY.
86. Squires, E.L., C.K. Barnes, H.R. Rowley and B.W. Pickett. 1989. Effect of uterine fluid and volume of extender on fertility of mares. Proc. 35th Annual Conv. Am. Assoc. Equine Pract.

## E.L. Squires

## Abstracts

87. Squires, E.L., B.J. Blue, T.M. Nett and B.W. Pickett. 1990. Effect of pulsatile and continuous administration of GnRH on reproductive function of stallions. 5th Int. Symp. Equine Reprod., p. 58.
88. Clay, C.M., E.L. Squires, R.P. Amann and B.W. Pickett. 1990. The influence of season on the temporal association between concentrations of LH and FSH in frequent blood samples from stallions. 5th Int. Symp. Equine Reprod., p. 224.
89. Carney, N.J., E.L. Squires, V.M. Cook and D.J. Jasko. 1991. Three year study of pregnancy rates resulting from fresh versus cooled, transported equine embryos. *Theriogenology* 35:189.
90. Martin, J.M., E.L. Squires, D.J. Jasko and N.J. Carney. 1991. Effect of storage of equine embryos at 5°C for 18 and 36 hours. *Theriogenology* 35:238.
91. Cole, R.J., E.L. Squires, V. Cook, V. Shabpareh, S. Arledge and D. Hibbard. 1991. Effects of one-eye and two-eye illumination with illuminated blinders on the breeding season in horses. Soc. for Light Treatment and Biological Rhythms.
92. Dippert, K.D., S. Hofferer, E. Palmer, D.J. Jasko and E.L. Squires. 1991. Factors affecting the success of superovulation in mares. 12th Equine Nutr. Physiol. Soc. Symp.
93. Jasko, D.J., J.M. Martin and E.L. Squires. 1991. Effect of insemination volume and concentration of spermatozoa on embryo recovery in mares. 12th Equine Nutr. Physiol. Soc. Symp.
94. Jasko, D.J., D.M. Moran, M.E. Farlin and E.L. Squires. 1991. Effect of dilution or removal of seminal plasma on spermatozoal motion characteristics of cooled stallion semen. 12th Equine Nutr. Physiol. Soc. Symp.
95. Martin, J.M., E.L. Squires, V.M. Cook and D.J. Jasko. 1991. Evaluation of synchronization regimes for cycling mares. 12th Equine Nutr. Physiol. Soc. Symp.
96. Farlin, M.E., D.J. Jasko, J.K. Graham and E.L. Squires. 1991. Assessment of pisum sativum agglutinin in identifying acrosomal damage in stallion spermatozoa. 12th Equine Nutr. Physiol. Soc. Symp., pp. 181-182.
97. Moran, D.M., D.J. Jasko, J.K. Graham and E.L. Squires. 1991. The effect of water soluble lubricants on equine semen. 12th Equine Nutr. Physiol. Soc. Symp., pp. 197-198.
98. Cook, N.L., V.M. Cook, E.L. Squires and P.J. Burns. 1992. Effects of exogenous estradiol treatment in cyclic mares following PGF<sub>2</sub> induced luteal regression. 13th Equine Nutr. Physiol. Soc. Symp.
99. Jasko, D.J., M.E. Farlin, H. Hutchison, D.M. Moran, E.L. Squires and P.J. Burns. 1992. Progesterone and estradiol in biodegradable microspheres for control of estrus and ovulation in mares. 13th Equine Nutr. Physiol. Soc. Symp.
100. Moran, D.M., D.J. Jasko, E.L. Squires and R.P. Amann. 1992. Determination of temperature and cooling rate induced cold shock in stallion spermatozoa. 13th Equine Nutr. Physiol. Soc. Symp.

## E.L. Squires

## Abstracts

101. Knowles, J.E., E.L. Squires and R.K. Shideler. 1992. The role of progesterone in early pregnant mares. 13th Equine Nutr. Physiol. Soc. Symp.
102. Mumford, E.L., E.L. Squires, T.M. Nett, D.J. Jasko and K.D. Peterson. 1992. The response of anestrous mares to various doses of GnRH analog. 13th Equine Nutr. Physiol. Soc. Symp.
103. Mumford, E.L., E.L. Squires and T.M. Nett. 1992. Use of GnRH, estrogen, or a combination to improve pituitary LH stores in early transitional mares. 13th Equine Nutr. and Physiol. Soc. Symp.
104. Swinker, A.M., E.L. Squires, E.L. Mumford, J.E. Knowles and D.M. Kniffen. 1992. Effect of body weight and body condition score on follicular development and ovulation in mares treated with GnRH analogue. 13th Equine Nutr. Physiol. Soc. Symp.
105. Guaus Bedford, S.J., D.J. Jasko, J.K. Graham, R.P. Amann and E.L. Squires. 1992. Effect of seminal extenders containing egg yolk and glycerol on stallion sperm motion characteristics and fertility. 13th Equine Nutr. Physiol. Soc. Symp.
106. Farlin, M.E., D.J. Jasko, J.K. Graham and E.L. Squires. 1992. Effects of calcium ionophore A23187 on stallion spermatozoa. *Theriogenology* 37:209.
107. Shabpareh, V., E.L. Squires and D.J. Jasko. 1992. Collection and *in vitro* maturation of equine oocytes from excised mare ovaries. *Theriogenology* 37:296.
108. Squires, E.L., K.D. Dippert, M.E. Farlin and D.J. Jasko. 1992. Attempt to improve embryo recovery from mares. *Theriogenology* 37:302.
109. Farlin, M.E., D.J. Jasko, J.K. Graham and E.L. Squires. 1992. Heparin-induced capacitation: A comparison between the stallion and bull. 3rd Int. Symp. Equine Embryo Transfer, p. 31.
110. Cook, N.L., E.L. Squire, B.S. Ray, V.M. Cook and D.J. Jasko. 1992. Transvaginal ultrasonically guided follicular aspiration of equine oocytes. 3rd Int. Symp. Equine Embryo Transfer, p. 50.
111. Cook, N.L., E.L. Squires and D.J. Jasko. 1993. Repeated transvaginal follicular aspiration in cyclic mares. *Proc. Ann. Conf. Int. Embryo Transfer Soc., Theriogenology* 39:204.
112. Pfaff, R., G.E. Seidel, Jr., E.L. Squires and D.J. Jasko. 1993. Permeability of equine blastocysts to ethylene glycol and glycerol. *Proc. Ann. Conf. Int. Embryo Transfer Soc., Theriogenology* 39:284.
113. Wilhelm, K.M., K. Hinds, E.L. Squires and J.K. Graham. 1993. Development of new extenders for preserving stallion sperm at 39°C and -196°C. *Biol. Reprod. (Suppl. 1)*:165.
114. Dippert, K.D. and E.L. Squires. 1993. Fertilization rates in superovulated and control mares. *Proc. Western Section Am. Soc. Anim. Sci.* 43.
115. Heitland, A.V., D.J. Jasko, J.K. Graham, R.P. Amann and E.L. Squires. 1993. Addition of egg yolk and liposomes to a modified skim-milk extender and their effect on sperm motility and fertility. *Proc. Western Section Am. Soc. Anim. Sci.* 43.

## Abstracts

116. Jasko, D.J., M.E. Farlin, D.M. Moran and E.L. Squires. 1993. Use of microspheres of progesterone and estradiol for ovulation control in mares. *Proc. Western Section Am. Soc. Anim. Sci.* 43.
117. Squires, E.L., D.J. Jasko, S.A. Meyers, E. Figueiredo and P.M. McCue. 1993. Control of ovulation using a GnRH agonist. *Proc. Western Section Am. Soc. Anim. Sci.* 43.
118. Knowles, J.E., E.L. Squires and R.K. Shideler. 1993. The role of progesterone in early pregnant mares. *Proc. Western Section Am. Soc. Anim. Sci.* 43.
119. Cook, N., V.M. Cook, E.L. Squires and P.J. Burns. 1993. Effects of exogenous estradiol treatment in cyclic mares following PGF<sub>2</sub> induced luteal regression. *Proc. Western Section Am. Soc. Anim. Sci.* 43.
120. Moran, D.M., D.J. Jasko, E.L. Squires and R.P. Amann. 1993. Effect of cooling rate and storage temperature on motion characteristics of stallion sperm. *Proc. Western Section Am. Soc. Anim. Sci.* 43.
121. Dippert, K.D., B.S. Ray and E.L. Squires. 1994. Maximizing ultrasound-guided retrieval of equine oocytes. *Proc. Int. Embryo Transfer Soc., Australia. Theriogenology* 41:190.
122. Pfaff, R., G.E. Seidel, Jr. and E.L. Squires. 1994. Effects of glycerol and ethylene glycol on survival of equine embryos. *J. Anim. Sci.* 72 (Suppl. 1):82.
123. Knowles, J.E., E.L. Squires, R.K. Shideler, S.F. Tarr and T.M. Nett. 1994. Progestins in mid- to late-pregnant mares. *14th Equine Nutr. Physiol. Soc. Symp.*, pp. 162-163.
124. Badzinski, S.L. and E.L. Squires. 1994. Altrenogest suppression of sexual and aggressive behavior in stallions. *14th Equine Nutr. Physiol. Soc. Symp.*, pp. 278-279.
125. Swinker, A.M., E.L. Squires and E.L. Mumford. 1994. Correlation of thyroid hormone levels to ovulation in anestrus mares treated with varying doses of GnRH analogue. *14th Equine Nutr. Physiol. Soc. Symp.*, pp. 292-297.
126. Sissener, T.R., E.L. Squires and C.M. Clay. 1994. Early developmental equine embryo suppression of endometrial PGF<sub>2</sub>. *Sixth Int. Equine Reprod. Symp., Caxambu, Brazil*, pp. 29-30.
127. Discafani, C.M., E.L. Squires and G.D. Niswender. 1994. Functional state of primary and secondary corpora lutea in pregnant mares. *Sixth Int. Equine Reprod. Symp., Caxambu, Brazil*, pp. 73-74.
128. Heitland, A.V., D.J. Jasko, J.K. Graham, E.L. Squires, R.P. Amann and B.W. Pickett. 1994. Motility and fertility of stallion spermatozoa cooled and frozen in a modified skim milk extender containing egg yolk and liposome. *Sixth Int. Equine Reprod. Symp., Caxambu, Brazil*, pp. 193-194.
129. Wilhelm, K.M., J.K. Graham and E.L. Squires. 1994. Motility and fertility of cryopreserved stallion spermatozoa in three extenders. *Sixth Int. Equine Reprod. Symp., Caxambu, Brazil*.

## E.L. Squires

## Abstracts

130. Wilhelm, K.M., J.K. Graham and E.L. Squires. 1995. Recovery of embryos from mares inseminated with cryopreserved stallion spermatozoa. *Theriogenology* 43:351.
131. Squires, E.L., J.M. Wilson, H. Kato and A. Blaszczyk. 1996. A pregnancy after intracytoplasmic sperm injection into equine oocytes matured in vitro. *Theriogenology* 45:306.
132. Pickett, B.W., S.L. Badzinski and E.L. Squires. 1996. Effects of altrenogest on stallion seminal characteristics, sexual behavior and total scrotal width. 2nd Int. Symp. on Stallion Semen, The Netherlands.
133. Squires, E.L., S.D. Leipold and J.K. Graham. 1996. The effect of sperm concentration and total motile sperm numbers on pregnancy rates of mares inseminated with frozen-thawed stallion spermatozoa. 2nd Int. Symp. on Stallion Semen, The Netherlands.
134. Squires, E.L., J.K. Brubaker and P.M. McCue. 1996. Sperm number and frequency of insemination on fertility of mares bred with cooled semen. *J. Anim. Sci.* 74(Suppl. 1):238 (Abstr. #524).
135. Squires, E.L., D.K. Vanderwall, P.M. McCue and S.P. Brinsko. 1996. Factors affecting pregnancy rates of fresh and cooled equine embryos. Proc. IV Int. Symp. on Equine Embryo Transfer -- Practitioner's Meeting.
136. Brinsko, S.P., E.L. Squires, T.M. Nett, B.W. Pickett and K.A. Shiner. 1996. Gonadal and pituitary effects in stallions receiving GnRH. 42nd Ann. Conv. AAEP, pp. 195-196.
137. McCue, P.M., S.S. Lemons, E.L. Squires and D.K. Vanderwall. 1996. Efficacy of progesterone\estradiol implants for suppression of estrus in the mare. Proc. 42nd Ann. Conv. AAEP, pp. 195-196.
138. Young, C., E.L. Squires and G.E. Seidel, Jr. 1997. Effects of three methods of cryopreservation on survival of large equine blastocysts. *Theriogenology* 47:395.
139. Kato, H., J.M. Wilson, G.E. Seidel, Jr. and E.L. Squires. 1997. Effect of activation of equine oocytes with A23187 after intracytoplasmic sperm injection. Proc. IV Int. Symp. Equine Embryo Transfer, Reims, France, p. 20.
140. Kato, H., G.E. Seidel, Jr. and E.L. Squires. 1997. In vitro fertilization after maturation of equine oocytes with epidermal growth factor or removal of cumulus cells. Proc. IV Int. Symp. Equine Embryo Transfer, Reims, France, pp. 21-22.
141. Squires, E.L., S.D. Leipold, J.K. Graham and B.W. Pickett. 1997. The effect of sperm concentration and total motile sperm numbers on pregnancy rates of mares inseminated with frozen-thawed stallion spermatozoa. Proc. Fifteenth Equine Nutr. Physiol. Soc. Symp., pp. 279-280.
142. Denniston, D.J., E.L. Squires, J.K. Graham and S.P. Brinsko. 1997. The effect of liposomes on fertility rates using frozen-thawed equine spermatozoa. Proc. Fifteenth Equine Nutr. Physiol. Soc. Symp., pp. 91-92.

**Abstracts**

143. Nickerson, K.C., P.M. McCue and E.L. Squires. 1997. Comparison of two dosage regimens of the GnRH agonist deslorelin acetate on inducing ovulation in seasonally anestrous mares. Proc. Fifteenth Equine Nutr. Physiol. Soc. Symp., pp. 82-83.
144. Sullivan, S., J. Gibson, P. Burns, L. Franz, E. Squires, D. Thompson and A. Tipton. 1998. Sustained release of progesterone and estradiol from the SABER™ delivery system: In vitro and in vivo release rates. Proc. 25th Int. Symp. Controlled Release of Bioactive Materials, #5702.
145. Burns, P., R. Betschart, J. Fleury, E. Squires, T. Nett, J. Gibson, S. Sullivan and A. Tipton. 1998. Evaluation of the SABER™ delivery system for the controlled release of the GnRH analogue deslorelin for advancing ovulation in mares: Effect of gamma radiation. Proc. 25th Int. Symp. Controlled Release of Bioactive Materials, #5703.
146. Squires, E., J. Fleury, R. Betschart, J. Gibson, S. Sullivan, A. Tipton and P. Burns. 1998. Evaluation of the SABER™ delivery system for the controlled release of deslorelin for advancing ovulation in the mare: Effects of formulation and dose. Proc. 25th Int. Symp. Controlled Release of Bioactive Materials, #5704.
147. Graham, J.K., D.J. Denniston, J. Bruemmer, S. Brinsko and E.L. Squires. 1998. Effect of antioxidants on motility and viability of cooled equine spermatozoa. Proc. 7th Int. Symp. on Equine Reproduction, Pretoria, South Africa, pp. 33-34.
148. Salazar, P., J.K. Graham, J.J. Parrish, J. Susko-Parrish and E.L. Squires. 1998. Indirect determination of capacitation based on esterase released from stallion spermatozoa challenged with lysophosphatidylcholine. Proc. 7th Int. Symp. on Equine Reproduction, Pretoria, South Africa, pp. 109-110.
149. McCue, P.M., J.J. Fleury, D.J. Denniston, J.K. Graham and E.L. Squires. 1998. Oviductal insemination in the mare. Proc. 7th Int. Symp. on Equine Reproduction, Pretoria, South Africa, pp. 133-134.
150. Schmid, R.L., H. Kato, L.A. Herickhoff, J.L. Schenk, P.M. McCue, Y.G. Chung and E.L. Squires. 1998. Fertilization with sexed equine spermatozoa using intracytoplasmic sperm injection and oviductal insemination. Proc. 7th Int. Symp. on Equine Reproduction, Pretoria, South Africa, pp. 139-140.
151. Brinsko, S.P., G.S. VanWagner, J.K. Graham and E.L. Squires. 1998. Motility, morphology and triple stain analysis of fresh, cooled and frozen-thawed stallion spermatozoa. Proc. 7th Int. Symp. on Equine Reproduction, Pretoria, South Africa. pp. 29-30.
152. Hinrichs, R.W. Betschart, P.M. McCue and E.L. Squires. 1998. Effect of time of follicular aspiration on pregnancy rates after oocyte transfer in the mare. Proc. 7th Int. Symp. on Equine Reproduction, Pretoria, South Africa, pp. 129-130.
153. Vanderwall, D.K., E.L. Squires, S.P. Brinsko and P.M. McCue. 1998. Abnormal embryonic development in mares characterized by formation of a trophoblastic vesicle without an embryo proper. Proc. Ann. Mtg. Soc. Theriogenology, Baltimore, p. 175.



## Abstracts

154. Brinsko, S.P., E.C. Crockett and E.L. Squires. 1998. Effect of centrifugation and seminal plasma removal on equine spermatozoal motility after cooling and storage. *Proc. Ann. Mtg. Soc. Theriogenology*, Baltimore, pp. 144-145.
155. Hurtt, A.E., G.E. Seidel, Jr. and E.L. Squires. 1999. Vitrification of equine and bovine oocytes in an ethylene glycol, Ficoll and sucrose solution using open pulled straws. *Theriogenology* 51:166.
156. Buchanan, B.R., P.M. McCue, E.L. Squires, G.E. Seidel, Jr. and J.J. Fleury. 1999. Pregnancy rates in mares following a single insemination with a low number of spermatozoa into the tip of the uterine horn. *Theriogenology* 51:395.
157. Choi, Y.H., F.C. Landim-Alvarenga, E. Carnevale, G.E. Seidel, Jr. and E.L. Squires. 1999. Penetration by stallion sperm of zona-free bovine oocytes matured in equine preovulatory follicular fluid. *Theriogenology* 51:316.
158. McCue, P.M., D.K. Vanderwall, S.L. Keith and E.L. Squires. 1999. Equine embryo transfer: Influence of endogenous progesterone concentration in recipients of pregnancy outcome. *Theriogenology* 51:267.
159. Bruemmer, J.E., P.M. McCue and E.L. Squires. 1999. Follicular stimulation of postpartum mares using equine pituitary extract. *Proc. 16th Equine Nutr. Physiol. Soc. Symp.*, pp. 200-201.
160. Coy, R.E., P.M. McCue, J.E. Bruemmer and E.L. Squires. 1999. Follicular response of mares in deep or transitional anestrus to equine pituitary extract. *Proc. 16th Equine Nutr. Physiol. Soc. Symp.*, pp. 65-68.
161. Bruemmer, J.E., R.C. Coy, A. Olson and E.L. Squires. 1999. Efficacy of altrenogest administration to postpone ovulation and subsequent fertility in mares. *Proc. 16th Equine Nutr. Physiol. Soc. Symp.*, pp. 336-337.
162. Brinsko, S.P., E.C. Crockett and E.L. Squires. 1999. Effect of centrifugation and seminal plasma removal on equine spermatozoal motility after cooling and storage. *Proc. 16th Equine Nutr. Physiol. Soc. Symp.*, pp. 54-57.
163. Crockett, E.C., J.K. Graham, J.E. Bruemmer and E.L. Squires. 1999. Effects of centrifugation and cooling prior to freezing on post-thaw motility of equine spermatozoa. *Proc. 16th Equine Nutr. Physiol. Soc. Symp.*, pp. 192-193.
164. Vanderwall, D.K., R.W. Betschart and E.L. Squires. 1999. Effect of prostaglandin F<sub>2</sub> and 13,14 dihydro-15-keto-prostaglandin F<sub>2</sub> on corpora luteal function in nonpregnant mares. *Proc. 16th Equine Nutr. Physiol. Soc. Symp.*, pp. 204-205.
165. Keith, S.L., E.L. Squires, J.K. Graham and S.P. Brinsko. 1999. Evaluation of cryoprotectants for the preservation of equine spermatozoa. *Proc. 16th Equine Nutr. Physiol. Soc. Symp.*, pp. 268-269.
166. Fleury, J.J., R. Betschart, E.L. Squires, T.M. Nett, J. Gibson, S.A. Sullivan, A.J. Tipton and P.J. Burns. 1999. Evaluation of the SABER™ delivery system for the controlled release of the GnRH analogue

## Abstracts

- deslorelin for advancing ovulation in mares: Effect of dose and formulation. Proc. 16th Equine Nutr. Physiol. Soc. Symp., pp. 343-348.
167. Burns, P.J., R. Betschart, J. Fleury, E.L. Squires, T.M. Nett, J. Gibson, S. Sullivan and A. Tipton. 1999. Evaluation of the SABER™ delivery system for the controlled release of the GnRH analogue deslorelin for advancing ovulation in mares: Effect of gamma radiation. Proc. 16th Equine Nutr. Physiol. Soc. Symp., pp. 338-342.
168. Burns, P.J., E.L. Squires, T. Sissener, A. Heitland, K. Wilhelm, M. Farlin, R. Foss and J. Woods. 1999. Evaluation control of estrus and ovulation in mares using progesterone and estradiol biodegradable microspheres in a multicenter clinical trial. Proc. 16th Equine Nutr. Physiol. Soc. Symp., pp. 194-199.
169. Choi, Y.H., Y.G. Chung, F.C. Landim-Alvarenga, G.E. Seidel, Jr. and E.L. Squires. 1999. Development of equine oocytes matured in vitro and fertilized after partial zona removal (PZR). Biol. Reprod. (Suppl. 1):176, Abstr. #266.
170. Landim-Alvarenga, F., M. Alvarenga, E. Carnevale, S. Boyazoglu, R. Ramirez, G.E. Seidel, Jr. and E.L. Squires. 1999. Transfer of equine gametes to rabbit oviducts: An approach to produce equine embryos. Biol. Reprod. (Suppl. 1):176, Abstr. 267.
171. McCue, P.M., B.R. Buchanan, V.J. Farquhar, E.L. Squires and D.L. Cross. 1999. Efficacy of domperidone on induction of ovulation in anestrus and transitional mares. Proc. 45th Ann. AAEP Conv., pp. 217-218.
172. Squires, E.L., E.C. Crockett, J.K. Graham and J.E. Bruemmer. 1999. Effect of centrifugation and cooling prior to freezing on post-thaw motility of equine spermatozoa. Proc. 45th Ann. AAEP Conv., pp. 219-220.
173. Carnevale, E.M., M.A. Alvarenga and E.L. Squires. 1999. Use of oocyte transfer in a commercial breeding program to obtain pregnancies from mares with reproductive pathologies. Proc. 45th Ann. AAEP Conv., pp. 200-202.
174. Buchanan, B.R., P.M. McCue, E.L. Squires and G.E. Seidel, Jr. 1999. Pregnancy rates following insemination of mares with sexed and unsexed semen. Proc. Ann. Conf. Soc. for Theriogenology, p. 45.
175. Foglia, R.A., P.M. McCue, E.L. Squires, W. Jochle. 1999. Stimulation of follicular development in transitional mares using a progesterone vaginal insert (CIDR-B®). Proc. Ann. Conf. Soc. for Theriogenology, p. 33.
176. Carnevale, E.M., M.A. Alvarenga, E.L. Squires and Y.H. Choi. 1999. Use of noncycling mares as recipients for oocyte transfer and GIFT. Proc. Ann. Conf. Soc. for Theriogenology, p. 44.
177. Alvarenga, M., P.M. McCue and E.L. Squires. 1999. Improvement of ovarian superstimulatory response in mares treated with EPE twice daily. Proc. Ann. Conf. Soc. for Theriogenology, p. 46.

## Abstracts

178. Alvarenga, M.A., E.M. Carnevale, R.J. Ramirez, S.E.A. Boyazoglu, F.C. Landim-Alvarenga and E.L. Squires. 1999. Utilization of pregnant mares as oocyte donors. *Arq. Fac. Vet. UFRGS*, 27 (Suppl. 1):186.
179. Alvarenga, M.A., P.M. McCue and E.L. Squires. 1999. Comparison of ovarian superstimulatory response in mares treated with EPE once or twice daily. *Arq. Fac. Vet. UFRGS*, 27 (Suppl. 1):1878.
180. Landim-Alvarenga, F.C., S.E.A. Boyazoglu, G.E. Seidel, Jr. and E.L. Squires. 1999. Fetuin on the zona hardening of bovine and equine oocytes matured *in vitro*. *Arq. Fac. Vet. UFRGS*, 27 (Suppl. 1):233.
181. Landim-Alvarenga, F.C., J.K. Graham, M.A. Alvarenga, G.E. Seidel, Jr. and E.L. Squires. 1999. Use of dilauroylphosphatidylcholine and calcium ionophore A23187 to capacitate equine and bovine spermatozoa in vitro. *Arq. Fac. Vet. UFRGS*, 27 (Suppl. 1):234.
182. Landim-Alvarenga, F.C., G.E. Seidel, Jr. and E.L. Squires. 1999. Cumulus cells' presence and fetuin addition to a serum free maturation medium on bovine embryo development. *Arq. Fac. Vet. UFRGS*, 27 (Suppl. 1):235.
183. Boyazoglu, S.E.A., F.C. Landim-Alvarenga, A. Verini-Supplizi and E.L. Squires. 2000. Use of fetuin to mature equine oocytes for in vitro fertilization. *Theriogenology* 53:449.
184. Maclellan, L.J., M.M. Sims and E.L. Squires. 2000. Effect of oviductal-conditioned media during maturation on development of equine embryos following intracytoplasmic sperm injection. *Theriogenology* 53:396.
185. Choi, Y.H., Y.G. Chung, G.E. Seidel, Jr. and E.L. Squires. 2000. Culture of equine embryos in trophoblast-conditioned medium. *Theriogenology* 53:291.
186. Franz, L.C., E.L. Squires, M.K. O'Donovan, T.J. Scott and P.M. McCue. 2000. Collection and in vitro maturation of equine oocytes from estrus, diestrus and pregnant mares. *Theriogenology* 53:452.
187. Alvarenga, M.A., J.K. Graham, S.L. Keith, F.C. Landim-Alvarenga and E.L. Squires. 2000. Alternative cryoprotectors for freezing stallion spermatozoa. *Proc. 14th Int. Cong. Anim. Reprod.*, 2:157, Abstr. 17:29.
188. Oberstein, N., M.K. O'Donovan, E.L. Squires and J.K. Graham. 2000. Effect of pyruvate on the function of stallion spermatozoa stored for up to 48 hours. *Proc. 14th Int. Cong. Anim. Reprod.*, 2:165, Abstr. 17:37.
189. Squires, E.L., C. Gomez-Cuetara and J.K. Graham. 2000. Effect of seminal plasma on cryopreserving epididymal and ejaculated stallion spermatozoa. *Proc. 14th Int. Cong. Anim. Reprod.*, 2:166, Abstr. 17:38.
190. McCue, P.M., C.F. Scoggin, C. Meira and E.L. Squires. 2000. Pregnancy rates for equine embryos cooled for 24 hours in Ham's F-10 vs Emcare™ embryo holding solution. *Proc. Ann. Conf. Soc. for Theriogenology*, p. 147.

## Abstracts

191. Carnevale, E.M., L.J. Maclellan, T.J. Scott, M.A. Coutinho da Silva, C.F. Scoggin and E.L. Squires. 2000. Effects of oocyte culture and insemination on equine oocyte transfer. *Proc. Ann. Conf. Soc. for Theriogenology*, p. 149.
192. Scoggin, C.F., P.M. McCue, R.A. Foglia and E.L. Squires. 2000. The effects of intensity and duration of artificial photoperiod on the reproductive cycle of the mare. *Proc. Ann. Conf. Soc. for Theriogenology*, p. 169.
193. Carnevale, E.M., L.J. Maclellan, M.A. Coutinho da Silva, C.F. Scoggin and E.L. Squires. 2000. Use of deslorelin acetate and hCG in an assisted reproduction program and effect of implant removal on interval between follicular aspirations. *Ann. Conf. Soc. for Theriogenology*, p. 359.
194. Carnevale, E.M., L.J. Maclellan, M.A. Coutinho da Silva, M.A. Alvarenga, T.J. Scott and E.L. Squires. 2000. Comparison of culture and insemination techniques for equine oocyte transfer. *Arq. Fac. Vet. UFRS (Suppl. 1):221*.
195. Squires, E.L., A.C. Lindsey and B.R. Buchanan. 2000. A method to obtain pregnancies in mares using minimal sperm numbers. *Proc. 46th Ann. Conv. A.A.E.P.*, pp. 335-337
196. McCue, P.M., V.J. Farquhar and E.L. Squires. 2000. Effect of the GnRH agonist deslorelin acetate on pituitary function and follicular development in the mare. *Proc. 46th Ann. Conv. A.A.E.P.*, pp. 355-356.
197. Lindsey, A.C., L.H.A. Morris, W.R. Allen, J.L. Schenk, J.K. Graham, J.E. Bruemmer and E.L. Squires. 2001. Hysteroscopic insemination of non-frozen and frozen unsexed and sexed equine spermatozoa. *Proc. 5th Int. Symp Equine Embryo Transfer, Havemeyer Foundation Monograph Series No. 3*, pp. 6-7.
198. Carnevale, E.M., L.J. Maclellan, M.A. Coutinho da Silva and E.L. Squires. 2001. Factors associated with oocyte, sperm and oviduct which affect success of oocyte transfer. *Proc. 5th Int. Symp Equine Embryo Transfer, Havemeyer Foundation Monograph Series No. 3*, pp. 22-23.
199. Maclellan, L.J., E.M. Carnevale, M.A. Coutinho da Silva, C.F. Scoggin and E.L. Squires. 2001. Vitrification of equine oocytes collected from slaughterhouse ovaries or by transvaginal aspiration of mares. *Proc. 5th Int. Symp Equine Embryo Transfer, Havemeyer Foundation Monograph Series No. 3*, pp. 24-25.
200. Landim-Alvarenga, F.C., S.E.A. Boyazoglu, G.E. Seidel, Jr. and E.L. Squires. 2001. Effect of fetuin on zona hardening and the distribution of cortical granules in equine oocytes matured in vitro. *Proc. 5th Int. Symp Equine Embryo Transfer, Havemeyer Foundation Monograph Series No. 3*, pp. 26-27.
201. Choi, Y.H., G.E. Seidel, Jr., S. Boyazoglu and E.L. Squires. 2001. Polyvinylalcohol is superior to bovine serum albumin in equine IVF medium. *Proc. 5th Int. Symp Equine Embryo Transfer, Havemeyer Foundation Monograph Series No. 3*, pp. 28-29.

## Abstracts

202. Maclellan, L.J., M.M. Sims and E.L. Squires. 2001. Effect of invasive adenylate cyclase during oocyte maturation on development of equine embryos following ICSI. Proc. 5th Int. Symp Equine Embryo Transfer, Havemeyer Foundation Monograph Series No. 3, pp. 35-36.
203. Carnevale, E.M., L.J. Maclellan, T.J. Scott, M.A. Coutinho da Silva, C.F. Scoggin and E.L. Squires. 2001. Effects of oocyte maturity and methods of collection, culture and insemination on equine oocyte transfer. Proc. 5th Int. Symp Equine Embryo Transfer, Havemeyer Foundation Monograph Series No. 3, pp. 47-48.
204. Oberstein, N., M.K. O'Donovan, J.E. Bruemmer, M. Lane, G.E. Seidel, Jr., E.M. Carnevale and E.L. Squires. 2001. Cryopreservation of equine embryos by open pulled straw, cryoloop or conventional slow cooling methods. Proc. 5th Int. Symp Equine Embryo Transfer, Havemeyer Foundation Monograph Series No. 3, pp. 54-56.
205. O'Donovan, M.K., N. Oberstein, J.E. Bruemmer, M. Lane, G.E. Seidel, Jr., D.K. Gardner and E.L. Squires. 2001. Metabolic activity of equine blastocysts cryopreserved in ethylene glycol and galactose. Proc. 5th Int. Symp Equine Embryo Transfer, Havemeyer Foundation Monograph Series No. 3, pp. 57-59.
206. Alvarenga, M.A., P. McCue, E.L. Squires and J.R. Neves Neto. 2001. Improvement of ovarian superstimulatory response and embryo production in mares treated with EPE twice daily. Proc. 5th Int. Symp Equine Embryo Transfer, Havemeyer Foundation Monograph Series No. 3, pp. 79-80.
207. McCue, P.M., D.K. Vanderwall and E.L. Squires. 2001. Embryo recovery rates in mares with echogenic pre-ovulatory follicles. Proc. 5th Int. Symp Equine Embryo Transfer, Havemeyer Foundation Monograph Series No. 3, pp. 84-85.
208. Carnevale, E.M., R.J. Ramirez, E.L. Squires, M.A. Alvarenga and P.M. McCue. 2001. Factors affecting pregnancy rates and early embryonic death after equine embryo transfer. Proc. 5th Int. Symp Equine Embryo Transfer, Havemeyer Foundation Monograph Series No. 3, pp. 91-92.
209. Carnevale, E.M., L.J. Maclellan, M.A. Coutinho da Silva and E.L. Squires. 2001. Equine sperm-oocyte interaction: Results after intraoviductal and intrauterine inseminations of recipients for oocyte transfer. Proc. 3rd Int. Symp. Stallion Reprod., Anim. Reprod. Sci. 68:31-32.
210. Landim-Alvarenga, F.C., M.A. Alvarenga, J.K. Graham and E.L. Squires. 2001. Viability and ultrastructure of stallion spermatozoa cryopreserved with glycerol and DMSO. Proc. 3rd Int. Symp. Stallion Reprod., Anim. Reprod. Sci. 68:341 (abstr. #24).
211. Hecht, B.S., J.K. Graham and E.L. Squires. 2001. Cooling stallion sperm in modified boar semen extenders. Proc. 3rd Int. Symp. Stallion Reprod., Anim. Reprod. Sci. 68:316 (abstr. #2).
212. Kirk, E.S., J.K. Graham and E.L. Squires. 2001. Increasing membrane cholesterol content benefits the motility of cooled equine semen. Proc. 3rd Int. Symp. Stallion Reprod., Anim. Reprod. Sci. 68:317 (abstr. #3).

**Abstracts**

213. Kirk, E.S., J.K. Graham, J.E. Bruemmer and E.L. Squires. 2001. Evaluating frozen equine semen by flow cytometry. *Proc. 3rd Int. Symp. Stallion Reprod., Anim. Reprod. Sci.* 68:348 (abstr. #30).
214. Maclellan, L.J., M. Lane, M.M. Sims and E.L. Squires. 2001. Effect of sucrose or trehalose on vitrification of equine oocytes 12 hr or 24 hr after the onset of maturation. *Theriogenology* 55:310.
215. Carnevale, E.M., C.H. Checura, M.A. Coutinho da Silva, L.J. Maclellan and E.L. Squires. 2001. Use of deslorelin acetate to suppress follicular activity in mares used as recipients for oocyte transfer. *Theriogenology* 55:358.
216. Coutinho da Silva, M.A., E.M. Carnevale, L.J. Maclellan, K.A. Preis and E.L. Squires. 2001. Comparison of oocyte transfer using intrauterine or intraoviductal insemination in mares. *Theriogenology* 55:359.
217. Farquhar, V.J., P.M. McCue, E.M. Carnevale and E.L. Squires. 2001. Interovulatory intervals of embryo donor mares administered deslorelin acetate to induce ovulation. *Theriogenology* 55:362.
218. Scoggin, C.F., C. Meira, P.M. McCue, E.M. Carnevale, T.M. Nett and E.L. Squires. 2001. Dose-response and frequency of equine pituitary extract administration in inducing superovulation in mares. *Theriogenology* 55:517.
219. Farquhar, V.J., P.M. McCue, T.M. Nett and E.L. Squires. 2001. Effects of deslorelin acetate on FSH secretion and interovulatory interval in cycling mares. *Proc. 17th Equine Nutr. Physiol. Soc. Symp.*
220. Li, G.P., G.E. Seidel, Jr. and E.L. Squires. 2002. Interspecies cloning using fresh, stored and dead equine and bovine somatic cells as donor nuclei and bovine cytotlasts. *Theriogenology* 57:432.
221. Maclellan, L.J., E.M. Carnevale, M.A. Coutinho da Silva, C.F. Scoggin and E.L. Squires. 2002. Birth of foals after transfer of vitrified equine oocytes collected from superstimulated and non-stimulated mares. *Theriogenology* 57:468.
222. Franz, L.C., C. Meira, E.L. Squires and G.E. Seidel, Jr. 2002. Effect of time and temperature during transport of ovaries on nuclear and cytoplasmic maturation of equine oocytes. *Theriogenology* 57:718.
223. Scoggin, C.F., C. Meira, P.M. McCue, E.M. Carnevale, T.M. Nett and E.L. Squires. 2002. Use of a twice-daily step-down dosage of equine pituitary extract for induction of multiple ovulations in mares. *Theriogenology* 57:771.
225. Maclellan, L.J., E.M. Carnevale, M.A. Coutinho da Silva, P.M. McCue, G.E. Seidel, Jr. and E.L. Squires. 2002. Cryopreservation of small equine embryos and large equine embryos pre-treated with cytochalasin-B and/or trypsin. *Theriogenology* 58:717-720.
226. Landim-Alvarenga, F.C., M.I.B. Rubin, L.J. Maclellan and E.L. Squires. 2002. Ultrastructural analysis of in vitro matured equine oocytes cultured in different systems. *Proc. 8th Int. Symp. Equine Reprod., Theriogenology* 58:729-733.

## Abstracts

227. Carnevale, E.M., M.A. Coutinho da Silva, L.J. Maclellan, J.R. Neves Neto and E.L. Squires. Effects of culture media and time of insemination on oocyte transfer. Proc. 8th Int. Symp. Equine Reprod., Theriogenology 58:759-762.
228. Coutinho da Silva, M.A., E.M. Carnevale, L.J. Maclellan, K.A. Preis, K.M. Leão and E.L. Squires. 2002. Use of fresh, cooled and frozen semen during gamete intrafallopian transfer in mares. Proc. 8th Int. Symp. Equine Reprod., Theriogenology 58:763-766.
229. McCue, P.M. and E.L. Squires. 2002. Persistent anovulatory follicles in the mare. Proc. 8th Int. Symp. Equine Reprod., Theriogenology 58:541-543.
230. Squires, E.L., H.P. Reger, L.J. Maclellan and J.E. Bruemmer. 2002. Effect of time of insemination and site of insemination on pregnancy rates with frozen semen. Proc. 8th Int. Symp. Equine Reprod., Theriogenology 58:655-658.
231. Lindsey, A.C., D.D. Varner, G.E. Seidel, Jr., J.E. Bruemmer and E.L. Squires. 2002. Hysteroscopic or rectally guided, deep-uterine insemination of mares with spermatozoa stored at 18 h at either 5°C or 15°C prior to flow-cytometric sorting. Proc. 8th Int. Symp. Equine Reprod., Theriogenology 58:659-662.
232. Bruemmer, J.E., H. Reger, G. Zibinski and E.L. Squires. 2002. Effect of storage at 5°C on the motility and cryopreservation of stallion epididymal spermatozoa. Proc. 8th Int. Symp. Equine Reprod., Theriogenology 58:405-407.
233. Franz, L.C., E.L. Squires, R. Rumpf, M.A.N. Dode and G.E. Seidel, Jr. 2002. Effects of Roscovitine in maintaining meiotic arrest in equine oocytes and subsequent maturation rates after inhibition. Proc. 8th Int. Symp. Equine Reprod., Theriogenology 58:679-683.
234. Franz, L.C., Y.H. Choi, E.L. Squires, G. Seidel and K. Hinrichs. 2002. Effect of transient suppression of meiosis with roscovitine on subsequent developmental competence of equine oocytes. Biol. Reprod. 66 (Suppl. 1):175, abstr. #193.
235. Coutinho da Silva, M.A., E.M. Carnevale, T.K. Suh, D.L. Gardner and E.L. Squires. 2002. Effects of extenders and warming temperatures on cooled stallion semen. Proc. Ann. Conf. Soc. for Theriogenology, p. 4.
236. Carnevale, E.M., K.A. Preis, L.J. Maclellan, M.A. Coutinho da Silva, C.J. Munro, D.K. Gardner, M. Lane and E.L. Squires. 2002. Comparison of follicular components from young and old mares. Proc. Ann. Conf. Soc. for Theriogenology, p. 6.
237. Maclellan, L.J., L.D. Bass, P.M. McCue and E.L. Squires. 2003. Effect of cooling large and small equine embryos prior to cryopreservation on pregnancy rates after transfer. Proc. Ann. Mtg. International Embryo Transfer Soc., Theriogenology 59:306.
238. Carnevale, E.M., L.J. Maclellan, M. Coutinho da Silva, D.A. Preis and E.L. Squires. 2003. Pregnancies obtained after collection and transfer of oocytes from ovaries of euthanatized mares. Proc. Ann. Mtg. International Embryo Transfer Soc., Theriogenology 59:362.

## Abstracts

239. Lindsey, A.C., L.K. Muckle and E.L. Squires. 2003. Effects of caffeine stimulation on stallion sperm motion characteristics following 18-h storage, flow-sorting and cryopreservation. Proc. Ann. Mtg. International Embryo Transfer Soc., Theriogenology 59:510.
240. Preis, K.A., E.M. Carnevale, M.A. Coutinho da Silva, V. Caracciolo di Brienza, G.M. Gomes, L.J. Maclellan and E.L. Squires. 2003. In vitro maturation and transfer of equine oocytes after transport of ovaries at 12 or 22°C. Proc. 18<sup>th</sup> Equine Nutrition and Physiology Symposium, p. 65-66.
241. Bass, L.D., D.J. Denniston, L.J. Maclellan, P.M. McCue, G.E. Seidel, Jr. and E.L. Squires. 2003. Effect of methanol as a cryoprotectant for equine embryos. Proc. 18th Equine Nutr. Physiol. Soc. Symp., pp. 69-75.
242. Hardy, Q.P., J.E. Bruemmer, P.M. McCue and E.L. Squires. 2003. Efficacy of Lutropin-V on inducing ovulation in estrual mares. Proc. 18th Equine Nutr. Physiol. Soc. Symp., pp. 63-64.
243. Crabb, J.J., D.J. Denniston, J.E. Bruemmer, Q.P. Hardy, P.M. McCue and E.L. Squires. 2003. Effect of a GnRH agonist on luteinizing hormone and ovulation in mares. Proc. 18th Equine Nutr. Physiol. Soc. Symp., pp. 67-68.
244. Moore, A.I., B. Hecht, J.K. Graham and E.L. Squires. 2003. Effects of slowly adding or removing glycerol on the motility of cryopreserved equine spermatozoa. Proc. 18th Equine Nutr. Physiol. Soc. Symp. Reproduction, pp. 53-58.
245. Coutinho da Silva, M.A., E.M. Carnevale, G.E. Seidel, Jr. and E.L. Squires. 2003. Effect of semen extender and centrifugation through Percoll on binding of stallion sperm to bovine zonae pellucidae. Proc. Ann. Conf. Soc. for Theriogenology, p. 20.
246. Carnevale, E.M., K.A. Preis, M.A. Coutinho da Silva and E.L. Squires. 2003. Establishment of pregnancies after the collection and transfer of oocytes from transported ovaries: Commercial and experimental results. Proc. Havemeyer Foundation Workshop: Transporting Gametes and Embryos, pp. 3-4.
247. Carnevale, E.M., M.A. Coutinho da Silva, K.A. Preis and E.L. Squires. 2003. Use of oocyte transfer to determine developmental competence of in vitro- and in vivo-matured oocytes. Proc. Havemeyer Foundation Workshop: Transporting Gametes and Embryos, pp. 11-12.
248. Coutinho da Silva, M.A., E.M. Carnevale and E.L. Squires. 2003. Gamete intrafallopian transfer. Proc. Havemeyer Foundation Workshop: Transporting Gametes and Embryos, pp. 26-28.
249. Squires, E.L., L.J. Maclellan and E.M. Carnevale. 2003. Cryopreservation of equine oocytes. Proc. Havemeyer Foundation Workshop: Transporting Gametes and Embryos, pp. 33-36.
250. Bruemmer, J.E., A. Moore and E.L. Squires. 2003. Freezing epididymal sperm from transported testicles. Proc. Havemeyer Foundation Workshop: Transporting Gametes and Embryos, pp. 61-62.



**Abstracts**

251. Carnevale, E.M., M.A. Coutinho da Silva, L.J. Maclellan and E.L. Squires. 2003. Effect of time of insemination and culture medium on embryo development rates after oocyte transfer. Proc. 1st Ann. Focus Meeting AAEP: Equine Reproduction, pp. 31-32.
252. Preis, K.A., E.M. Carnevale, M.A. Coutinho da Silva, V. Caracciolo di Brienza, G.M. Gomes, L.J. Maclellan and E.L. Squires. 2003. Embryonic development rates after in vitro maturation and transfer of equine oocytes recovered from ovaries transported at 12 or 22°C. Proc. 1st Ann. Focus Meeting AAEP: Equine Reproduction, pp. 33-34.
253. Squires, E.L., K.A. Preis, M. Alvarenga and E.M. Carnevale. 2003. Pregnancies from oocytes collected from the ovaries of mares euthanized for medical reasons. Proc. 1st Ann. Focus Meeting AAEP: Equine Reproduction, pp. 35-36.
254. Coutinho da Silva, M.A., E.M. Carnevale and E.L. Squires. 2003. Use of gamete intrafallopian transfer in the horse. Proc. 1st Ann. Focus Meeting AAEP: Equine Reproduction, pp. 37-38.
255. Carnevale, E.M., M.A. Coutinho da Silva and E.L. Squires. 2003. How to collect and transfer oocytes. Proc. 49th AAEP Annual Convention, pp. 293-294.
256. Squires, E.L., S. Barbacini, D. Necchi, H.P. Reger and J.E. Bruemmer. 2003. Simplified strategy for insemination of mares with frozen semen. Proc. 49th AAEP Annual Convention, pp. 353-356.
257. Squires, E.L., P.M. McCue, K. Niswender and M. Alvarenga. 2003. A review on the use of eFSH to enhance reproduction performance. Proc. 49th AAEP Annual Convention, pp. 360-362.
258. Caracciolo di Brienza, V., E.L. Squires, L. Zicarelli and E.M. Carnevale. 2004. Establishment of pregnancies after vitrification of equine embryos. *Reprod. Fert. Dev.* 16:165 (abstr. #88).
259. Coutinho da Silva, M.A., G.E. Seidel, Jr., E.L. Squires, Y.H. Choi and E.M. Carnevale. 2004. Binding of stallion sperm to equine and bovine zonae pellucidae: Effect of milk proteins and glucose. *Reprod. Fert. Dev.* 16:252 (abstr. #263).
260. Bass, L.D., D.J. Denniston, L.J. Maclellan, P.M. McCue and E.L. Squires. 2004. Methanol as a cryoprotectant for equine embryos. *Reprod. Fert. Dev.* 16:163 (abstr. #84).
261. Carnevale, E.M., W.D. Eldridge-Panuska, V. Caracciolo di Brienza, G.E. Seidel, Jr. and E.L. Squires. 2004. Embryo development rates after vitrification and transfer of equine embryos. Proc. 6th Int. Symp. Equine Embryo Transfer, Rio de Janeiro, p. 20.
262. Coutinho da Silva, M.A., G.E. Seidel, Jr., E.L. Squires and E.M. Carnevale. 2004. Casein, native phosphocaseinate and caseinoglycopeptide enhance binding of equine sperm to bovine zonae pellucidae. Proc. 6th Int. Symp. Equine Embryo Transfer, Rio de Janeiro, p. 24.
263. Coutinho da Silva, M.A., J.E. Stokes, G.E. Seidel, Jr., E.L. Squires and E.M. Carnevale. 2004. Fertilization of bovine oocytes using sperm selected by adhesion to oviduct epithelial cells in vitro. Proc. 15th Int. Congress Animal Reproduction, Brazil, Abstracts Vol. 2, p. 414.

**Abstracts**

264. Stokes, J.E., E.M. Carnevale, E.L. Squires and G.E. Seidel, Jr. 2004. Preparation of bovine and equine sperm by Percoll or swim up for injection into bovine oocytes. Proc. 15th Int. Congress Animal Reproduction, Brazil, Abstracts Vol. 2, p. 471.
265. Carnevale, E.M., A.E. Beisner, L.D. Bass, B.E. Powers and E.L. Squires. 2004. Effects of repeated inseminations and embryo collections on the mare's uterus. Proc. 15<sup>th</sup> Int. Congress Animal Reproduction, Brazil, Abstracts, Vol. In Press.
266. Wilson, C.H., Jr., J.E. Bruemmer, E.L. Squires, M.A. Coutinho da Silva, A.I. Moore and P.M. McCue. 2005. Effects of hyaluronan supplementation on cryopreserved equine spermatozoa. Proc. 20th Equine Science Soc. Symp.
267. Hudson, J.J., S.A. Welch, E.L. Squires, E.M. Carnevale and P.M. McCue. 2005. Vitrification of cooled equine embryos. *Theriogenology* 64:783.
268. Squires, E.L., S.A. Welch, D.J. Denniston, J.E. Bruemmer and P.M. McCue. 2005. Evaluation of several eFSH treatments for superovulation in mares. *Theriogenology* 64:791.
269. Coutinho da Silva, M.A., G.E. Seidel, Jr., J.K. Graham, E.L. Squires and E.M. Carnevale. 2005. Effects of milk proteins and extracellular calcium concentration on the intracellular calcium concentration of stallion sperm. *Theriogenology* 64:802.
270. Carnevale, E.M., A.E. Beisner, P.M. McCue, L.D. Bass and E.L. Squires. 2005. Uterine changes associated with repeated inseminations and embryo collections in mares. Proc. 51st Ann. Conv. American Association of Equine Practitioners, pp. 202-203.
271. Logan, N.L., P.M. McCue and E.L. Squires. 2006. Superovulation of mares with equine FSH. 7th Annual CVMBS Research Day, February 4.
272. Logan, N., P. McCue, M. Alonso and E.L. Squires. 2006. The effect of administering progesterone and estradiol prior to eFSH on the superovulatory response of mares. *Reprod. Fertil. Develop.* 18:290.
273. Logan, N.L., P.M. McCue, M.A. Alonso and E.L. Squires. 2006. Superovulation of mares: Efficacy of a decreased eFSH dose and comparison of ovulation inducing agents. *Theriogenology* 66:686-687.
274. Spizziri, B.E., J.E. Bruemmer, E.L. Squires and J.K. Graham. 2006. Cryopreservation of stallion semen treated with cholesterol-loaded cyclodextrins. *Theriogenology* 66:675.
275. Squires, E.L., N. Logan, S. Welch and P.M. McCue. 2006. Factors affecting the response to administration of equine FSH. Proc. 9th Int. Symp. Equine Reprod.
276. McCue, P.M., N.L. Logan, M.A. Alonso and E.L. Squires. 2006. Superovulation of mares: Effects of eFSH treatment during consecutive or alternate cycles and as short-term therapy before follicular divergence. Proc. 9th Int. Symp. Equine Reprod.
276. Gomez-Cuetara, C., E.L. Squires and J.K. Graham. 2006. In vitro induction of the acrosome reaction in fresh and frozen-thawed equine spermatozoa. *Anim. Reprod. Sci.* 94:165-167.

## Abstracts

277. Suh, T.K., J. Stokes, E.L. Squires and G.E. Seidel, Jr. 2006. Effect of removing acrosomes from stallion sperm before ICSI of bovine oocytes. *Anim. Reprod. Sci.* 94:303-306.
278. Altermatt, J.L., T.K. Suh, J.E. Stokes, E.L. Squires, G.E. Seidel, Jr. and E.M. Carnevale. 2007. Effects of age and FSH on collection of equine oocytes and developmental competency after intracytoplasmic sperm injection. *Theriogenology* 68:513-514.
279. Squires, E.L., M.L. Patten, J. Zumburden, J.E. Bruemmer, D.D. Denniston and P.M. McCue. 2007. Variation in progesterone in early gestation after nonsurgical embryo transfer. *Proc. 53rd Annual Convention American Association of Equine Practitioners* 53:573-575.
280. Carnevale, E.M., J. Stokes, E.L. Squires, L.F. Campos-Chillon, J. Altermatt and T.K. Suh. 2007. Clinical use of intracytoplasmic sperm injection in horses. *Proc. 53rd Annual Convention American Association of Equine Practitioners* 53:560-561.
280. Squires, E.L. 2007. The role of omega-3 and -6 fatty acids in regulation of reproductive function in horses. *Proceedings, 2007 Joint ADSA/PSA/AMPA/ASAS Meeting.*
281. Patten, M.L., D.J. Denniston, C. Magee, J.E. Bruemmer, P.M. McCue and E.L. Squires. 2007. Superovulation in the mare: Evaluation of an eFSH "step down" technique and ovulation inducing agents. *Proceedings, Annual Meeting of the Equine Science Society.*
282. Bruemmer, J., M. Lewis., J. Prenni., E. Squires and T.R. Hansen. 2007. Gene expression in the equine endometrium during maternal recognition of pregnancy. *Biol. Reprod. (Special Issue):98 (Abstr. 98).*
283. DeLuca, C.A., P.M. McCue, M.L. Patten and E.L. Squires. 2008. Comparison of three doses of reFSH for superovulation of mares. *Theriogenology* 70:587-588.
284. Barfield, J.P., P.M. McCue, E.L. Squires and G.E. Seidel, Jr. 2009. Effect of dehydration prior to cryopreservation of large equine embryos. *Cryobiology* 59:36-41.
285. Barfield JP, Sanchez R, Squires EL, Seidel Jr. GE. 2009. Vitrification and conventional cryopreservation of equine embryos. *Reproduction, Fertility and Development.* 21(1):130.
286. Stokes JE, Squires EL, Suh TK, Altermat JR, Carnevale EM. 2009. Effect of developmental stage of ICSI-produced equine embryos on pregnancy rates. *Reproduction, Fertility and Development.* 21(1):164.
287. Carnevale EM, Graham JR, Suh TK, Stokes JE, Squires EL. 2009. Foals produced after ICSI using frozen, sex-sorted, refrozen sperm. *Reproduction, Fertility and Development.* 21(1): 228.
288. Gee EK, Bruemmer JE, Sicilliano PD, Morel PCH, Engle TE, Squires EL. 2009. The influence of dietary vitamin E on serum vitamin E and fatty acid and spermatozoa fatty acids in stallions. *J. Eq. Vet. Sci.* 29(5):334-335.

**Abstracts**

289. Bruemmer JE, Hardy QP, Denniston DD, Schumacher JK, Squires EL. 2009 Effect of cooling prior to cryopreservation of stallion spermatozoa. *Anim. Reprod. Sci.* 109(3-4):9.
290. Gee EK, Bruemmer JE, Siciliano PD, McCue PM, Squires EL. 2009 Effect of dietary vitamin E supplementation on spermatozoa quality in stallions with suboptimal post-thaw motility. *Anim. Reprod. Sci.* 107(3-4):23.
291. Klein C, Donahue JM, Sells SF, Squires EL, Timoney PJ, Troedsson MHT. 2010. Antibiotic-containing semen extender reduces the risk of spreading CEM. *Anim. Reprod. Sci.* (in press).
292. Gee EL, Bruemmer JE, Siciliano DD, Morel PCH, Engle TE, McCue PM, Squires EL. 2010. Dietary supplementation of vitamin E and omega-3 fatty acid in stallions and effects on spermatogenesis. *Anim. Reprod. Sci.* (in press).
293. Bruemmer JE, Bouma GJ, Hess A, Hansen TR, Squires EL. 2010. Gene expression in the equine endometrium during maternal recognition of pregnancy. *Anim. Reprod. Sci.* (in press).
294. Spizziri BE, Kaula N, Squires EL, Graham. In vitro capacitation of stallion spermatozoa. 2010. *Anim. Reprod. Sci.* (in press).

## E.L. Squires

## Non-Refereed Articles

## Non-Refereed Articles:

1. Pickett, B.W. and E.L. Squires. 1979. Stallion seminal collection and evaluation. Proc. 3rd Ann. Kentucky Horseman's Shortcourse, Lexington, KY, pp. 46-58.
2. Pickett, B.W., E.L. Squires, J.L. Voss and S.J.R. Wallach. 1979. Factors affecting sexual behavior of the equine male. Proc. 25th Ann. Conv. A.A.E.P., pp. 61-112.
3. Pickett, B.W., J.L. Voss and E.L. Squires. 1979. Factors affecting sperm output of the stallion. Australian Advances in Veterinary Science, pp. 23-24.
4. Squires, E.L. and B.W. Pickett. 1979. Managing the stallion for maximum reproductive efficiency. Proc. 3rd Ann. Kentucky Horseman's Shortcourse, Lexington, KY, pp. 95-119.
5. Squires, E.L. and B.W. Pickett. 1979. Stallion sexual behavior. Proc. 3rd Ann. Kentucky Horseman's Shortcourse, Lexington, KY, pp. 73-77.
6. Squires, E.L., G.E. Todter and B.W. Pickett. 1979. The effect of androgenic compounds on reproductive performance of stallions. Proc. 25th Ann. Conv. A.A.E.P., Miami, FL, pp. 421-438.
7. Voss, J.L., B.W. Pickett and E.L. Squires. 1979. Effects of synchronization and frequency of insemination on fertility in mares. Australian Advances in Veterinary Science, pp. 24-25.
8. Voss, J.L., E.L. Squires, J.H. Hoyer, W.E. Berndtson and B.W. Pickett. 1979. Influence of exogenous testosterone on reproductive function in stallions. Proc. 3rd Int. Symp. Equine Med. Control, pp. 195-204.
9. Voss, J.L., E.L. Squires, B.W. Pickett and R.P. Amann. 1979. Factors affecting reproductive performance of the stallion. Proc. 25th Ann. Conv. A.A.E.P., pp. 33-49.
10. Squires, E.L. and K.J. Imel. 1980. Equine embryo transfer. Soc. Theriogenology, pp. 56-59.
11. Squires, E.L., K.J. Imel, R.K. Shideler and J.L. Voss. 1980. Recent advances in equine embryo transfer. Proc. 26th Ann. Conv. A.A.E.P., pp. 161-172.
12. Squires, E.L. and D.G. McGlothlin. 1980. Antibiotic treatment of stallion semen. Soc. Theriogenology, pp. 64-73.
13. Squires, E.L., B.W. Pickett, J.L. Voss and R.K. Shideler. 1980. Factors affecting reproductive efficiency in mares. Proc. 4th Ann. Kentucky Horseman's Shortcourse.
14. Squires, E.L., B.W. Pickett, J.L. Voss and R.K. Shideler. 1980. The use of artificial insemination to increase reproductive efficiency in mares. Proc. 4th Ann. Kentucky Horseman's Shortcourse.
15. Squires, E.L., R.K. Shideler and J.L. Voss. 1980. Use of allyl trenbolone for estrus regulation in mares. Soc. Theriogenology, pp. 60-63.

## E.L. Squires

## Non-Refereed Articles

16. Squires, E.L., W.B. Stevens, D.E. McGlothlin and B.W. Pickett. 1980. Control of estrus and ovulation in the mare with a progestin (allyl trenbolone). Proc. 3rd Int. Symp. Equine Med. Control, pp. 219-224.
17. Voss, J.L., B.W. Pickett, E.L. Squires and L.D. Burwash. 1980. Stallion spermatozoal morphology and its relationship to fertility. Proc. 9th Int. Congr. Anim. Reprod. A.I. 3:304.
18. Pickett, B.W., J.L. Voss and E.L. Squires. 1981. Management factors affecting stallion seminal characteristics. British Equine Vet. Assoc., XXth Annual Congressional Handbook, Programme and Abstracts of Papers, pp. 19-20.
19. Pickett, B.W., J.L. Voss and E.L. Squires. 1981. Approaches to reproductive problems. California V.M.A. 93rd Ann. Scientific Seminar, Speaker's Syllabi, pp. 106-173.
20. Pickett, B.W., J.L. Voss and E.L. Squires. 1981. Stallion management. Proc. 75th Ann. Conv. Colo. Vet. Med. Assoc.
21. Shideler, R.K., E.L. Squires and J.L. Voss. 1981. Equine castration - disappearance of spermatozoa. Equine Pract. 3(2):31-36.
22. Shideler, R.K., E.L. Squires, J.L. Voss and D.J. Eikenberry. 1981. Exogenous progestin therapy for maintenance of pregnancy in ovariectomized mares. Proc. 27th Ann. Conv. A.A.E.P., pp. 211-219.
23. Squires, E.L., B.W. Pickett, R.K. Shideler and J.L. Voss. 1981. Detection of ovulation and pregnancy using electrical conductivity and ultrasound. Proc. 27th Ann. Conv. A.A.E.P., pp. 199-209.
24. Squires, E.L., S.K. Webel, R.K. Shideler and J.L. Voss. 1981. A review on the use of altrenogest for the broodmare. Proc. 27th Ann. Conv. A.A.E.P., pp. 221-231.
25. Voss, J.L., B.W. Pickett and E.L. Squires. 1981. Reproductive behavior in the horse. Speakers' Syllabi, California Vet. Med. Assoc. 93rd Ann. Scientific Seminar 12:174-202.
26. Voss, J.L., E.L. Squires, R.K. Shideler and B.W. Pickett. 1981. Broodmare management. Proc. 75th Ann. Conv. Colo. Vet. Med. Assoc.
27. Squires, E.L. 1982. Estrous control in horses. Proc. 6th Colo. Horsemen's Seminar, Colorado State University, pp. 10-11.
28. Squires, E.L. 1982. Recent progress with frozen semen. Proc. 6th Colo. Horsemen's Seminar, Colorado State University, pp. 12-13.
29. Squires, E.L. and M.F. Iuliano. 1982. Recent advances in equine embryo transfer. Proc. 6th Colo. Horsemen's Seminar, Colorado State University, pp. 7-9.
30. Squires, E.L. and B.W. Pickett. 1982. Use of allyl-trenbolone for estrus control in mares. Proc. 9th Int. Congr. Anim. Prod. A.I., Madrid 3:90.

## E.L. Squires

## Non-Refereed Articles

31. Squires, E.L. and M.D. Villahoz. 1982. Detection of pregnancy with ultrasound. Proc. 6th Colo. Horsemen's Seminar, Colorado State University, pp. 34-39.
32. Squires, E.L., J.L. Voss and R.K. Shideler. 1982. Progesterone therapy for maintenance of pregnancy in mares. Proc. 6th Colo. Horsemen's Seminar, Colorado State University, pp. 14-19.
33. Iuliano, M.F. and E.L. Squires. 1983. Identification and handling of embryos. Proc. 2nd Equine Embryo Transfer Short Course, Colorado State University, pp. 105-106.
34. Pickett, B.W., J.R. Neil and E.L. Squires. 1983. A comparison of two regimes for training stallions to a phantom. Proc. 8th Equine Nutr. Physiol. Symp, pp. 67-71.
35. Pickett, B.W., E.L. Squires and J.L. Voss. 1983. Methods and signs of estrous detection. Proc. 2nd Equine Embryo Transfer Short Course, Colorado State University, pp. 93-104.
36. Rich, G.A., D.E. McGlothlin, L.D. Lewis, E.L. Squires and B.W. Pickett. 1983. Effect of vitamin E supplementation on stallion seminal characteristics and sexual behavior. Proc. 8th Equine Nutr. Physiol. Symp., pp. 85-89.
37. Squires, E.L. 1983. Use of progestins in the broodmare. Proc. 2nd Symp. Adv. Topics Anim. Reprod., Jaboticabal, SP, Brazil.
38. Squires, E.L. 1983. Teasing and breeding of mares. Proc. 7th Colorado Horsemen's Seminar, Colorado State University, pp. 15-25.
39. Squires, E.L. 1983. Use of Altrenogest for the broodmare. Proc. 29th Ann. Conv. A.A.E.P., Las Vegas, NV, pp. 431-434.
40. Squires, E.L., M.F. Iuliano and N.P. Slade. 1983. Recent advances in equine embryo transfer. Proc. 2nd Equine Embryo Transfer Short Course, Colorado State University, pp. 128-136.
41. Squires, E.L., J.M. Maher and J.L. Voss. 1983. Effect of anabolic steroids on reproductive function of young mares. Proc. 8th Equine Nutr. Physiol. Symp., pp. 279-284.
42. Squires, E.L. and G.E. Seidel, Jr. 1983. Future considerations. Proc. 2nd Equine Embryo Transfer Short Course, Colorado State University, pp. 146-157.
43. Squires, E.L., R.K. Shideler, J.L. Voss and S.K. Webel. 1983. Clinical applications for the use of progestins in mares. Proc. 2nd Equine Embryo Transfer Short Course, Colorado State University, pp. 52-83.
44. Squires, E.L., N.P. Slade and T.M. Nett. 1983. Effect of GnRH analogue on duration of estrus and secretion of gonadotropins. Proc. 8th Equine Nutr. Physiol. Symp., pp. 273-278.
45. Squires, E.L., M.D. Villahoz and J.L. Voss. 1983. Early pregnancy detection in the mare by scanning ultrasound. Proc. 2nd Equine Embryo Transfer Short Course, Colorado State University, pp. 124-134.

**Non-Refereed Articles**

46. Squires, E.L., M.D. Villahoz and J.L. Voss. 1983. Early pregnancy detection in the mare by scanning ultrasound. Proc. Second Symp. Adv. Topics Anim. Reprod., Jaboticabal, SP, Brazil.
47. Squires, E.L., M.D. Villahoz and J.L. Voss. 1983. Early pregnancy detection in the mare by scanning ultrasound. Proc. Equine Ultrasound Short Course, Colorado State University, pp. 18-28.
48. Squires, E.L. and J.L. Voss. 1983. Anatomy and physiology of the genital organs of the mare and stallion. Proc. 2nd Equine Embryo Transfer Short Course, Colorado State University, pp. 1-20.
49. Squires, E.L., J.L. Voss, R.K. Shideler and M.D. Villahoz. 1983. Use of ultrasound in broodmare reproduction. Proc. 29th Ann. Conv. A.A.E.P., pp. 27-43.
50. Squires, E.L., J.L. Voss and M.D. Villahoz. 1983. Immunological methods for pregnancy detection in mares. Proc. 29th Ann. Conv. A.A.E.P., pp. 45-51.
51. Villahoz, M.D. and E.L. Squires. 1983. Detection of an embryonic factor in mares with an enzyme-linked immunosorbent assay (ELISA). Proc. 2nd Symp. Adv. Topics Anim. Reprod., Jaboticabal, SP, Brazil, pp. 245-254.
52. Villahoz, M.D. and E.L. Squires. 1983. Detection of ovulation with ultrasound. Proc. 2nd Equine Embryo Transfer Short Course, Colorado State University, pp. 135-141.
53. Villahoz, M.D. and E.L. Squires. 1983. Detection of ovulation with ultrasound. Proc. Equine Ultrasound Short Course, Colorado State University, pp. 29-35.
54. Villahoz, M.D. and E.L. Squires. 1983. Immunological method for pregnancy detection in mares. Proc. Second Symp. Adv. Topics Anim. Reprod., Jaboticabal, SP, Brazil, pp. 237-243.
55. Clay, C.M., E.L. Squires, R.P. Amann and B.W. Pickett. 1984. Effect of dilution, polyvinyl alcohol (PVA) and bovine serum albumin (BSA) on stallion spermatozoal motility. 10th Int. Congr. Anim. Reprod. A.I. II:187.
56. Clay, C.M., N.P. Slade, R.P. Amann and E.L. Squires. 1984. Effects of extender, storage temperature and centrifugation on stallion spermatozoal motility and fertility. 10th Int. Congr. Anim. Reprod. A.I. II:186.
57. Jones, R.L., E.L. Squires, N.P. Slade, B.W. Pickett and J.L. Voss. 1984. Effect of washing on the aerobic bacterial flora of the stallion's penis. Proc. 30th Ann. Conv. A.A.E.P., pp. 9-16.
58. Pickett, B.W., R.P. Amann, E.L. Squires and J.L. Voss. 1984. Current status of frozen semen. Soc. Theriogenology, pp. 81-90.
59. Pickett, B.W. and E.L. Squires. 1984. Horses. Proc. Short Course on Technology in Animal Agriculture: A seminar for investment strategists, Colorado State University, pp. 88-96.



## E.L. Squires

## Non-Refereed Articles

60. Rich, G.A., D.E. McGlothlin, L.D. Lewis, E.L. Squires and B.W. Pickett. 1984. Effect of vitamin E supplementation on stallion seminal characteristics and sexual behavior. 10th Int. Congr. Anim. Reprod. A.I. II:163.
61. Shideler, R.K., J.L. Voss and E.L. Squires. 1984. Treatment of endometritis in mares. 10th Int. Congr. Anim. Reprod. A.I. II:470.
62. Slade, N.P., T.J. Williams, E.L. Squires and G.E. Seidel, Jr. 1984. Production of identical twin pregnancies by microsurgical bisection of equine embryos. 10th Int. Congr. Anim. Reprod. A.I. II:241.
63. Squires, E.L. 1984. Recent advances in equine embryo transfer. 45th Ann. Conf. Vet., Colorado State University, pp. 128-136.
64. Squires, E.L. 1984. Reproductive performance of stallions receiving anabolic steroids. Proc. Florida Horsemen's Seminar.
65. Squires, E.L. 1984. Pregnancy detection in mares. Proc. Florida Horsemen's Seminar.
66. Squires, E.L. and B.W. Pickett. 1984. How farms use advanced reproduction technology to make money. Proc. Short Course on Technology in Animal Agriculture: A seminar for investment strategists, Colorado State University, pp. 236-239.
67. Squires, E.L., B.W. Pickett and J.L. Voss. 1984. Reproductive performance of horses during and after anabolic steroid treatment. 10th Int. Congr. Anim. Reprod. A.I. IV:XII28.
68. Squires, E.L., B.W. Pickett, J.L. Voss and M.D. Villahoz. 1984. Comparacion de dos tipos de ultrasonido para la deteccion de la preñez en la yegua. Vet. Argentina 1:32-38.
69. Squires, E.L., J.L. Voss and J.M. Maher. 1984. The effect of anabolic steroids on reproductive functions of mares. Proc. Florida Horsemen's Seminar.
70. Squires E.L., J.L. Voss and R.K. Shideler. 1984. A review on estrous and ovulation control in the mare. Soc. Theriogenology, pp. 91-101.
71. Squires, E.L., J.L. Voss and R.K. Shideler. 1984. Equine embryo transfer update. Proc. 30th Ann. Conv. A.A.E.P., pp. 357-363.
72. Squires, E.L., J.L. Voss, M.D. Villahoz and R.K. Shideler. 1984. Use of ultrasound in broodmare reproduction. Equine Ultrasound Short Course, Colorado State University, pp. 26-43.
73. Takeda, T., R.P. Elsdén and E.L. Squires. 1984. *In vitro* and *in vivo* development of frozen-thawed equine embryos. 10th Int. Congr. Anim. Reprod. A.I. II:246-247.
74. Villahoz, M.D., E.L. Squires, J.L. Voss and R.K. Shideler. 1984. Some observations on early embryonic death in mares. Equine Ultrasound Short Course, Colorado State University, pp. 44-58.

## E.L. Squires

## Non-Refereed Articles

75. Voss, J.L., E.L. Squires, M.D. Villahoz and R.K. Shideler. 1984. Early embryonic death in mares. *Soc. Theriogenology*, pp. 74-80.
76. Voss, J.L., M.D. Villahoz and E.L. Squires. 1984. Comparison of diagnostic tests for early pregnancy detection in mares. *10th Int. Congr. Anim. Reprod. A.I. II:99*.
77. Clark, K.E., E.L. Squires, T. Takeda and G.E. Seidel, Jr. 1985. Effects of culture media and storage temperature on viability of mare and split equine embryos. *Proc. 9th Equine Nutr. Physiol. Symp., Michigan State University*, pp. 388-391.
78. Clay, C.M., E.L. Squires, R.P. Amann and B.W. Pickett. 1985. The influence of photoperiod on the seasonal reproductive cycle of stallions. *Proc. 9th Equine Nutr. Physiol. Symp., Michigan State University*, pp. 296-301.
79. Pickett, B.W., J.R. Neil and E.L. Squires. 1985. The effect of ejaculation frequency on stallion sperm output. *Proc. 9th Equine Nutr. Physiol. Symp., Michigan State University*, pp. 290-295.
80. Pickett, B.W. and E.L. Squires. 1985. Horses. *Proc. Short Course on Technology in Animal Agriculture: A seminar for investment strategists, Colorado State University*, pp. 75-83.
81. Ralston, S.L., S.A. Jackson, V.A. Rich and E.L. Squires. 1985. Effect of vitamin A supplementation on the seminal characteristics and sexual behavior of stallions. *Proc. 9th Equine Nutr. Physiol. Soc. Symp., Michigan State University*, pp. 74-77.
82. Squires, E.L. 1985. Mare management. *First Ann. Proc. HOSS East*, pp. 231-238.
83. Squires, E.L. 1985. Status of equine embryo transfer. *First Ann. Proc. HOSS East*, pp. 239-248.
84. Squires, E.L., T.M. Nett, G.J. Wiepz and E.J. Mock. 1985. Use of an enzyme assay for determination of progesterone in broodmares. *Proc. 31st Ann. Conv. A.A.E.P.*, pp. 565-570.
85. Squires, E.L. and B.W. Pickett. 1985. Factors affecting sperm output of stallions. *First Ann. Proc. HOSS East*, pp. 212-222.
86. Squires, E.L. and B.W. Pickett. 1985. Management of stallions for maximum reproductive performance. *First Ann. Proc. HOSS East*, pp. 207-211.
87. Squires, E.L., and B.W. Pickett. 1985. How farms use advanced reproductive technology to make money. *Proc. Short Course on Technology in Animal Agriculture: A seminar for investment strategists, Colorado State University*, pp. 179-183.
88. Wiepz, G.J. and E.L. Squires. 1985. Comparison of two progestins for regulation of estrus in late transitional mares. *Proc. 9th Equine Nutr. Physiol. Symp., Michigan State University*, pp. 362-366.
89. McKinnon, A.O. and E.L. Squires. 1985. Ultrasound anatomy and pathology of the reproductive tract. *Proc. Equine Ultrasound Short Course, Colorado State University*, pp. 18-44.

## E.L. Squires

## Non-Refereed Articles

90. McKinnon, A.O. and E.L. Squires. 1986. Ultrasound and broodmare practice. Proc. 47th Ann. Conf. Vet., C.V.M.A., pp. 144-169.
91. Squires, E.L. and A.O. McKinnon. 1986. Developments in equine embryo transfer. Proc. 5th Ann. Conv. Am. Embryo Transfer Assoc., pp. 73-82.
92. Shideler, R.K., E.L. Squires and M. Osborne. 1986. Immunoglobulin concentrations and blood chemistry parameters in the newborn foal: Relationship to sex, type of dam, gestation length and mare serum and colostrum concentrations. Proc. 32nd Ann. Conv. A.A.E.P., pp. 145-151.
93. McKinnon, A.O. and E.L. Squires. 1986. Monitoring growth and development of the normal fetus. Proc. 4th Annual Short Course on Equine Ultrasound, Colorado State University, pp. 11-35.
94. Squires, E.L. and A.O. McKinnon. 1986. Management of twins and early embryonic death. Proc. 4th Annual Short Course on Equine Ultrasound, Colorado State University, pp. 36-54.
95. McKinnon, A.O., E.L. Squires and R.K. Shideler. 1986. Pathology of the uterus. Proc. 4th Annual Short Course on Equine Ultrasound, Colorado State University, pp. 55-67.
96. McKinnon, A.O., E.L. Squires and E.M. Carnevale. 1986. Ultrasonic characteristics preceding and during ovulation. Proc. 4th Annual Short Course on Equine Ultrasound, Colorado State University, pp. 68-80.
97. Squires, E.L. and A.O. McKinnon. 1986. Formation of the corpus luteum. Proc. 4th Annual Short Course on Equine Ultrasound, Colorado State University, pp. 81-87.
98. McKinnon, A.O. and E.L. Squires. 1986. Ovarian abnormalities. Proc. 4th Annual Short Course on Equine Ultrasound, Colorado State University, pp. 88-97.
99. McKinnon, A.O., E.L. Squires, J.L. Voss and V.M. Cook. 1986. Equine embryo transfer - A review. Proc. Ann. Michigan Vet. Med. Assoc. Mtg.
100. McKinnon, A.O., E.L. Squires and J.L. Voss. 1986. Ultrasound examination of the reproductive tract of the mare. Part I. Principles, procedures and equipment. Proc. Ann. Michigan Vet. Med. Assoc. Mtg.
101. McKinnon, A.O., E.L. Squires and J.L. Voss. 1986. Ultrasound examination of the reproductive tract of the mare. II. Evaluation of the uterus. Proc. Ann. Michigan Vet. Med. Assoc. Mtg.
102. Squires, E.L. and A.O. McKinnon. 1986. The use of hormones to control the reproductive cycle in mares and stallions. Proc. Ann. Michigan Vet. Med. Assoc. Mtg.
103. Squires, E.L. 1986. Tools needed for proper mare management. Proc. 1st Tersk Foundation Breeders' Educational Seminar, Chicago, IL.
104. Squires, E.L. and A.O. McKinnon. 1986. Noninfectious causes of infertility in mares. Proc. Advanced Equine Management Short Course, Colorado State University, pp. 181-201.

**Non-Refereed Articles**

105. McKinnon, A.O. and E.L. Squires. 1986. Infectious causes of infertility in mares. Proc. Advanced Equine Management Short Course, Colorado State University, pp. 169-179.
106. McKinnon, A.O., E.L. Squires and J.L. Voss. 1986. Ultrasound evaluation of the mare's reproductive tract. Part 1. Principles, procedures and equipment. Proc. Diagnostic Ultrasound of Horses, C.V.M.A. Continuing Education Shortcourse for Veterinary Practitioners.
107. McKinnon, A.O., E.L. Squires and J.L. Voss. 1986. Ultrasound evaluation of the mare's reproductive tract. Part 2. Evaluation of the uterus. Proc. Diagnostic Ultrasound of Horses, C.V.M.A. Continuing Education Shortcourse for Veterinary Practitioners.
108. McKinnon, A.O., E.L. Squires and J.L. Voss. 1987. Ultrasound examination of the reproductive tract of the mare. Part I. Principles, procedures and equipment. Proc. Equine Practitioners Workshop, Ohio Vet. Med. Assoc.
109. McKinnon, A.O., E.L. Squires and J.L. Voss. 1987. Ultrasound examination of the reproductive tract of the mare. Part II. Evaluation of the uterus. Proc. Equine Practitioners Workshop, Ohio Vet. Med. Assoc.
110. McKinnon, A.O. and E.L. Squires. 1987. The use of hormones to control the reproductive cycle in mares and stallions. Proc. Equine Practitioners Workshop, Ohio Vet. Med. Assoc.
111. Squires, E.L., A.O. McKinnon and R.K. Shideler. 1987. Management of donors. Proc. The Stallion - Artificial Breeding & Embryo Transfer, University of Sydney, Australia, pp. 289-295.
112. Squires, E.L., A.O. McKinnon and B.W. Pickett. 1987. Anatomy, physiology and endocrinology of the mare and stallion. Proc. The Stallion - Artificial Breeding & Embryo Transfer, University of Sydney, Australia, pp. 297-305.
113. Squires, E.L. and A.O. McKinnon. 1987. Embryo freezing and splitting. Proc. The Stallion - Artificial Breeding & Embryo Transfer, University of Sydney, Australia, pp. 239-247.
114. Squires, E.L. and A.O. McKinnon. 1987. Embryo handling, identification and selection. Proc. The Stallion - Artificial Breeding & Embryo Transfer, University of Sydney, Australia, pp. 249-255.
115. Squires, E.L. and A.O. McKinnon. 1987. Factors affecting pregnancy rates after embryo transfer. Proc. The Stallion - Artificial Breeding & Embryo Transfer, University of Sydney, Australia, pp. 257-262.
116. McKinnon, A.O. and E.L. Squires. 1987. Surgical embryo transfer. Proc. The Stallion - Artificial Breeding & Embryo Transfer, University of Sydney, Australia, pp. 319-324.
117. Squires, E.L. and A.O. McKinnon. 1987. Equine embryo culture, storage and morphology. Proc. The Stallion - Artificial Breeding & Embryo Transfer, University of Sydney, Australia, pp. 307-317.

**Non-Refereed Articles**

118. Pickett, B.W., R.P. Amann and E.L. Squires. 1987. Preservation of semen. Proc. The Stallion - Artificial Breeding & Embryo Transfer, University of Sydney, Australia, pp. 203-213.
119. Pickett, B.W., A.O. McKinnon and E.L. Squires. 1987. Semen collection, evaluation and extension. Proc. The Stallion - Artificial Breeding & Embryo Transfer, University of Sydney, Australia, pp. 183-201.
120. Pickett, B.W., C.M. Clay, R.P. Amann and E.L. Squires. 1987. Effects of season on stallion performance. Proc. The Stallion - Artificial Breeding & Embryo Transfer, University of Sydney, Australia, pp. 149-181.
121. Pickett, B.W., R.P. Amann and E.L. Squires. 1987. Non-seasonal factors affecting stallion performance. Proc. The Stallion - Artificial Breeding & Embryo Transfer, University of Sydney, Australia, pp. 97-132.
122. Pickett, B.W., E.L. Squires and J.L. Voss. 1987. Sexual behavior of the stallion, including impotence and abnormal sexual behavior. Proc. The Stallion - Artificial Breeding & Embryo Transfer, University of Sydney, Australia, pp. 135-146.
123. Pickett, B.W., E.L. Squires and J.L. Voss. 1987. Effect of anabolic steroids on the reproductive efficiency of the horse. Proc. The Stallion - Artificial Breeding & Embryo Transfer, University of Sydney, Australia, pp. 55-94.
124. McKinnon, A.O. and E.L. Squires. 1987. Monitoring growth and development of the normal fetus in equine reproduction for the veterinarian. Proc. New Zealand Vet. Assoc. Continuing Education Shortcourse, Auckland, pp. 11-35.
125. Squires, E.L. and A.O. McKinnon. 1987. Management of twins and early embryonic death. Proc. New Zealand Vet. Assoc. Continuing Education Shortcourse, Auckland, pp. 36-53.
126. McKinnon, A.O., E.L. Squires and R.K. Shideler. 1987. Pathology of the uterus. Proc. New Zealand Vet. Assoc. Continuing Education Shortcourse, Auckland, pp. 54-61.
127. McKinnon, A.O., E.L. Squires and E.M. Carnevale. 1987. Ultrasonic characteristics preceding and during ovulation. Proc. New Zealand Vet. Assoc. Continuing Education Shortcourse, Auckland, pp. 61-81.
128. Squires, E.L. and A.O. McKinnon. 1987. Formation of the corpus luteum. Proc. New Zealand Vet. Assoc. Continuing Education Shortcourse, Auckland, pp. 82-87.
129. McKinnon, A.O. and E.L. Squires. 1987. Ovarian abnormalities. Proc. New Zealand Vet. Assoc. Continuing Education Shortcourse, Auckland, pp. 88-98.
130. McKinnon, A.O., E.L. Squires, J.L. Voss and V.M. Cook. 1987. Equine embryo transfer - a review. Proc. New Zealand Vet. Assoc. Continuing Education Shortcourse, Auckland, pp. 99-134.

## E.L. Squires

## Non-Refereed Articles

131. Squires, E.L. and A.O. McKinnon. 1987. Recent advances in equine embryo transfer. Proc. New Zealand Vet. Assoc. Continuing Education Shortcourse, Auckland, pp. 135-150.
132. Squires, E.L. and A.O. McKinnon. 1987. The use of hormones to control the reproductive cycle in mares and stallions. Proc. New Zealand Vet. Assoc. Continuing Education Shortcourse, Auckland, pp. 150-186.
133. McKinnon, A.O., E.L. Squires, E.M. Carnevale, J.L. Voss and G.E. Seidel, Jr. 1987. *In vitro* fertilization and embryo transfer in the horse: Future prospects. Proc. 48th Conv. Vet., Colorado State University, pp. 57-64.
134. Squires, E.L. and A.O. McKinnon. 1987. The value of ultrasound for broodmare practitioners. Symposium on Equine Reproduction, Royal Veterinary and Agricultural University, Copenhagen, pp. 33-42.
135. Squires, E.L., R.P. Amann and B.W. Pickett. 1987. Preservation of stallion semen - Colorado experience. Symposium on Equine Reproduction, Royal Veterinary and Agricultural University, Copenhagen, pp. 49-54.
136. Squires, E.L. and A.O. McKinnon. 1987. Applications of new biotechnologies in equine reproduction. Symposium on Equine Reproduction, Royal Veterinary and Agricultural University, Copenhagen, pp. 73-82.
137. Harrison, L.A., A.O. McKinnon, E.L. Squires, E.L. Blach and R.K. Shideler. 1987. Ultrasound studies on the reproductive tract of postpartum mares: Effect of involution and uterine fluid on pregnancy rates in mares with normal and delayed first postpartum ovulatory cycles. Proc. 10th Equine Nutr. Physiol. Soc. Mtg., pp. 625-630.
138. Morris, R.P., G.A. Rich, S.L. Ralston, E.L. Squires and B.W. Pickett. 1987. Follicular activity in transitional mares as affected by body condition and dietary energy. Proc. 10th Equine Nutr. Physiol. Soc. Mtg., pp. 93-99.
139. Carnevale, E.M., A.O. McKinnon and E.L. Squires. 1987. Luteal function in the mare following preovulatory follicular fluid aspiration. Proc. 10th Equine Nutr. Physiol. Soc. Mtg., pp. 193-196.
140. McKinnon, A.O., E.M. Carnevale, E.L. Squires, J.L. Voss and G.E. Seidel, Jr. 1987. Heterogenous and xenogenous fertilization of equine oocytes. Proc. 10th Equine Nutr. Physiol. Soc. Mtg., pp. 197-201.
141. Hermetet, M.J., E.M. Carnevale, E.L. Squires and A.O. McKinnon. 1987. Ovariectomized steroid-treated mares as embryo transfer recipients and as a model to study the role of progestins in pregnancy maintenance. Proc. 10th Equine Nutr. Physiol. Soc. Mtg., pp. 203-208.
142. Carnevale, E.M., E.L. Squires and A.O. McKinnon. 1987. Comparison of Ham's F10 with CO<sub>2</sub> or Hepes buffer for storage of equine embryos at 5C for 24 h. Proc. 10th Equine Nutr. Physiol. Soc. Mtg., pp. 209-214.

## E.L. Squires

## Non-Refereed Articles

143. Baucus, K.L., E.L. Squires, R. Morris and A.O. McKinnon. 1987. The effect of stage of gestation and frequency of prostaglandin injection on induction of abortion in mares. Proc. 10th Equine Nutr. Physiol. Soc. Mtg., 255-258.
144. Harrison, L.A., E.L. Squires and A.O. McKinnon. 1987. Acute effects of luprostirol on LH and FSH during estrus in cycling mares. Proc. 10th Equine Nutr. Physiol. Soc. Mtg., pp. 265-269.
145. Baucus, K.L., E.L. Squires, S.L. Ralston and A.O. McKinnon. 1987. The effect of transportation stress on early embryonic death in mares. Proc. 10th Equine Nutr. Physiol. Soc. Mtg., pp. 657-662.
146. Shideler, R.K., A.E. McChesney, E.L. Squires and M. Osborne. 1987. Effect of uterine lavage on clinical and laboratory parameters in postpartum mares. Equine Pract. 9:21-26.
147. Shideler, R.K., E.L. Squires, R.E. Mifflin and W.R. Lance. 1987. Evaluation of lyophilized IgG as an oral supplement for failure of passive transfer in foals. Proc. 33rd Ann. Conv. A.A.E.P., pp. 763-767.
148. Squires, E.L., R.P. Amann, A.O. McKinnon and B.W. Pickett. 1987. Preservation of stallion semen. Proc. 33rd Ann. Conv. A.A.E.P., pp. 475-486.
149. Pickett, B.W., J.L. Voss, R.A. Bowen, E.L. Squires and A.O. McKinnon. 1987. Seminal characteristics and total scrotal width (T.S.W.) of normal and abnormal stallions. Proc. 33rd Ann. Conv. A.A.E.P., pp. 487-518.
150. McKinnon, A.O., E.L. Squires, E.M. Carnevale, L.A. Harrison, D.D. Frantz, A.E. McChesney and R.K. Shideler. 1987. Diagnostic ultrasonography of uterine pathology in the mare. Proc. 33rd Ann. Conv. A.A.E.P., pp. 605-622.
151. McKinnon, A.O. and E.L. Squires. 1988. Infectious causes of infertility in mares. Proc. 49th Ann. Conf. Vet., C.V.M.A., pp. 53-57.
152. Squires, E.L. and A.O. McKinnon. 1988. Noninfectious causes of infertility in mares. Proc. 49th Ann. Conf. Vet., C.V.M.A., pp. 58-69.
153. Squires, E.L., R.P. Amann, A.O. McKinnon and B.W. Pickett. 1988. Fertility of equine spermatozoa cooled to 5 or 20C. Proc. 11th Int. Congr. Anim. Reprod. A.I. 3:297a-297c.
154. Squires, E.L., L.A. Harrison, A.O. McKinnon and J.L. Voss. 1988. Use of hCG, GnRH agonist or prostaglandin analog for induction of ovulation in mares. Proc. 11th Int. Congr. Anim. Reprod. A.I. 4:460a-460c.
155. Amann, R.P., E.L. Squires and B.W. Pickett. 1988. Effects of sample thickness and temperature on spermatozoal motion. Proc. 11th Int. Congr. Anim. Reprod. A.I. 3:221a-221c.
156. Voss, J.L., B.W. Pickett, R.A. Bowen, E.L. Squires and A.O. McKinnon. 1988. Effect of breed, month and age on stallion seminal characteristics. Proc. 11th Int. Congr. Anim. Reprod. A.I. 3:388a-388c.

## E.L. Squires

## Non-Refereed Articles

157. Pickett, B.W., J.L. Voss, R.A. Bowen, E.L. Squires and A.O. McKinnon. 1988. Comparison of seminal characteristics of stallions that passed or failed a seminal evaluation. Proc. 11th Int. Congr. Anim. Reprod. A.I. 3:380a-380c.
158. Shideler, R.K., L.A. Harrison, A.O. McKinnon and E.L. Squires. 1988. Effect of sire, dam and recipient on size of embryo transfer foals. Proc. 11th Int. Congr. Anim. Reprod. A.I. 2:194a-194c.
159. McKinnon, A.O., E.L. Squires and J.L. Voss. 1988. Factors affecting equine embryo transfer pregnancy rates. Proc. 11th Int. Congr. Anim. Reprod. A.I. 2:177a-177c.
160. McKinnon, A.O., J.L. Voss, G.W. Trotter, B.W. Pickett, R.K. Shideler and E.L. Squires. 1988. Hemospermia of the stallion. Equine Pract. 10:17-23.
161. McKinnon, A.O., E.M. Carnevale, E.L. Squires and W. Jochle. 1989. Clinical evaluation of the efficacy of domosedan for equine reproductive surgery. Proc. 34th Ann. Conv. A.A.E.P. 34:563-568.
162. Squires, E.L., C.K. Barnes, H.S. Rowley, A.O. McKinnon, B.W. Pickett and R.K. Shideler. 1989. Effect of uterine fluid and volume of extender on fertility. Proc. 35th Ann. Conv. A.A.E.P., pp. 25-30.
163. Squires, E.L. 1989. Commercial equine embryo transfer: Synopsis of panel discussion. Equine Vet. J., Suppl. 8:75.
164. Squires, E.L. 1989. Techniques for identification of estrus mares. Proc. Tech. for Handling and Utilization of Transported Equine Spermatozoa and Embryos, Equine Sciences Program, Colorado State Univ., pp. 57-60.
165. Squires, E.L. 1989. Manipulation of the estrous cycle. Proc. Tech. for Handling and Utilization of Transported Equine Spermatozoa and Embryos, Equine Sciences Program, Colorado State Univ., pp. 61-67.
166. Squires, E.L. 1989. Collecting, packaging, cooling and transporting of embryos. Proc. Tech. for Handling and Utilization of Transported Equine Spermatozoa and Embryos, Equine Sciences Program, Colorado State Univ., pp. 18-24.
167. Carney, N.J., E.L. Squires, V.M. Cook, G.E. Seidel, Jr. and D.J. Jasko. 1990. Three year study of pregnancy rates resulting from transfer of fresh and cooled transported equine embryos. Proc. Tech. for Handling and Utilization of Transported Equine Spermatozoa and Embryos, Equine Sciences Program, Colorado State Univ., pp. 59-68.
168. Jasko, D.J., E.L. Squires, D. Moran and M.E. Farlin. 1992. Comparison of pregnancy rates utilizing fresh, cooled and frozen semen. Proc. 12th Congr. on Anim. Reprod.
169. Shabpareh, V., E.L. Squires, G.E. Seidel, Jr. and D.J. Jasko. 1992. Methods for collecting and maturing equine oocytes *in vitro*. Proc. 12th Congr. on Anim. Reprod.
170. Meyers, P.S., W. Jochle, J.C. Samper, L. Sealey, H.S. Conboy, E.L. Squires, M.P. Reid, R.T. Bowen, B.C. Taylor, T. Gimenez, R.L. Schlager and N.A. Dimmick. 1992. Efficacy of GnRH analog,



**Non-Refereed Articles**

- Deslorelin, given as a short-acting subcutaneous implant in accelerating ovulation in the mare. Proc. 12th Congr. on Anim. Reprod.
171. Squires, E.L. 1992. Update on equine embryo transfer in horses. A Closer Look -- American Embryo Transfer Association 7(2):3-6.
172. Squires, E.L. 1992. Embryo transfer update. Equine Vet. Data 13(14):244-245.
173. Moran, D.M., D.J. Jasko, E.L. Squires and R.P. Amann. 1992. Determination of temperature and cooling rate induced cold shock in stallion spermatozoa. Proc. Western Section Am. Soc. Anim. Sci. 43:426.
174. Knowles, J.E., E.L. Squires and R.K. Shideler. 1992. The role of progesterone in early pregnant mares. Proc. Western Section Am. Soc. Anim. Sci. 43:444.
175. Jasko, D.J., M.E. Farlin, H. Hutchinson, D.M. Moran, E.L. Squires and P.J. Burns. 1992. Use of progesterone and estradiol in poly biodegradable microspheres for control of estrus and ovulation in mares. Proc. Western Section Am. Soc. Anim. Sci. 43:447.
176. Cook, N.L., V.M. Cook and E.L. Squires. 1992. Effects of exogenous estradiol treatment in cyclic mares following PGF<sub>2</sub> induced luteal regression. Proc. Western Section Am. Soc. Anim. Sci. 43:429.
177. Cook, N.L., E.L. Squires, B.S. Ray, V.M. Cook and D.J. Jasko. 1992. Transvaginal ultrasonically guided follicular aspiration of equine oocytes: Preliminary results. J. Equine Vet. Sci. 12(4):204-207.
178. Squires, E.L., V.M. Cook, D.J. Jasko and S.F. Tarr. 1992. Pregnancy rates after collection and shipment of equine embryos (1988-1991). Proc. Am. Assoc. Equine Pract., pp. 609-618.
179. Jasko, D.J., D.M. Moran, M.E. Farlin, E.L. Squires, R.P. Amann and B.W. Pickett. 1992. Pregnancy rates utilizing fresh, cooled, and frozen-thawed stallion semen. Proc. Am. Assoc. Equine Pract., pp. 649-660.
180. Cook, N.L., V.M. Cook, E.L. Squires and P.J. Burns. 1993. Effects of exogenous estradiol treatment in cyclic mares following PGF<sub>2</sub> induced luteal regression. 13th Equine Nutr. Physiol. Soc., pp. 370-374.
181. Jasko, D.J., M.E. Farlin, H. Hutchison, D.M. Moran, E.L. Squires and P.J. Burns. 1993. Progesterone and estradiol in biodegradable microspheres for control of estrus and ovulation in mares. 13th Equine Nutr. Physiol. Soc., pp. 362-363.
182. Mumford, E.L., E.L. Squires and T.M. Nett. 1993. Use of GnRH, estrogen, or a combination to improve pituitary LH stores in early transitional mares. 13th Equine Nutr. Physiol. Soc., pp. 354-355.
183. Mumford, E.L., E.L. Squires, T.M. Nett, D.J. Jasko and K.D. Peterson. 1993. The response of anestrus mares to various doses of GnRH analog. 13th Equine Nutr. Physiol. Soc., pp. 352-353.
184. Knowles, J.E., E.L. Squires and R.K. Shideler. 1993. The role of progesterone in early pregnant mares. 13th Equine Nutr. Physiol. Soc., pp. 312-313.

**Non-Refereed Articles**

185. Swinker, A.M., E.L. Squires, E.L. Mumford, J.E. Knowles and D.M. Kniffen. 1993. Effect of body weight and body condition score on follicular development and ovulation in mares treated with GnRH analogue. 13th Equine Nutr. Physiol. Soc., pp. 322-325.
186. Moran, D.M., D.J. Jasko, E.L. Squires and R.P. Amann. 1993. Determination of temperature and cooling rate induced cold shock in stallion spermatozoa. 13th Equine Nutr. Physiol. Soc., pp. 387-388.
187. Bedford Gvaus, S.J., D.J. Jasko, J.K. Graham, R.P. Amann and E.L. Squires. 1993. Effect of seminal extenders containing egg yolk and glycerol on stallion sperm motion characteristics and fertility. 13th Equine Nutr. Physiol. Soc., pp. 391-392.
188. Squires, E.L. 1994. Preparation of the mare for insemination with cooled or frozen semen. Proc. Tech. for Handling and Utilization of Transported Cooled and Frozen Equine Spermatozoa, Equine Sciences Program, Colorado State Univ., pp. 72-75.
189. Squires, E.L. and B.W. Pickett. 1995. Pregnancy rates with cryopreserved semen. Proc. Tech. for Handling and Utilization of Transported Cooled and Frozen Equine Spermatozoa, Equine Sciences Program, Colorado State Univ., pp. 106-125.
190. McCue, P.M., D. Vanderwall and E.L. Squires. 1995. Superovulation: A technique for the enhancement of fertility in horses. Proc. 41st AAEP, Lexington, KY, pp. 6-7.
191. Squires, E.L. 1995. Hormone therapy for mares and stallions. Proc. 9th Ann. South Carolina Large Anim. Med. Shortcourse, Columbia, SC, p. 115.
192. Squires, E.L. 1995. Latest in equine embryo transfer. Proc. 9th Ann. South Carolina Large Anim. Med. Shortcourse, Columbia, SC, p. 115.
193. Pickett, B.W., D.J. Jasko, R.P. Amann and E.L. Squires. 1995. Proper cooling and freezing of semen. Proc. 9th Ann. South Carolina Large Anim. Med. Shortcourse, Columbia, SC, p. 61.
194. Squires, E.L. 1995. Preparation of mares for insemination with cooled and frozen semen. Proc. 9th Ann. South Carolina Large Anim. Med. Shortcourse, Columbia, SC, p. 1.
195. Graham, J.K. and E.L. Squires. 1995. Current techniques for freezing equine semen. Proc. 9th Ann. South Carolina Large Anim. Med. Shortcourse, Columbia, SC.
196. Squires, E.L. 1995. Equine embryo transfer and shipping of equine embryos. Proc. 14th Ann. Conv. Am. Embryo Transfer Assoc., Las Vegas, p. 49-54.
197. Squires, E.L. 1995. What's unique about the horse? Alumni Program, West Virginia University.
198. Squires, E.L. 1995. Anatomy and physiology of the mare. Colorado Association of Certified Veterinary Technicians Conference.

## E.L. Squires

## Non-Refereed Articles

199. Squires, E.L. 1995. Regulation of the mare' estrous cycle. Colorado Association of Certified Veterinary Technicians Conference.
200. Squires, E.L. 1995. Procedures for collection of stallion semen and insemination of mares. Colorado Association of Certified Veterinary Technicians Conference.
201. Squires, E.L. 1995. Current methods for cooling and freezing stallion spermatozoa. Colorado Association of Certified Veterinary Technicians Conference.
202. Squires, E.L. 1995. Embriões em equinos: novas técnicas, aplicações e perspectivas. Proc. X Ann. Mtg. Soc. Brasileira de Transferencia de Embrioes.
203. Pickett, B.W., E.L. Squires, D.J. Jasko and R.P. Amann. 1996. Factors affecting fertility of cooled semen. XV Panvet, Campo Grande, Brazil.
204. Squires, E.L. and B.W. Pickett. 1996. Pregnancy rates with cryopreserved semen. XV Panvet, Campo Grande, Brazil.
205. Pickett, B.W. and E.L. Squires. 1996. Procedures for collecting stallion semen utilizing the CSU model artificial vagina. XV Panvet, Campo Grande, Brazil.
206. Squires, E.L. 1996. Equine embryo transfer and shipping of equine embryos. XV Panvet, Campo Grande, Brazil.
207. Squires, E.L. and B.W. Pickett. 1996. Factors affecting pregnancy rates after embryo transfer. XV Panvet, Campo Grande, Brazil.
208. Squires, E.L. 1996. Endometritis. XV Panvet, Campo Grande, Brazil.
209. Squires, E.L. and B.W. Pickett. 1996. Function and use of hormones in cycling and pregnant mares. XV Panvet, Campo Grande, Brazil.
210. Squires, E.L. 1996. Anatomy and physiology of the genital organs of the mare. XV Panvet, Campo Grande, Brazil.
211. Squires, E.L. 1996. Equine embryo transfer and shipping of equine embryos. Planned Parenthood Seminar, Equine Research Centre, Abbotsford, British Columbia.
212. Squires, E.L., S.P. Brinsko and B.W. Pickett. 1996. Factors affecting fertility of cooled semen. Planned Parenthood Seminar, Equine Research Centre, Abbotsford, British Columbia.
213. Squires, E.L. and B.W. Pickett. 1996. Pregnancy rates with cryopreserved semen. Planned Parenthood Seminar, Equine Research Centre, Abbotsford, British Columbia.
214. Pickett, B.W., E.L. Squires, D.J. Jasko and R.P. Amann. 1996. Factors affecting fertility of cooled semen. BC Horse Industry Short Course, Abbotsford, British Columbia.

## E.L. Squires

## Non-Refereed Articles

215. Squires, E.L. and B.W. Pickett. 1996. Pregnancy rates with cryopreserved semen. BC Horse Industry Short Course, Abbotsford, British Columbia.
216. Pickett, B.W. and E.L. Squires. 1996. Procedures for collecting stallion semen utilizing the CSU model artificial vagina. BC Horse Industry Short Course, Abbotsford, British Columbia.
217. Squires, E.L. 1996. Equine embryo transfer and shipping of equine embryos. BC Horse Industry Short Course, Abbotsford, British Columbia.
218. Squires, E.L. and B.W. Pickett. 1996. Factors affecting pregnancy rates after embryo transfer. BC Horse Industry Short Course, Abbotsford, British Columbia.
219. Squires, E.L. and B.W. Pickett. 1996. Function and use of hormones in cycling and pregnant mares. BC Horse Industry Short Course, Abbotsford, British Columbia.
220. Squires, E.L. 1996. Anatomy and physiology of the genital organs of the mare. BC Horse Industry Short Course, Abbotsford, British Columbia.
221. McCue, P.M., S.S. Lemons, E.L. Squires and D.K. Vanderwall. 1996. Efficacy of estradiol/progesterone implants for suppression of estrus in the mare. *Proc. Am. Assoc. Equine Pract.* 42:195-196.
222. McCue, P.M., S.S. Lemons, E.L. Squires and D.K. Vanderwall. 1996. Synovex implants: Efficacy in suppression of estrus in mares. *Proc. Ann. Conf. Soc. for Theriogenology*, p. 306.
223. Squires, E.L., D.K. Vanderwall, P.M. McCue and S.P. Brinsko. 1996. Factors affecting pregnancy rates of fresh and cooled equine embryos. *Proc. 4th Int. Symp. Equine Embryo Transfer, Practitioners Meeting*.
224. Squires, E.L., D.K. Vanderwall and P.M. McCue. 1997. Assisted reproduction in mares. *Proc. Soc. Theriogenology Ann. Conf.*, pp. 22-29.
225. Squires, E.L. and G.E. Seidel, Jr. 1997. Cryopreservation of equine embryos. *Proc. Soc. Theriogenology Ann. Conf.*, pp. 152-156.
226. McCue, P.M., E.M. Carnevale, R.A. Foglia and E.L. Squires. 1999. Commercial embryo transfer in the horse. *Proc. 18th Ann. Conv. AETA*, pp. 89-95.
227. Burns, P.J., B.W. Simon, R.M. Gilley, D.K. Vanderwall, G. Woods and E.L. Squires. 2000. Development of new hormonal therapies for mares. *Ann. Conf. Soc. for Theriogenology*, p. 197.
228. Squires, E.L. 2000. New semen technologies. *Proc. Bluegrass Equine Reprod. Symp.*, Lexington, KY.
229. Squires, E.L. 2000. Effect of drugs on spermatogenesis. *Proc. Bluegrass Equine Reprod. Symp.*, Lexington, KY.

## E.L. Squires

## Non-Refereed Articles

230. Squires, E.L. 2000. Newer reproductive techniques. Proc. Bluegrass Equine Reprod. Symp., Lexington, KY.
231. McCue, P.M., V.J. Farquhar and E.L. Squires. 2000. Effect of the GnRH agonist deslorelin acetate on pituitary function and follicular development in the mare. Proc. 46th Ann. Conv. Am. Assoc. Equine Pract., pp. 355-356.
232. Squires, E.L. 2001. Preface: Symposium on Stallion Reproduction. Anim. Reprod. Sci. 68:135-137.
233. Squires, E.L. and J.E. Bruemmer. 2001. Factors affecting fertility of frozen-thawed spermatozoa. Proc. West Coast Equine Reprod. Symp., pp. 51-61.
234. McCue, P.M., K.C. Nickerson, E.L. Squires, V.J. Farquhar and T.M. Nett. 2001. Effect of altrenogest on luteinizing hormone concentrations in mares during the transition period. Proc. 47th Ann. Conv. Am. Assoc. Equine Pract., pp. 249-251.
235. McCue, P.M., E.L. Squires, J.E. Bruemmer and K.D. Niswender. 2001. Equine embryo transfer: Techniques, trends and anecdotes. Proc. Ann. Conf. Soc. for Theriogenology, pp. 229-235.
236. Squires, E.L., E.M. Carnevale, P.M. McCue and J.E. Bruemmer. 2002. Embryo technologies in the horse. Proc. Sixteenth Annual South Carolina Large Animal Medicine Short Course.
237. Squires, E.L. 2002. The reproductive cycle of the mare. Proc. Kansas State University Equine Reproduction Conference.
238. Squires, E.L. 2002. Embryo transfer: When should you consider ET on your mares?" Proc. Kansas State University Equine Reproduction Conference.
239. Carnevale, E.M., M.A. Coutinho da Silva, L.J. Maclellan and E.L. Squires. 2003. Effect of time of insemination and culture medium on embryo development rates after oocyte transfer. Proc. 1st Ann. Focus Meeting AAEP: Equine Reproduction, pp. 31-32.
240. Preis, K.A., E.M. Carnevale, M.A. Coutinho da Silva, V. Caracciolo di Brienza, G.M. Gomes, L.J. Maclellan and E.L. Squires. 2003. Embryonic development rates after in vitro maturation and transfer of equine oocytes recovered from ovaries transported at 12 or 22°C. Proc. 1st Ann. Focus Meeting AAEP: Equine Reproduction, pp. 33-34.
241. Squires, E.L., K.A. Preis, M. Alvarenga and E.M. Carnevale. 2003. Pregnancies from oocytes collected from the ovaries of mares euthanized for medical reasons. Proc. 1st Ann. Focus Meeting AAEP: Equine Reproduction, pp. 35-36.
242. Coutinho da Silva, M.A., E.M. Carnevale and E.L. Squires. 2003. Use of gamete intrafallopian transfer in the horse. Proc. 1st Ann. Focus Meeting AAEP: Equine Reproduction, pp. 37-38.
243. Carnevale, E.M., M.A. Coutinho da Silva and E.L. Squires. 2003. How to collect and transfer oocytes. AAEP Proc. 49:293-294.

**Non-Refereed Articles**

244. Squires, E.L., S. Barbacini, D. Necchi, H.P. Reger and J.E. Bruemmer. 2003. Simplified strategy for insemination of mares with frozen semen. *AAEP Proc.* 49:353-356.
245. Squires, E.L., P.M. McCue, K. Niswender and M. Alvarenga. 2003. A review on the use of eFSH to enhance reproduction performance. *AAEP Proc.* 49:360-362.
246. Coutinho da Silva, M.A., G.E. Seidel, Jr., E.L. Squires and E.M. Carnevale. 2004. Casein, native phosphocaseinate, and caseinoglycopeptide enhance binding of equine sperm to bovine zonae pellucidae. 6th Int. Equine Embryo Transfer Symposium, Brazil.
247. Carnevale, E.M., M.A. Coutinho da Silva, K.A. Preis, J.E. Stokes and E.L. Squires. 2004. Establishment of pregnancies from oocytes collected from the ovaries of euthanized mares. *Proc. 50<sup>th</sup> Ann. Conv. AAEP*, pp. 531-533.
248. McCue, P.M., J.J. Hudson, J.E. Bruemmer and E.L. Squires. 2004. Efficacy of hCG at inducing ovulation: A new look at an old issue. *Proc. 50th Ann. Conv. AAEP*, pp. 510-513.
249. Seidel, Jr. G.E., E.M. Carnevale, E.L. Squires, J.F. Hasler and R.J. Mapletoft. 2005. New approaches to cryopreservation: Vitrification of bovine and equine embryos. *Proc. VI Simp. Int Reprod. Anim., Cordoba, Argentina*, pp. 327-342.
250. Squires, E.L. 2005. Alternate methods for artificial insemination. *Foundations, Select Breeders Services*, Spring issue, pp. 1, 4-7.
251. Carnevale, E.M., A.E. Bisner, P.M. McCue, L.D. Bass and E.L. Squires. 2005. Uterine changes associated with repeated inseminations and embryo collections in mares. *Proc. 51st Ann. Conv. AAEP*, pp. 202-203.
252. McCue, P.M., E.K. Gee, C. Magee, G.L. Woods and E.L. Squires. 2007. Hormone and other medical therapies in embryo transfer recipient mares. *Proc. 2007 SFT Symposium*.
253. Squires, E.L., P.M. McCue and E.M. Carnevale. 2007. Assessing embryo quality prior to transfer. *Proc. 2007 SFT Symposium*.
254. Squires, E.L., M.L. Patten, J. Zumbrennen, J.E. Bruemmer, D.D. Denniston and P.M. McCue. 2007. Variation in progesterone in early gestation after nonsurgical embryo transfer. *Proc. 53rd Annual Convention American Association of Equine Practitioners*. Accepted.

## E.L. Squires

## Chapters

## Chapters:

1. Management of the Stallion for Maximum Reproductive Performance. 1980. E.L. Squires and B.W. Pickett. Stud Manager's Handbook, No. 16. p. 168.
2. Factors Affecting Sperm Output of Stallions. 1980. E.L. Squires and B.W. Pickett. Stud Manager's Handbook, No. 16. p. 157.
3. Endocrinology of the Estrous Cycle and Pregnancy of Mares. 1980. E.L. Squires. Stud Manager's Handbook, No. 16. p. 109.
4. Artificial Control of the Breeding Season of Mares. 1980. E.L. Squires. Stud Manager's Handbook, No. 16. p. 118.
5. Anatomy and Physiology of the Genital Organs of the Mare and Stallion. 1980. E.L. Squires. Stud Manager's Handbook, No. 16. p. 67.
6. Hormone Therapy for Mares. 1980. E.L. Squires. Stud Manager's Handbook, No. 16. p. 152.
7. Embryo Transfer. 1986. E.L. Squires. Therapy in Equine Medicine, 2.
8. The Use of Hormones to Control the Reproductive Cycle in Mares and Stallions. 1987. E.L. Squires and A.O. McKinnon. The Veterinary Clinics of North America, Vol. 3, W.B. Saunders Co. pp. 81-99.
9. Equine Embryo Transfer. A.O. McKinnon and E.L. Squires. 1988. The Veterinary Clinics of North America, Vol. 4, W.B. Saunders Co. pp. 305-333.
10. Ultrasonographic Evaluation of the Reproductive Tract. 1991. A.O. McKinnon and E.L. Squires. Equine Medicine and Surgery, 4th Ed. Vol. II, American Veterinary Publishers, Goleta, CA. pp. 963-978.
11. Indirect Pregnancy Test. 1991. A.O. McKinnon and E.L. Squires. Equine Medicine and Surgery, 4th Ed. Vol. II, American Veterinary Publishers, Goleta, CA. pp. 979-982.
12. Progesterone. 1993. E.L. Squires. Equine Reproduction, Lea & Febiger. pp. 57-64.
13. Progestins. 1993. E.L. Squires. Equine Reproduction, Lea & Febiger. pp. 311-318.
14. Embryo Transfer. 1993. E.L. Squires. Equine Reproduction, Lea & Febiger. pp. 357-367.
15. Endocrinology of Pregnancy. 1993. E.L. Squires. Equine Reproduction, Lea & Febiger. pp. 495-500.
16. Induction of Abortion During Early to Mid Gestation. 1993. E.L. Squires and W.T.K. Bosu. Equine Reproduction, Lea & Febiger. pp. 563-566.
17. Puberty. 1993. E.L. Squires. Equine Reproduction, Lea & Febiger. pp. 114-120.

## E.L. Squires

## Chapters

18. Estrous Detection. 1993. E.L. Squires. *Equine Reproduction*, Lea & Febiger. pp. 186-195.
19. Diagnostic Ultrasonography. 1993. A.O. McKinnon, J.L. Voss, E.L. Squires and E.M. Carnevale. *Equine Reproduction*, Lea & Febiger. pp. 266-302.
20. Maturation and Fertilization of Equine Oocytes. 1996. E.L. Squires. *Veterinary Clinics of North America: Equine Practice. Diagnostic Techniques and Assisted Reproductive Technologies*, E.L. Squires (ed) 12:31-45.
21. Use of Transvaginal Ultrasound-Guided Puncture for Elimination of Equine Pregnancies. 1996. E.L. Squires. *Veterinary Clinics of North America: Equine Practice on Diagnostic Techniques and Assisted Reproductive Techniques*, E.L. Squires (ed) 12:161-168.
22. Transvaginal Aspiration. 1996. E.L. Squires and N.L. Cook. *Veterinary Clinics of North America: Equine Practice on Diagnostic Techniques and Assisted Reproductive Techniques*, E.L. Squires (ed) 12:13-29.
23. Early Embryonic Loss. 1998. E.L. Squires. *Equine Diagnostic Ultrasonography*, N.W. Rantanen and A.O. McKinnon (eds), Williams & Wilkins, pp. 157-163.
24. Ultrasound-Guided Follicular Aspiration. 1998. E.L. Squires and N.L. Cook. *Equine Diagnostic Ultrasonography*, N.W. Rantanen and A.O. McKinnon (eds), Williams & Wilkins, pp. 213-220.
25. Indirect Pregnancy Tests. 1999. A.O. McKinnon and E.L. Squires. *Equine Medicine and Surgery*, P.T. Colahan, A.M. Merritt, J.N. Moore and I.G. Mayhew (eds), Mosby, pp. 1115-1121.
26. Future Equine Reproductive Technologies. 1999. E.L. Squires. *Equine Breeding Management and AI*, J.C. Samper (ed), W.B. Saunders.
27. Management of the Donor and Recipient Mare. 2002. E.L. Squires. *Current Therapy in Equine Medicine – 5*, N. Edward Robinson (ed), W.B. Saunders, pp. 277-279.
28. Superovulation in Mares. 2006. E.L. Squires. *Veterinary Clinics of North America: Equine Practice. Diagnostic Techniques and Assisted Reproductive Technologies*, E.M. Carnevale (ed) 22:819-830.
29. Embryo Transfer and Related Technologies. 2007. A.O. McKinnon and E.L. Squires. *Current Therapy in Equine Reproduction*, J.C. Samper, J.F. Pycock and A.O. McKinnon (eds), Saunders Elsevier, pp. 319-334.
30. Barfield, J.P., P.M. McCue, G.E. Seidel, Jr. and E.L. Squires. 2008. The effect of dehydrating large equine embryos with galactose prior to cryopreservation. *Proc. 77th Int. Symp. Equine Embryo Transfer*, pp. 65-66.



## E.L. Squires

## Books

## Books:

1. Pickett, B.W., J.L. Voss, E.L. Squires and R.P. Amann. 1981. Management of the stallion for maximum reproductive efficiency. Colorado State Univ. Exp. Sta. and Anim. Reprod. Lab. Gen. Ser. Bull. 1005.
2. Pickett, B.W., E.L. Squires and J.L. Voss. 1981. Normal and abnormal sexual behavior of the equine male. Colorado State Univ. Exp. Sta. and Anim. Reprod. Lab. Gen. Ser. Bull. 1004.
3. Squires, E.L., V.M. Cook and J.L. Voss. 1985. Collection and Transfer of Equine Embryos. Colorado State University, Anim. Reprod. Lab. Bull. No. 01.
4. Pickett, B.W., E.L. Squires and A.O. McKinnon. 1987. Procedures for Collection, Evaluation and Utilization of Stallion Semen for Artificial Insemination. Colorado State University, Anim. Reprod. Lab. Bulletin No. 03.
5. McKinnon, A.O., E.L. Squires and B.W. Pickett. 1988. Equine Reproductive Ultrasonography. Colorado State University Anim. Reprod. Lab. Bull. No. 04.
6. Pickett, B.W., R.P. Amann, A.O. McKinnon, E.L. Squires and J.L. Voss. 1989. Management of the Stallion for Maximum Reproductive Efficiency, II. Colorado State Univ. Anim. Reprod. Lab. Bull. No. 05.
7. Pickett, B.W., E.L. Squires, A.O. McKinnon and R.K. Shideler. 1989. Management of the Mare for Maximum Reproductive Efficiency. Colorado State University Anim. Reprod. Lab. Bull. No. 06.
8. Squires, E.L. and G.E. Seidel, Jr. 1995. Collection and Transfer of Equine Embryos, 2nd Ed. Colorado State University Anim. Reprod. and Biotech. Lab. Bull. No. 08.
9. Squires, E.L. (ed). 1996. Veterinary Clinics of North America: Equine Practice on Diagnostic Techniques and Assisted Reproductive Techniques. W.B. Saunders, Philadelphia, PA, 171 pp.
10. Squires, E.L., B.W. Pickett, D.K. Vanderwall, P.M. McCue and J.E. Bruemmer. 1999. Cooled and Frozen Stallion Semen. Colorado State University Anim. Reprod. and Biotech. Lab. Bull. No. 09.
11. Squires, E.L. 1999. Understanding the Stallion. Blood Horse, Inc., Lexington, KY.
12. Pickett, B.W., J.L. Voss, E.L. Squires, D.K. Vanderwall, P.M. McCue and J.E. Bruemmer. 2000. Collection, Preparation and Insemination of Stallion Semen. Colorado State University Anim. Reprod. and Biotech. Lab. Bull. No. 10.
13. Squires, E. and J.F. Wade (eds). 2003. Proceedings of a Workshop on Transporting Gametes and Embryos. Havemeyer Foundation Monograph Series No. 12. R&W Publications, Newmarket, Suffolk, UK, 95 pp.
14. Squires, E.L. (ed). 2005. Proceedings of the Fourth International Symposium on Stallion Reproduction. Animal Reproduction Science, Vol. 89 (1-4), 327 pp.

**E.L. Squires****Bulletins****Bulletins:**

1. Squires, E.L. 1984. Equine Breeding Management Monogram. American Hoechst Corporation, Animal Health Division, NJ.
2. McKinnon, A.O. and E.L. Squires. 1986. Equine Ultrasound. Proceedings of the 4th Annual Ultrasound Conference, Colorado State University.
3. Squires, E.L. 1993. Equine Breeding Management Monogram II. Hoechst-Roussel Agri-Vet Company, Somerville, NJ.

**Research Grants –University of Kentucky**

Seidel Jr. GE, McCue PM, Bouna J, Squires EL. Pregnancy rates of equine embryos biopsied for genetic testing. Sponsor: Preservation of Equine Genetics Fund, Colorado State University. 2009-2010. \$36,443, Co-PI: Competitive internal funding.

Graham GE, Squires EL, Seidel Jr. GE. Capacitating stallion sperm to enhance in vitro fertilization. Sponsor: Preservation of Equine Genetics Fund, Colorado State University. 2009-2010. \$30,000, Co-PI: Competitive internal funding.

Troedsson MHT, Klein C, Squires EL. Study on the transmission of *Taylorella equine genitalis* through artificial insemination with semen from infected stallions. Kohler Research Fund, University of Kentucky. 2009-2010. \$37,000, Co-PI.

Squires EL, Troedsson MHT. Methods to suppress estrus in race mares. 2010-2011. Sponsor: Equine Drug Research Council, PI. \$48,092

**Unfunded Research Effort**

Performance of foals from high risk pregnancy mares. Gluck Equine Research Center, Internal Funding, Co-PI.

**Proposals Submitted**

Rapid diagnosis of CEM to facilitate international transport of Thoroughbreds. Sponsor: Equine Drug Research Council. Co-PI. 2010-2011.

## E.L. Squires

## Popular Articles

## Popular Articles:

1. Squires, E.L. 1976. Equine estrus can be controlled. News Release.
2. Squires, E.L. 1977. Reproductive physiology of the mare. 1977. Second National Horsemen's Seminar, Fredricksburg, Virginia.
3. Squires, E.L. 1978. Important facts about teasing and estrus in the mare. Quarter Horse Journal 31(December):428-430.
4. Squires, E.L. 1978. Colorado State's equine reproduction laboratory: A significant contributor to fertility in horses. Quarter Horse Journal 31(December):34-37.
5. Squires, E.L. 1979. CSU Short Course: Full of breeder information. Quarter Horse Journal 31(January):356-359.
6. Squires, E.L. 1979. Reproductive physiology of the mare. Canadian Horse.
7. Squires, E.L. 1979. Triple threat or triple treat. Horse and Rider, pp. 28-34.
8. Squires, E.L. 1979. Embryo transfer in horses. Quarter Horse Journal 31(June):122-126.
9. Squires, E.L. 1979. What about embryo transfer in mares? Arabian Horse World 19(June)320-322, 327.
10. Squires, E.L. 1979. Use of progestin for estrus regulation in mares. Quarter Horse Journal 31(June):146.
11. Squires, E.L. 1979. Use of anabolic drugs in young horses. Proc. Univ. of Illinois Equine Symposium.
12. Squires, E.L. 1979. Anabolic steroids impair the reproductive potential of stallions. Quarter Horse Journal.
13. Squires, E.L. 1980. Where are they coming from? Arabian Times.
14. Squires, E.L. 1980. Recent progress in embryo transfer. 1980. Quarter Horse Journal 32(January):74-77.
15. Pickett, B.W. and E.L. Squires. 1980. Is your in-hand or performance stallion receiving anabolic steroids? Morgan Horse, February:107-110.
16. Squires, E.L., K.J. Imel and R.K. Shideler. 1980. Embryo transfer in horses. Harness Horsemen International, June:24-27.
17. Squires, E.L. 1980. The effect of steroids, testosterone on reproduction. Horseman's Journal, July.

## E.L. Squires

## Popular Articles

18. Squires, E.L. 1980. Safety of common drug questioned in study. *Companion Animal News*, December.
19. Shideler, R.K. and E.L. Squires. 1981. Care of the pregnant mare. *Northwest Quarter Horse*.
20. Shideler, R.K., A.E. McChesney, J.L. Voss and E.L. Squires. 1981. Endometrial biopsy in the mare. *Quarter Horse Journal*, February:226-228.
21. Squires, E.L. 1981. Why the high cost of research? *Quarter Horse Journal*, March:74-77.
22. Squires, E.L. and D.E. McGlothlin. 1981. Control of bacteria in stallion semen. *Quarter Horse Journal* 35(January):76-81.
23. Squires, E.L., B.W. Pickett, J.L. Voss and R.K. Shideler. 1981. Improving reproductive efficiency. *Morgan Horse*, February:177-184.
24. Shideler, R.K., E.L. Squires, J.L. Voss and D.J. Eikenberry. 1982. Progesterone therapy for pregnancy maintenance. *Equine Reproduction Program, Colorado State University, Newsletter* 1(1):2-3.
25. Squires, E.L., B.W. Pickett, R.K. Shideler and J.L. Voss. 1982. Detection of pregnancy using ultrasound. *Equine Reproduction Program, Colorado State University, Newsletter* 1(1):1-2.
26. Squires, E.L. 1982. Adverse effects of anabolic steroids on reproductive function of mares. *California Veterinarian*, pp. 23-24.
27. Squires, E.L. 1982. Embryo transfer. *California Horse Review*, January.
28. Squires, E.L. 1982. Equine embryo transfer. *Practical Horseman*, November.
29. Squires, E.L. 1982. Detecting pregnancy without palpation. *Quarter Horse Journal* 35(December):234-238.
30. Squires, E.L. 1982. Manipulation of motherhood. *Equus* 62(December):26-32.
31. Squires, E.L. 1983. A.I. a 1st U.S. Foal - A.I.: Another U.S. 1st. *Horse & Rider*, October.
32. Squires, E.L. 1983. Progesterone therapy for maintenance of pregnancy in mares. *Quarter Horse Journal* 35(April):266-269.
33. Squires, E.L. 1983. Embryo transfer procedure takes on a new significance. *Quarter Horse Track*, April:166-167.
34. Iuliano, M.F. and E.L. Squires. 1983. Embryo transfer. *Speedhorse* 15(June):24-27.
35. Iuliano, M.F. and E.L. Squires. 1983. Recent advances in equine embryo transfer. *Equine Sciences Newsletter*, Fall 2(2):5-6.

## E.L. Squires

## Popular Articles

36. Squires, E.L., J.L. Voss and J.M. Maher. 1983. The effect of anabolic steroids on reproductive functions of mares. *Quarter Horse Journal*, November:198-203.
37. Squires, E.L. 1984. Vets' viewpoint. *Arabian Horse Times*, April:233.
38. Squires, E.L. 1984. Vets' viewpoint. *Arabian Horse Times*, May:292.
39. Squires, E.L. 1984. Weaning the foal. *QuarterWeek*, May 6:16
40. Squires, E.L. 1984. Modern horse-breeding techniques. *Veterinary Medicine*, June:805.
41. Squires, E.L. 1984. If you want a better horse, make one. *Chicago Tribune*, July 1:5.
42. Squires, E.L. 1984. Embryo transplant produces twin foals. *California Horse Review*, July:41.
43. Squires, E.L. 1984. Embryo transfer foals. *IAHA*, July/August.
44. Squires, E.L. 1984. Clones on the range. *Discover*, August:35.
45. Squires, E.L. 1984. Biotechnology results in manufactured, identical twin foals. *Texas Thoroughbred*, August:47.
46. Squires, E.L. 1984. Split embryo twins born at CSU -- first in nation. *Equine Sciences Newsletter*, Summer 3(1):1.
47. Squires, E.L. 1984. Twins -- twice the risk or twice the potential? *Equine Sciences Newsletter*, Summer 3(1):3.
47. Squires, E.L. 1984. Brave new world embryo transfer: Its application and implications. *Arabian Horse World* 24(September):426-431.
49. Squires, E.L. 1984. Health highlights. *Arabian Horse Times*, September:188.
50. Squires, E.L. 1984. Das doppelte Fohlen. *Stern Magazine*, October.
51. Squires, E.L. 1984. Cloned colts get long odds from breeders. *Biology*, p. 43.
52. Squires, E.L., J.L. Voss and R.K. Shideler. 1984. Use of Regumate for the broodmare. *Equine Sciences Newsletter*, Winter 2(3):5-6.
53. Squires, E.L. 1984. Ultrasound: Is what we know hurting us? *Equine Sciences Newsletter*, Summer 3(1):4-5.
54. Clay, C.M., R.P. Amann and E.L. Squires. 1984. Research continues on effect of daily illumination on stallions. *Equine Sciences Newsletter*, Fall 3(2):4-5.
55. Squires, E.L. 1985. 1985 research plans announced. *Equine Sciences Newsletter*, Spring 3(4):1.

## E.L. Squires

## Popular Articles

56. Clay, C.M., E.L. Squires and R.P. Amann. 1985. Influence of daylength on reproduction in stallions. *Quarter Horse Journal*, April:216-219.
57. Clay, C.M., E.L. Squires and R.P. Amann. 1985. Daylength influence on stallion reproduction. *Equine Vet. Data* 6(9):134-135.
58. Squires, E.L. 1985. Embryo transfer--Breeding the best with the best. *Eventer*, Spring:9.
59. Squires, E.L. 1985. Embryo transfer: Useful tool for breeders. *Paint Horse Journal* 19(4):34-35.
60. Squires, E.L. 1985. Embryo transfer: The process. *Paint Horse Journal* 19(4):39.
61. Squires, E.L. 1985. The great switch: Embryo transfer made easy. *Paint Horse Journal* 19(4):36-38.
62. Squires, E.L. 1985. Fear of 'designer genes'. *QuarterWeek*, February 8.
63. Squires, E.L. 1985. Speeding up Mother Nature. *QuarterWeek*, February 15.
64. Squires, E.L. 1985. The AQHA and the embryo. *QuarterWeek*, March 1.
65. Squires, E.L. 1985. Saving threatened pregnancies. *Blood-Horse*, June 1:3707-3709.
66. Squires, E.L. 1985. Horse care. *Quarter Horse Track*, June.
67. Squires, E.L. 1985. Frozen semen: A viable technology? *Modern Horse Breeding* 2(8):12-15.
68. Squires, E.L. 1986. How much progesterone does your mare have? *Modern Horse Breeding* 3.
69. Squires, E.L. 1986. Equine Reproduction Laboratory announces 1986 research plans. *Equine Sciences Newsletter*, Winter 4(3):1.
70. Squires, E.L. 1986. ERL describes summer research. *Equine Sciences Newsletter*, Summer 5(1):5.
71. Squires, E.L. 1987. From puberty to pregnancy. *Equine Sciences Newsletter*, Spring 5(4):4-5.
72. Squires, E.L. 1987. Transportation risks minimal for pregnant mares. *Equine Sciences Newsletter*, Fall 6(1):1.
73. Squires, E.L. 1987. Hitting the road in early pregnancy: too much, too soon? *Modern Horse Breeding* 4(9):5-7.
74. Squires, E.L. 1988. Breeding for world-class performance. *Horse Care*, Spring:24-26.
75. Johnson, J.A. and E.L. Squires. 1988. Is she hot — or is she not? *Equine Sciences Newsletter*, Winter 6(3):4-5.

## E.L. Squires

## Popular Articles

76. Davidoff, B. and E.L. Squires. 1988. Research evaluates altrenogest therapy. *Equine Sciences Newsletter*, Summer 7(1):1.
77. Squires, E.L. 1989. The reproductive tract. *The Quarter Horse Journal*, Jan:74-76.
78. Squires, E.L. 1989. New research eases embryo transfer problems. *Equine Sciences Newsletter* 7(3):6.
79. Squires, E.L. 1989. The sky's the limit: Jet-setting embryos. *Equine Sciences Newsletter* 7(4):6.
80. Squires, E.L. 1989. Prolonging productivity in your stallion. *The Quarter Racing Journal*, Dec:34-36.
81. Squires, E.L. 1990. Safety of Regu-mate for use in pregnant mares. *Equine Sciences Newsletter*, Winter 8(3):3-4.
82. Squires, E.L. 1990. Effect of uterine fluid during estrus or diestrus on fertility in mares. *Equine Sciences Newsletter*, Spring 8(4):3.
83. Lynch, B. and E.L. Squires. 1990. Federal Express foals. *Appaloosa Journal*, Oct:54-57.
84. Lynch, B. and E.L. Squires. 1990. Frozen semen: Pros vs cons. *Appaloosa Journal*, Oct:58-59.
85. Squires, E.L. 1990. Reproductive evaluation of stallions. *Equine Sciences Newsletter*, Summer 9(1):1-2.
86. Squires, E.L. 1990. Use of GnRH to improve reproductive performance of stallions. *Equine Sciences Newsletter*, Summer 9(1):6.
87. Squires, E.L. and R.K. Shideler. 1990. Endometritis major cause of infertility in mares. *Quarter Horse Journal*, Dec:98, 144, 146.
88. Squires, E.L. 1991. Jet setting stallion semen. *Arabian Horse World*, Jan:420-425.
89. Squires, E.L. 1991. Jet setting stallion semen. *Equine Sciences Newsletter*, Spring 9(4):4-5.
90. Squires, E.L. 1991. Dealing with uterine infection. *Quarter Horse Journal*, Jan:72, 156-158.
91. Loomis, P.R. and E.L. Squires. 1991. Sperm on ice. *Arabian Horse World*, April:162-169.
92. Squires, E.L. 1991. Jet setting stallion semen. *Rocky Mountain Quarter Horse*, May:12-15.
93. Jasko, D.J., J.M. Martin and E.L. Squires. 1991. Insemination volume versus embryo recovery. *Equine Sciences Newsletter*, Fall 10(2):3-4.
94. Swinker, A.M. and E.L. Squires. 1992. Transported semen – it absolutely, positively has to be there overnight. *Voice Magazine*.

## E.L. Squires

## Popular Articles

95. Squires, E.L. 1992. Update on equine embryo transfer in horses. American Embryo Transfer Association Newsletter.
96. Squires, E.L. 1992. Further studies on endometritis. Quarter Horse Journal, May:44, 64.
97. Squires, E.L. and D.J. Jasko. 1992. Research highlights. Equine Sciences Newsletter, Spring 10(4):2-3.
98. Squires, E.L. 1992. How much is enough? Quarter Horse Journal, Oct. 171:263-264.
99. Squires, E.L. 1992. Research highlights. Equine Sciences Newsletter, Fall 11(2):4-5.
100. Snow, Angela and E.L. Squires. 1992. Sexual behavior of the stallion: Is abnormal normal? Quarter Horse Journal, Dec:50-51.
101. Lynch, Betsy and E.L. Squires. 1992. Shedding light on fertility. Paint Horse Journal, Dec:42-46.
102. Snow, Angela and E.L. Squires. 1993. Breeding techniques and understanding the stallion. The Quarter Horse Journal, Jan:46-48.
103. Squires, E.L. and J.E. Knowles. 1993. Changing of the guards. Quarter Horse J., Sept:69-71.
104. Squires, E.L. 1993. Equine Reproduction Laboratory. Equine Sciences Newsletter, Summer 12(1):2-3.
105. Squires, E.L. and John Knowles. 1993. Commercial programs at the Equine Reproduction Laboratory. Equine Sciences Newsletter, Summer 12(1):4-5.
106. Squires, E.L. 1993. Where did they all come from? Equine Sciences Newsletter, Fall 12(2):4.
107. Squires, E.L. 1994. Equine embryo transfer. Equine Sciences Newsletter, Winter 12(3):1.
108. Squires, E.L. 1994. Comings and goings. Equine Sciences Newsletter, Spring 12(4):7.
109. Chamberlain, R. and E.L. Squires. 1994. Pointing the finger: Preparing stallions for breeding season. Quarter Racing J., Dec.:44-47.
110. Squires, E.L., C.M. Clay and T.R. Sissener. 1994. Baby talk. Quarter Horse Journal.
111. Squires, E.L. and J.K. Graham. 1994. New methods for evaluation of stallion semen. Quarter Horse Journal.
112. Squires, E.L. and S.L. Badzinski. 1995. Boys will be boys. Quarter Horse Journal.
113. Squires, E.L. 1995. Everything you need to know about transported semen. Inside International, Dec.
114. Squires, E.L. 1997. Failure of passive transfer. The Horse, December, pp. 62-66.



**E.L. Squires****Popular Articles**

115. Squires, E.L. 1997. Foal sexing: Test-tube foals. *Arabian Horse Times*, December, pp. 306-311.
116. Squires, E.L. 2006. Editorial -- How far have we come in equine reproduction? *The Horse*
117. Sellnow, L. and E.L. Squires. 2006. Insemination techniques. *The Horse*
118. Squires, E.L. 2006. Improving a stallion's reproductive performance. *QH Journal*
119. Sellnow, L. and E.L. Squires. 2007. Deep horn vs. video endoscope: The low-dose lowdown. *Quarter Horse News*, Feb. 15:114-119.

**Extension Publications**

University of Kentucky Maxwell H. Gluck Equine Research Center – Reproductive Biology Brochure (2009)

University of Kentucky Maxwell H. Gluck Equine Research Center – Infectious Disease Brochure (2009)

University of Kentucky Maxwell H. Gluck Equine Research Center – Departmental Brochure (2009)

University of Kentucky Gluck Equine Research & Service Report – Spring 2009

University of Kentucky Gluck Equine Research & Service Report – Fall 2009

**eNewsletter**

Bluegrass Equine Digest: Serve as editor for monthly electronic newsletter with a subscription of more than 10,000 (as of October 2009) per month.

**Video Interview**

TheHorse.com, Nov. 25, 2008

**Editorials**

12 editorials for *Journal of Equine Veterinary Science* (January-December 2009)

E.L. Squires

**Speaking Engagements****Speaking Engagements, 2003-2007:****2003**

*Current Status of Embryo Technologies in Horses* X International Embryo Transfer Society Annual Meeting, Auckland, New Zealand

*Stallion Reproduction* X 5th Annual Resort Symposium, Queenstown, New Zealand

*Mare Reproductive Management* X SBS Veterinary Symposium, Winners Circle Equine Center, Hemet, CA

*Stallion Reproductive Management* X SBS Veterinary Symposium, Winners Circle Equine Center, Hemet, CA

*Pregnancies from Oocytes Collected from the Ovaries of Mares Euthanized for Medical Reasons* X First Annual Focus Meeting, American Association of Equine Practitioners, Fort Collins, CO

*Low Dose Insemination* X Live Horse Demo, First Annual Focus Meeting, American Association of Equine Practitioners, Fort Collins, CO

*Fertility Results of Fresh, Cooled and Frozen Equine Semen* X 4th Annual Texas Breeders Forum, Fort Worth, TX

*Superovulation of the Mare* X 4th Annual Texas Breeders Forum, Fort Worth, TX

*Anatomy, Physiology, and Management of Stallions* X 15th Central Veterinary Conference, Kansas City, MO

*Anatomy and Physiology of Mares* X 15th Central Veterinary Conference, Kansas City, MO

*Estrous Cycle Control* X 15th Central Veterinary Conference, Kansas City, MO

*Pregnancy Detection and Twins* X 15th Central Veterinary Conference, Kansas City, MO

*Embryo Transfer* X 15th Central Veterinary Conference, Kansas City, MO

*Assisting Reproduction* X 15th Central Veterinary Conference, Kansas City, MO

*Factors Affecting Fertility of Cooled and Frozen Semen* X 15th Central Veterinary Conference, Kansas City, MO

*Advances in Equine Superovulation* X American Embryo Transfer Association and Canadian Embryo Transfer Association Joint Meeting, Calgary, Canada

*Effect of Repeated Embryo Collection Attempts on Uterine Health in Mares* X Society for Theriogenology Annual Conference, Columbus, OH

*Comparison of Dimethyl Formamide and Glycerol for Cryopreservation of Equine Spermatozoa* X Society for Theriogenology Annual Conference, Columbus, OH

E.L. Squires

**Speaking Engagements**

*Freezing Equine Oocytes* X Havemeyer Foundation Symposium: Transporting Gametes and Embryos, Cape Cod, MA

*Factors Affecting Fertility of Cooled Semen* X Advanced Reproductive Techniques in the Horse: Practical Applications for Mare and Stallion Management, Temecula, CA

*Advantages and Disadvantages of Frozen Semen* X Advanced Reproductive Techniques in the Horse: Practical Applications for Mare and Stallion Management, Temecula, CA

*Mare Management and Breeding Strategies for Cooled and Frozen Semen* X Advanced Reproductive Techniques in the Horse: Practical Applications for Mare and Stallion Management, Temecula, CA

*Assisted Reproduction in Mares* X University of Missouri, Columbia, MO

*Assisted Reproduction in Mares* X Louisiana State University, Baton Rouge, LA

*Simplified Strategy for Insemination of Mares with Frozen Semen* X 49th Annual Convention of the American Association of Equine Practitioners, New Orleans, LA

*A Review on the Use of eFSH to Enhance Reproductive Performance* X 49th Annual Convention of the American Association of Equine Practitioners, New Orleans, LA

**2004**

*Hormonal Management of Mares* X North Texas Equine Practitioners= Association 12th Winter Seminar, Dallas, TX

*Assisted Reproduction in the Equine* X North Texas Equine Practitioners= Association 12th Winter Seminar, Dallas, TX

*Cooled and Frozen Equine Semen* X North Texas Equine Practitioners= Association 12th Winter Seminar, Dallas, TX

*Factors Affecting Pregnancy Rates in Mares when Using Cooled Semen* X Desert Valley Equine Center Seminar, Redmond, OR

*Factors Affecting Pregnancy Rates in Mares when Using Frozen Semen* X Desert Valley Equine Center Seminar, Redmond, OR

*Hormonal Management of Mares* X Desert Valley Equine Center Seminar, Redmond, OR

*Assisted Reproductive Techniques for Mares and Stallions* X Desert Valley Equine Center Seminar, Redmond, OR

*Recent Advances in Equine Reproduction* X Northwest Equine Practitioners Association, Portland, OR

E.L. Squires

**Speaking Engagements***Hormonal Management of the Mare* X Zwolle International Stallion Show, Utrecht, The Netherlands*Assisted Reproduction of the Mare* X Zwolle International Stallion Show, Utrecht, The Netherlands*Disadvantages and Advantages of Frozen Semen* X Equine Seminar, SBS Northgermany, Bakum-Lusche, Germany*Embryo Transfer* X Equine Seminar, SBS Northgermany, Bakum-Lusche, Germany*Factors Affecting Pregnancy Rates* X Equine Seminar, SBS Northgermany, Bakum-Lusche, Germany*Equine Reproduction* X Cody Equine Seminar, J-9 Ranch, Cody, WY*Advances in Equine Superovulation* X International Symposium on Equine Embryo Transfer, Rio de Janeiro Brazil**2005***Treating the Problem Mare – Getting and Keeping her in Foal* X Florida Thoroughbred Farm Managers' Inc. Dinner Meeting, Ocala, FL*Management of the Mare for Breeding with Cooled and Frozen Semen* X National Reining Horse Association Convention, New Orleans, LA*Treatment of Problem Mares with Settle* X Breeding, Foaling, Feeding & More! A Seminar for Horse Owners and Breeders, NJ*Anatomy & Physiology of the Broodmare* X Breeding, Foaling, Feeding & More! A Seminar for Horse Owners and Breeders, NJ*Estrous Cycle Control in the Broodmare* X Breeding, Foaling, Feeding & More! A Seminar for Horse Owners and Breeders, NJ*Repro Roundtable: Ask Your Specific Reproduction Questions* X Breeding, Foaling, Feeding & More! A Seminar for Horse Owners and Breeders, NJ*Use of Hormones in Mares* X DVM Sales Group, Dallas, TX*Use of Settle for Problem Mares* X Oklahoma City Equine Practitioners, Oklahoma City, TX*Reproductive Techniques for Problem Mares* X Kentucky Farm Managers meeting, Lexington, KY*Reproductive Techniques for Problem Mares* X Kentucky Association of Equine Practitioners Annual Membership Meeting, Lexington, KY*Embryo Recovery: Procedures and Factors Affecting Success* X Seminar: Advanced Reproductive Techniques in the Horse: Practical Applications of Embryo Transfer, Redmond, OR

E.L. Squires

**Speaking Engagements**

*Embryo Transfer: Procedures and Factors Affecting Pregnancy Rates* X Seminar: Advanced Reproductive Techniques in the Horse: Practical Applications of Embryo Transfer, Redmond, OR

*Cooled Transported Embryos* X Seminar: Advanced Reproductive Techniques in the Horse: Practical Applications of Embryo Transfer, Redmond, OR

*Assisted Reproduction* X Seminar: Advanced Reproductive Techniques in the Horse: Practical Applications of Embryo Transfer, Redmond, OR

*Superovulation* X Seminar: Advanced Reproductive Techniques in the Horse: Practical Applications of Embryo Transfer, Redmond, OR

*Breeding Mares in the 21st Century* X Arkansas Veterinary Medical Association 98th Winter Meeting, Little Rock, AR

*What's New in Follicular Development* X West Coast Equine Reproduction Symposium, Solvang, CA

*Updates on Factors Affecting Fertility of Cooled and Frozen Semen* X West Coast Equine Reproduction Symposium, Solvang, CA

*Wet Lab: Grading and Packaging Embryos and Embryo Vitriification* X West Coast Equine Reproduction Symposium, Solvang, CA

*Evaluation of Several eFSH Treatments for Superovulation in Mares* X Society for Theriogenology Annual Meeting, Charlotte, SC

*New Strategies in the Processing and Application of Frozen and Cooled Semen in the Equine* X XIX Annual Meeting of the Brazilian Society of Technology of Embryos, Rio de Janeiro, Brazil

*Perspectives on the Use of Biotechnology in Equine Reproduction* X XIX Annual Meeting of the Brazilian Society of Technology of Embryos, Rio de Janeiro, Brazil

*What to Expect When Superovulation Mares with eFSH: Equine Embryo Vitriification* X Equine ET 101 Seminar, 2005 American Embryo Transfer Association and Canadian Embryo Transfer Association Joint Convention, Minneapolis, MN

*Embryo Vitriification* X International Equine Gamete Group, Havemeyer Symposium, Kühlungsborn, Germany

**2006**

*Assisted Reproduction for the Mare and Stallion* X Italian Equine Practitioners, Bologna, Italy

*Factors Affecting Embryo Recovery* X Italian Equine Practitioners, Bologna, Italy

*Superovulation of Mares and Embryo Freezing* X Italian Equine Practitioners, Bologna, Italy

E.L. Squires

**Speaking Engagements**

*Management of Donors and Recipients* X Italian Equine Practitioners, Bologna, Italy

*Anatomy and Physiology* X Mississippi Valley Equine Veterinarians, IL

*Infertility in Mares* X Mississippi Valley Equine Veterinarians, IL

*Pregnancy Detection and Twins* X Mississippi Valley Equine Veterinarians, IL

*Assisted Reproduction for the Mare and Stallion* X Mississippi Valley Equine Veterinarians, IL

*Factors Affecting Fertility of Cooled and Frozen Semen* X Mississippi Valley Equine Veterinarians, IL

*Estrous Cycle Control* X Mississippi Valley Equine Veterinarians, IL

*Management of Stallions* X Mississippi Valley Equine Veterinarians, IL

*Factors Affecting Sperm Output* X Equine Practitioners Meeting, Rolduc, The Netherlands

*Factors Affecting the Response to Administration of Equine FSH* X 9th International Symposium on Equine Reproduction, Kerkrade, The Netherlands

*Superovulation and Embryo Freezing* X Bioniche Annual Business Meeting

*Summary of Recent Studies in Equine Reproduction* X Society for Theriogenology Annual Meeting, St. Paul, MN

*Wet Lab: Embryo Vitrification* X Bluegrass Equine Reproduction Symposium, Lexington, KY

*Emerging Reproductive Technology* X Bluegrass Equine Reproduction Symposium, Lexington, KY

*Results of Using Cooled and Frozen Semen* X British Equine Veterinary Association, Nottingham, England

*Embryo Transfer* X British Equine Veterinary Association, Nottingham, England

*Assisted Reproductive Technology* X British Equine Veterinary Association, Nottingham, England

*Recent Advances in Equine Reproduction* X Portland Equine Practitioners, Portland, OR

*Recent Advances in Equine Reproduction* X Southern California Practitioners, Temecula, CA

*Recent Research in Stallion Reproduction* X Select Breeders Services Annual Meeting, San Antonio, TX

*Use of eLH, eFSH, Magnitude and Settle* X Bioniche Research Meeting, San Antonio, TX

**2007**

E.L. Squires

**Speaking Engagements**

*Managing Stallions* X Conferencia International de Caballos de Deporte (CICADE), Costa Rica

*Factors that Improve Embryo Transfer Rates* X Conferencia International de Caballos de Deporte (CICADE), Costa Rica

*Management of the Mare and Stallion* X Colorado Breeder's Seminar, Colorado State University, Fort Collins, CO

*Vitrification, Superovulation and Endometritis* X Biotay Equine Practitioners Meeting, Argentina

*Breeding the Problem Mare* X Biotay Equine Practitioners Meeting, Argentina

*Advances in Equine Reproduction* X EquiScience Veterinary Spring Seminar, Bellingham, WA

*Advances in Equine Reproduction* X Equine Seminar, Emerald Downs, Auburn, WA

*Stallion Reproduction* X Florida Thoroughbred Association, Ocala, FL

*The Role of Omega-3 and -6 Fatty Acids in Regulation of Reproductive Function in Horses* X ADSA/PSA/AMPA/ASAS Joint Annual Conference, San Antonio, TX

*Program Chair for Equine Embryo Transfer Symposium* X Society for Theriogenology Annual Meeting, Monterey, CA

*Assessing Embryo Quality Prior to Transfer* X Society for Theriogenology Annual Meeting, Monterey, CA

*Use of eFSH for Broodmare Reproduction* X Bioniche Animal Health Annual Meeting, Athens, GA

*Anatomy and Physiology of the Mare* X Bioniche Animal Health Canada, Belleville, Ontario

*Use of eFSH and Settle for Treatment of Mares* X Bioniche Animal Health Canada, Belleville, Ontario

*Status of the use of eFSH* X Bioniche Research Meeting, Belleville, Ontario

*Use of Settle for Treatment of Endometritis* X Bioniche Research Meeting, Belleville, Ontario

*Stallion Management* X New England Regional Veterinary Conference, Portland, ME

*Hormonal Control of the Mare's Cycle* X New England Regional Veterinary Conference, Portland, ME

*Breeding the Problem Mare* X New England Regional Veterinary Conference, Portland, ME

*Twinning and Early Embryonic Death* X New England Regional Veterinary Conference, Portland, ME

*Cooled and Frozen Semen* X New England Regional Veterinary Conference, Portland, ME

E.L. Squires

**Speaking Engagements**

*New Reproductive Techniques* X New England Regional Veterinary Conference, Portland, ME

*Assisted Reproductive Techniques in the Horse* X Kentucky Veterinary Medical Association Annual Meeting/Annual Mid-America Veterinary Conference, Louisville, KY

*Recent Advances in Equine Reproduction* X Kentucky Veterinary Medical Association Annual Meeting/Annual Mid-America Veterinary Conference, Louisville, KY

*Hormonal and Non-Hormonal Management of the Broodmare* X Kentucky Veterinary Medical Association Annual Meeting/Annual Mid-America Veterinary Conference, Louisville, KY

*Improving a Stallion's Reproductive Performance* X Kentucky Veterinary Medical Association Annual Meeting/Annual Mid-America Veterinary Conference, Louisville, KY

*Advances in Equine Reproduction* X University of Kentucky, Lexington, KY

*Acceptance Speech* X Induction to Equine Research Hall of Fame, Gluck Center, University of Kentucky, Lexington, KY

*Diagnostic Techniques for Evaluating Stallion Sperm* X Select Breeders Service Annual Meeting, Sacramento, CA

*Variation in Progesterone in Early Gestation after Nonsurgical Embryo Transfer* X AAEP Scientific Program, AAEP Annual Convention, Orlando, FL

*Changes in the Way We Breed Mares. Is it Good or Bad?* X ARBL Seminar Series, Colorado State University, Fort Collins, CO

*Omega-3 Fatty Acids* X Department of Animal Science, Texas A&M University, College Station, TX

**Short Courses, CSU**

Equine Reproductive Management and Artificial Insemination, Jan 3-6, 2003

Techniques for Handling and Utilizing Transported Cooled Equine Spermatozoa, Jan 7, 2003

Techniques for Handling and Utilizing Transported Frozen Equine Spermatozoa, Jan 8, 2003

Basic Equine Reproductive Ultrasonography, Sept 8, 2003

Equine Embryo Transfer, Sept 8-10, 2003

Basic Equine Reproductive Ultrasonography, Sept 25, 2003

Equine Embryo Transfer, Sept 26-28, 2003



**E.L. Squires****Speaking Engagements**

Equine Reproductive Management and Artificial Insemination, Nov 6-9, 2003

Techniques for Handling and Utilizing Transported Cooled Equine Spermatozoa, Nov 10, 2003

Techniques for Handling and Utilizing Transported Frozen Equine Spermatozoa, Nov 11, 2003

Equine Reproductive Management and Artificial Insemination, Jan 15-18, 2004

Techniques for Handling and Utilizing Transported Cooled Equine Spermatozoa, Jan 19, 2004

Techniques for Handling and Utilizing Transported Frozen Equine Spermatozoa, Jan 20, 2004

Basic Equine Reproductive Ultrasonography, Sept 23, 2004

Equine Embryo Transfer, Sept 24-26, 2004

Equine Reproductive Management and Artificial Insemination, Nov 4-7, 2004

Techniques for Handling and Utilizing Transported Cooled Equine Spermatozoa, Nov 8, 2005

Techniques for Handling and Utilizing Transported Frozen Equine Spermatozoa, Nov 9, 2005

Equine Reproductive Management and Artificial Insemination, Jan 14-17, 2005

Techniques for Handling and Utilizing Transported Cooled Equine Spermatozoa, Jan 18, 2005

Techniques for Handling and Utilizing Transported Frozen Equine Spermatozoa, Jan 19, 2005

Basic Equine Reproductive Ultrasonography, Sept 29, 2005

Equine Embryo Transfer, Sept 30-Oct 2, 2006

Equine Reproductive Management and Artificial Insemination, Nov 2-5, 2005

Techniques for Handling and Utilizing Transported Cooled Equine Spermatozoa, Nov 6, 2005

Techniques for Handling and Utilizing Transported Frozen Equine Spermatozoa, Nov 7, 2005

Equine Reproductive Management and Artificial Insemination, Jan 12-15, 2006

Techniques for Handling and Utilizing Cooled Semen, Jan 16, 2006

Techniques for Handling and Utilizing Frozen Semen, Jan 17, 2006

Basic Equine Reproductive Ultrasonography, Sept 28, 2006

Equine Embryo Transfer, Sept 29-Oct 1, 2006

Assisted Reproductive Techniques, Oct 2-3, 2006

Equine Reproductive Management and Artificial Insemination, Nov 2-5, 2006

**E.L. Squires****Speaking Engagements**

Techniques for Handling and Utilizing Cooled Semen, Nov 6, 2006

Techniques for Handling and Utilizing Frozen Semen, Nov 7, 2006

Equine Reproductive Management and Artificial Insemination, Jan 12-15, 2007

Techniques for Handling and Utilizing Cooled Semen, Jan 16, 2007

Techniques for Handling and Utilizing Frozen Semen, Jan 17, 2007

Equine Reproduction Symposium, The Problem Mare and Stallion, Sept 30-Oct 1, 2007

Basic Equine Reproductive Ultrasonography, Oct 2, 2007

Equine Embryo Transfer, Oct 3-5, 2007

Equine Reproductive Management and Artificial Insemination, November 1-4, 2007

Techniques for Handling and Utilizing Cooled Semen, November 5, 2007

Techniques for Handling and Utilizing Frozen Semen, November 6, 2007

Equine Reproductive Management and Artificial Insemination, January 10-13, 2008

Techniques for Handling and Utilizing Cooled Semen, January 14, 2008

Techniques for Handling and Utilizing Frozen Semen, January 15, 2008

**Presentations 2008-2009**

BET Pharma Veterinary Conference, 1/27, 1.5 hour lecture, Lexington, KY

Kentucky Breeder's Short Course, 2/1, 2 hour lecture, Louisville, KY

Pilchuck Veterinary Clinic, 2/5, 2 hour lecture, Seattle, WA

Honalee Veterinary Clinic, 2/6-2/7, 16 hour lecture and lab, Portland, OR

Kentucky Thoroughbred Association, 2/11, 1 hour, Lexington, KY

Kentucky Equine Practitioners, 1/22, Panel on Contagious Equine Metritis, 2 hours, Lexington, KY

American Saddlebred Annual Convention, 2/14, 1 hour lecture, Lexington, KY

TNT Equine Clinic, 2/18, 1 hour lecture, Dover, NH

University of Massachusetts, 2/19, 1 hour lecture, Amherst, Mass.

Equine News & Brews, 2/26, 1 hour lecture, Lexington, KY

Livestock and Disease Seminar, 4/30, speaker, 30 minutes, Lexington, KY

West Liberty Kentucky, 4/30, speaker, 30 minutes

Equine Science Society, 5/28-5/30, Invited speaker, 1 hour, Keystone, CO

Central Kentucky Veterinary Conference, 6/22-6/23, Co-program chair, speaker, 1 hour, Lexington, KY

Golburn Valley Equine Clinic, 6/24-7/3, Invited speaker, 6 hours, Sheparaton, VC, Australia

Australian College of Veterinary Scientist, 7/3-7/5, Invited speaker, 2 hours, Gold Coast, Australia

Bioniche Annual meeting, 8/18-8/19, paid consultant, Bogart, GA

Intervet Reproduction Short Course, 10/27-10/28, 12 hours

Intervet Equine Advisory Council, 11/5, 8 hours

Bioniche Animal Health meeting, "Role of Immunomodulators for treatment of endometritis in mares," 12/5, Las Vegas, NV

**Speaking Engagements**

Select Breeders Annual Conference, "Review of recent studies in stallion semen technology," 12/11, Las Vegas, NV

**Short Courses, Non-CSU**

- Jan 23-24, 2006      Equine Reproduction Short Course for Millburn Sales Representatives, Colorado State University, Fort Collins, CO, E.L. Squires  
Lectures:      "Estrous Cycle Control"  
                         "Anatomy & Physiology"  
                         "Stallion Management"
- Feb 21-22, 2006      Embryo Transfer Short Course, Toronto, Canada, E.L. Squires  
In-depth course on embryo transfer
- Feb 23-24, 2006      Embryo Transfer Short Course, Red Deer, Canada, E.L. Squires  
In-depth course on embryo transfer
- Feb 16-17, 2007      Equine Reproduction Short Course, Penn State University, University Park, PA, E.L. Squires

**Research Funding**

<b>Title</b>	<b>Source</b>	<b>Amount</b>	<b>Dates</b>	<b>Role</b>
Embryo transfer techniques	Norgren Foundation	7,500	1979-83	PI
Unrestricted gift	David Johns	25,000	1980	Co-PI
Filters for equine spermatozoa	Buena Suerta	4,000	1981	Co-PI
Unrestricted gift	O.L. Scott	15,000	1981	Co-PI
Evaluation of frozen-thawed semen	Green Hills Farms	20,000	1982	Co-PI
Mare studies	Norgren Foundation	2,500	1982	PI
Reproduction studies in horses	Chauncey Arabians	25,000	1982	PI
Development of embryo transfer techniques	Don Crawford Farm	40,000	1983	Co-PI
Equine embryo transfer	LK Ventures	80,000	1983	PI
Equine embryo transfer	Marc St. James	50,000	1983-84	PI
Use of GnRH in stallions with testicular degeneration	Dumke Foundation	11,080	1984	Co-PI
Equine embryo transfer	LK Ventures	88,000	1984	PI
Superovulation in mares	Smith Farms	30,000	1984	Co-PI
Procedures for freezing & evaluating equine semen	Smith Farms	20,000	1985-87	Member
Studies in equine embryo transfer	Van Camp Arabians	165,000	1985-88	PI
Neutrophil function	Hamilton Thorne	20,000	5/87-10/88	
Use of GnRH for ovulation control in transitional and cycling mares	College Research Council (CRC)	12,860	7/87-6/88	PI
Development of the hypothalamic-pituitary gonadal axis in prepubertal horses	CRC	19,365	7/87-6/88	PI
Uterine defense mechanism in the mare: Causes of lowered fertility in infected mares	AQHA	34,072	10/87-9/88	PI
Use of GnRH for control of ovulation	CEVA	21,470	1/88-12/88	PI
Hastening ovulation in transitional mares	Hoechst	24,356	1/88-9/88	PI
Equine embryo transfer	Van Camp Arabians	40,000	1/88-12/88	PI
Evaluation of formulations for altrenogest	Hoechst	22,612	6/88-12/88	PI
Bi-section of equine embryos	CRC	15,000	7/88-6/89	Co-PI
Use of GnRH agonist for induction of multiple ovulations	CRC	13,000	7/88-6/89	PI
Further studies on equine endometritis	AQHA	33,182	10/88-9/89	PI
Bisection of equine embryos	Merritt Foundation	11,290	1987-88	Co-PI

**Research Funding**

<b>Title</b>	<b>Source</b>	<b>Amount</b>	<b>Dates</b>	<b>Role</b>
Evaluation of methods for freezing equine embryos	Smith Farms	15,200	1987-88	Member
Use of GnRH in stallions with testicular degeneration	El Gran Senor Syndicate	10,000	1988	Co-PI
GnRH & testicular degeneration	Seattle Slew Foundation	30,000	1988	Co-PI
Use of GnRH in stallions with testicular degeneration	Dumke Foundation	15,000	1988-89	Co-PI
Evaluation of methods of capacitating stallion sperm in vitro	CRC	12,800	7/89-6/90	PI
Amana study	W.R. Grace	58,565	1989	Co-PI
Equine reproduction	Private Donors	36,000	1989	Co-PI
Gift of sperm motion analyzer	Hamilton Thorne	32,650	4/90	PI
Factors affecting the success of superovulation in mares	CRC	14,900	7/90-6/91	PI
Relationship of progesterone to early pregnancy loss in mares	AQHA	68,240	10/90-9/92	PI
Induction of fertile ovulations in anestrus mares using biocompatible implants delivering GnRH	Peptide Technology	87,000	1990-92	PI
Comparison of two different lighting regimens for hastening ovulation in mares	Horse Light Partnership, Inc.	108,911	1990-1993	PI
Comparison of synchronization methods in mares	Hoechst-Roussel Agri- Vet	24,541	1990-93	PI
In vitro fertilization in mares	Dunromin' Arabians	32,000	1990-95	Co-PI
Estrous cycle control in mares	Thornbrook Farm	30,000	1990-91	PI
Studies in equine reproduction	Scottsdale Arabian Horse Show	8,500	1990-91	PI
Goserelin acetate on induction	Pitman Moore	70,355	1991-92	PI
Evaluation of Lutamate plus biodegradable microspheres in horses	Thornbrook Farms	28,232	1991	PI
Oocyte maturation and in vitro fertilization	Dunromin' Arabians	10,000	1991	PI
Development of techniques for cooled and frozen-thawed stallion semen	Arabian Horse Registry	104,900	1991-96	PI
Frozen semen studies	Arabian Breeders	60,000	1991-95	PI
In vitro fertilization in mares	Callaway Hill Farm	10,000	1992	Co-PI
Relationship of progesterone to early pregnancy loss in mares	AQHA	29,309	1992	PI
Deslorelin STI for the acceleration of ovulation in the mare:	Peptide Technology	16,995	1992-93	PI

## Research Funding

Title	Source	Amount	Dates	Role
Reproductive safety (RS) studies				
Evaluation of bioequivalence of altrenogest/regumate	Hoechst-Roussel Pharmaceutical Co.	31,539	10/92-9/93	PI
Suppression of sexual and aggressive behavior in stallion	CRC	11,802	3/93-6/94	PI
Synchronization of estrus in mares with lutamate	Thornbrook Farms	10,000	7/93-1/94	PI
Alteration of follicular development in the mare and evaluation of oocytes harvested by ultrasound-guided follicular aspiration	CRC	15,500	7/93-6/94	PI
Restoration of sexual behavior and seminal characteristics using GnRH	Mary Molloy	15,000	7/93-6/94	Co-PI
Identification of factor(s) responsible for pregnancy recognition and maintenance of pregnancy	AQHA	35,916	10/93-9/95	PI
Suppression of sexual and aggressive behavior in stallions	AQHA	24,452	10/93-9/94	PI
Safety evaluation of moxidectin gel on breeding stallions	American Cyanamid Co.	121,971	5/94-10/94	PI
Analysis of stallion spermatozoa using flow cytometry	AQHA	13,511	10/94-9/96	PI
Development of new laboratory techniques for evaluation of stallion semen. II. Relationship to fertility of stallions	CRC	24,802	7/94-6/95	PI
	CRC	38,000	7/95-6/96	Co-I
	McCloud Pharmaceuticals	40,000	1995	PI
	Arizona Horse Lover's Association	10,000	1995	PI
Frozen semen	Arabian Horse Registry	50,000	1995-97	PI
Assessment of equine sperm capacitation using a chlortetracycline fluorescence assay	Dunromin' Arabians	10,000	3/96-3/97	PI
Bioequivalence study	Hoechst-Roussel	83,557	5/96-10/96	PI
Production of equine embryos by intracytoplasmic sperm injection	CRC	49,820	7/96-6/98	PI
Fertilization of equine gametes in the rabbit oviduct	Dunromin' Arabians	10,000	8/97-12/97	Co-I
Hormonal regulation of oxytocin secretion during luteolysis in the mare	AQHA	24,819	10/96-9/97	Co-I

E.L. Squires

**Research Funding**

<b>Title</b>	<b>Source</b>	<b>Amount</b>	<b>Dates</b>	<b>Role</b>
Enhanced follicular stimulation as a means of increasing pregnancy rates of subfertile stallions	CRC	23,632	10/96-9/97	PI
Oviductal insemination in the mare	CRC	12,000	10/96-12/97	Co-I
Temporal trends in semen quality in bulls and stallions: A comparative model for human health?	CRC	16,500	1996-97	Co-I
PEG Program	Dunromin' Arabians	10,000	1996-2001	
	Mangeris	10,000	1996-2001	
	Stove Prairie Ranch	10,000	1996-2001	
	Grand Arabian	10,000	1996-2001	
	Strawberry Bank	10,000	1996-2001	
	Las Colinas	10,000	1996-2001	
	Cre-Run Farm	10,000	1996-2001	
	Suzie Creek Arabians	10,000	1997-2002	
Doramectin study	Pfizer, Inc.	361,781	3/97-10/98	PI
Efficacy of an oral IgG product for newborn foals	Diagnon	19,805	3/97-8/97	PI
Fertility testing of stallion sperm using zona-free hamster oocytes	PEG	10,000	7/97-7/98	PI
Testicular degeneration in stallions	CRC	38,000	9/97-6/98	PI
Methods to enhance viability of cooled stallion semen	AQHA	19,958	10/97-9/98	Co-I
Reproductive safety study of moxidectin equine gel in breeding stallions	Fort Dodge Animal Health	119,070	12/97-9/98	PI
Follow-up safety evaluation of moxidectin gel in breeding stallions	Fort Dodge Animal Health	175,000	1/98-12/98	PI
Low dose insemination of mares with sexed semen	XY, Inc.	57,000	3/98-4/99	PI
Target species safety and reproductive safety of deslorelin acetate in the mare	Thorn Bioscience LLC	226,769	7/98-11/98	PI
Use of sexed semen for gamete intrafallopian transfer (GIFT)	PEG		7/98-6/99	PI
Transvaginal, ultrasonically-guided follicular aspiration of equine oocytes	PEG		9/98-8/99	PI
Safety of lyphomune in adult horses	Diagnon	3,500	10/98-12/99	PI
Utilization of pregnant mares' oocytes for intracytoplasmic sperm injection (ICSI)	PEG		10/98-1/99	PI

**Research Funding**

<b>Title</b>	<b>Source</b>	<b>Amount</b>	<b>Dates</b>	<b>Role</b>
Study of zona pellucida hardening in in vivo and in vitro matured horse oocytes	PEG		1998-99	PI
Embryo development rates after transfer of oocytes matured in vivo, in vitro, or within oviducts of mares	PEG		1999	CO-I
Comparison of culture and insemination techniques for equine oocyte transfer	PEG		1999	Co-I
Fertility of cryopreserved sexed stallion semen	XY, Inc.		1999	PI
Viability of in vitro-produced equine embryos after nonsurgical transfer	PEG		4/99-12/00	PI
Reproductive safety study with Ivermectin/Proziquantel oral paste in stallions	VIRBAC	119,450	6/99-5/01	PI
Effect of centrifugation and seminal plasma removal on equine spermatozoal motility after cooling and storage	CRC	9,510	7/99-6/00	PI
Domperidone: Effect of a dopamine agonist on pituitary and gonadal function in the mare	CRC	22,936	7/99-6/00	Co-PI
Ovariectomy via colpotomy to collect a large number of oocytes from the mare's ovaries to be used in vitro	Lucy Whittier Foundation	150,000	9/99-9/00	PI
Methods to assess and minimize sperm damage during cooling and storage	AQHA	30,184	10/99-9/01	Co-PI
Effects of in vitro maturation of equine oocytes	University of Colorado	1,500	12/99-5/00	PI
Equine reproductive research	Bobbie A. Atkinson Foundation	100,000	1999-2004	PI
Comparison of oocyte transfer using intrauterine or intraoviductal insemination in mares	PEG		2000	Co-I
Assisted reproductive technology in the equine	Lucy Whittier Foundation	150,000	1/00-12/04	PI
Equipment grant for intracytoplasmic sperm injection	Sunbird Foundation	45,000	4/00	PI
Fertility of transported, flow-sorted stallion spermatozoa	XY, Inc.	76,113	7/00-6/01	PI
Support for a Havemeyer Symposium on equine reproduction	Havemeyer Foundation	35,000	6/01-12/03	Organizer



**Research Funding**

<b>Title</b>	<b>Source</b>	<b>Amount</b>	<b>Dates</b>	<b>Role</b>
Postponement of ovulation in mares via manipulation of the LH surge	CRC	23,000	7/01-6/02	PI
New stallion barn	Shirley Hoffman Foundation	50,000	1/02-12/02	PI
Equine facilities grant	Gail Holmes Foundation	150,000	1/02-12/02	PI
Equine reproductive research	Stallion Auction	42,000	1/02-12/02	PI
Establishment of pregnancies after the collection and transfer of oocytes from transported ovaries	Hylton Foundation	250,000	1/02-12/05	PI
Delaying ovulation in mares	Suzie Creek Foundation	13,850	6/02-5/03	PI
Gift of computerized motility analyzer	Hamilton Thorne	45,000	7/02-9/02	PI
Efficacy of equine FSH for reduction of multiple ovulation in mares	Bioniche Life Sciences	13,850	7/02-6/03	PI
Pregnancy rates in the mare using cooled then frozen stallion semen	CRC		7/02-6/03	PI
Maturation and transfer of oocytes collected from transported mare ovaries	CRC	19,500	7/02-6/03	PI
Effect of cholesterol-cyclodextrin complex on fertility of frozen semen	AQHA	10,000	10/02-9/03	PI
Comparison of two techniques for vitrification of equine embryos	CRC	17,000	7/03-6/04	Co-PI
Effects of repeated inseminations, embryo collections and estrogen treatment during subsequent years on the mare's uterus	AQHA	51,060	10/03-9/04	Co-PI
Equine reproduction	Quarter Horse Stud Fee Auction	\$350,000	2004-2008	PI
Induction of ovulation of follicles prior to hCG responsiveness	PEG	14,200	4/07-10/05	Co-PI
Vitrification and transfer of early embryos derived from ICSI of equine oocytes	PEG	27,032	4/05-10/05	Co-PI
Laparoscopic transfer of oocytes	P. Stent	22,000	6/06-6/07	Co-PI
Refining the techniques of using equine follicle-stimulating hormone for superovulation	PEG	50,600	7/06-6/07	Co-I
Development of assisted	Cecil & Irene Hylton Foundation	\$250,000	7/07-6/08	Co-PI

E.L. Squires

**Research Funding**

<b>Title</b>	<b>Source</b>	<b>Amount</b>	<b>Dates</b>	<b>Role</b>
reproductive techniques for mares and stallions				
Use of sexed semen to produce embryos in vitro	XY, Inc.	27,000	9/07-9/08	PI
Vitrification of large equine embryos	Jon Andreini	\$50,000	6/07-6/08	PI
Unrestricted	Peptoboonsmal Challenge	\$9,750	1/08-12/09	PI
Unrestricted	Neil Chur Fund	\$10,000	1/08-12/09	PI
Assisted reproduction in mares	Cecil & Irene Hylton Foundation	\$250,000	7/08-6/10	PI

## CURRICULUM VITAE

Thomas W. Swerczek DVM PhD  
Professor  
Department of Veterinary Science  
College of Agriculture  
University of Kentucky

### EDUCATION:

BS 1962 Kansas State University, Manhattan, Kansas  
DVM 1964 Kansas State University, Manhattan, Kansas  
MS 1966 The University of Connecticut, Storrs, Connecticut  
PhD 1969 The University of Connecticut, Storrs, Connecticut

### EMPLOYMENT RECORD:

1962-1963 : Student Assistant, Department of Pathology, Kansas State University, School of Veterinary Medicine, Manhattan, Kansas

1963 Research Assistant, Pathology and Toxicology Laboratory, Pitman-Moore Co., Indianapolis, Indiana.

1964-1969: Resident in Comparative Pathology, Instructor, Department of Pathobiology, The University of Connecticut, Storrs, Connecticut.

1969-1973: Assistant Professor, Department of Veterinary Science, College of Agriculture, University of Kentucky, Lexington, Kentucky.

1973-1977: Associate Professor, Department of Veterinary Science, College of Agriculture, University of Kentucky, Lexington, Kentucky.

1978-2010: Professor, Department of Veterinary Science, College of Agriculture, University of Kentucky, Lexington, Kentucky.

LICENSING BOARDS:

Veterinary Medicine

National State Board  
Nebraska State Board  
Kansas State Board

MEMBER (Organizations):

American Veterinary Medical Association  
Kentucky Veterinary Medical Association  
American Association for the Advancement of Science  
Conference of Research Workers in North America  
Sigma Xi  
Gamma Sigma Delta

AWARDS:

Four-year Scholastic Award (State of Nebraska) 1960-1964  
Two Continental Grain Company Scholarships, 1963, 1964  
Dr. Lester Jackson Scholarship, 1962  
Merck Award for General Proficiency in Veterinary Medicine, 1964  
First Place Award for Large Animal Proficiency at Kansas State  
University, 1964.

Veterinary of the Year, 1978, Presented by the Kentucky Veterinary  
Medical Association.

For the contributions to the profession of Veterinary Medicine,  
the Kentucky Veterinary Medical Association awarded Life Membership  
on October 4, 2008.

For the contributions to the profession of Veterinary Medicine,  
The American Veterinary Medical Association awarded Life Membership  
int 2009.

Alpha Zeta  
Phi Kappa Phi

GRANTS:

Postdoctoral Pathology Training Grant, University of Connecticut,  
Storrs, Connecticut. 1964-1966

Postdoctoral N.I.H. Grant, 1967-1969

Toxicity of Levamisole and Piperazine in Horses, American Cyanamid  
Company, 1971

Toxicity of Cycloserine in Horses, Commercial Solvents, Corporation

Effect of Betabiotic on Strangles in Horses, Schering Corporation, 1973

Efficacy of Azimycin on Strangles in Horses, Schering Corporation, 1973

Effect of Cycloserine on Strangles in Horses, Commercial Solvents, Corporation, 1973

Efficacy of Tribressen of Acute and Chronic Stangles Infection of Horses. Cooper USA, 1973

Efficacy of Amphotericin B on Streptococcus Equi infection in Horses. Beecham Laboratories, 1975

Efficacy of Tribressen of Streptococcus equi infection in Horses. Burrough-Wellcome Inc., 1976

Laboratory Methods to Improve Diagnosing Contagious Equine Metritis, USDA, 1978-1981

Early Fetal Loss and Infectious Placentitis in the Mare, USDA, 1981-1985.

Kentucky Equine Research Foundation, Co-Investigator, 1989- "Study of Placental Diseases in Mares"

1987-1990: Kentucky Equine Research Foundation "A Study of Placental Disease in Mares" Co-investigator \$45,000. Project Funded.

1990-1992: Kentucky Equine Research Foundation. "A Study of Prevalence and Distribution of Leptospirosis in The Horse Population in Central Kentucky and the Significance of Leptospira sp. as a Cause of Abortion in Mares and Icterus in Neonatal Foals". Co-investigator, \$100,000. Project Funded.

1990-1993: Grayson Jockey Club Research Foundation, Inc. "Equine Protozoal Myeloencephalitis: Isolation and Characterization of the Etiologic Agent" Collaborator, \$43,200. Project Funded.

1991-1992: Biomedical Research Support Grant , University Of Kentucky. Effect of Glucose Metabolites of Natural Gut Microbes on Pathogenic Bacteria. Principal investigator. \$4,700. Not Funded.

1992-1993 Innovation and Excellence Program. University of Kentucky. Identification of Natural Bacterial Metabolites of Glucose that Inhibit Pathogenic Bacteria. Principal investigator. \$28,200 Not Funded.

1991-1992 AVMA Research Foundation. Effect of Dietary Glucose Metabolites of Natural Gut Microbes on Enteropathogenic Bacteria. Principal investigator. \$12,080. Not funded.

1992-1995: Proctor and Gamble Company. "A Novel Compound That Antagonizes the Pathophysiologic Effects of Cytokines". Principal investigator. \$150,000.00, Not Funded.

1992-1993 Land O'Lakes. Effect of Fiber on Diarrhea in Calves. Principal investigator. Not funded. \$24,883.00.

1994-1999 National Research Initiative Competitive Grants Program. 1994. USDA. Activation of Endogenous Growth Factors by Dietary Ingredients in Calves. \$441,986. Not Funded.

T.W. Swerczek, A Model for the Reproductive Loss syndrome. Grayson-Jockey Research Foundation. 2002, \$61,000, Not Funded.

T.W. Swerczek, Effect of High Potassium, Protein and Carbohydrates and Low Calcium and Sodium Chloride on Pregnant Mares. @002, Comprehensive Research Project investigating the cause(3) of the Mare Reproductive Loss Syndrome, College of Agriculture, University of Kentucky. \$150,000, Not Funded.

T.W. Swerczek, Principal Investigator, George Allen, E. Gus Cothran and Kathryn T. Graves, Co-investigators. Novel Hemolytic Microbacterium spp. that Infects Frost and Freeze Damaged Forages as an Emerging Cause of Reproductive Losses in Cattle and Horses. Cooperative State Research, Education and Extension Service. National Initiative Competitive Grants Program. January, 2004. \$450, 611, 48 months. Not funded

T.W. Swerczek, Principal Investigator, George Allen, Co-investigator. Inoculation of Mares with Placental Isolates of Microbacterium and Cellulomonas. Grayson Jockey Club Research Foundation. October 1, 2004. \$30,000, Not funded

T.W. Swerczek, Principal Investigator, George Allen, Co-investigator Novel Hemolytic Microbacterium spp that infects frost and freeze damaged forages as an emerging cause of reproductive losses in cattle and horse. Hatch Project. January, 2004-2110.

T.W. Swerczek and George Allen, Principal co-investigators:  
Experimental reproduction of placentitis-associated abortion in mares  
by intra-amnion inoculation with isolates of Microbacterium and  
Cellulomonas—A pilot study. Departmental funds. September, 2004.  
\$15, 000.

T.W. Swerczek, Characterization of a newly isolated microorganism as  
the causative agent for fetal and neonatal loss in mares. Gluck  
intramural grants. 2010. \$5,000

**Advisory Activities:**

**Past Activities:**

Editorial board for the Journal of Equine Veterinary Science.  
Editorial advisory board for the Journal of Modern Horse Breeding.  
Reviewer of research grants for the USDA sponsored Cooperative  
Research Programs. American Veterinary Medical Colleges,  
Institutional Representative for the University of Kentucky.

**Current Activities:**

Reviewer for: J. American Veterinary Medical Association, American  
Journal of Veterinary Research and J. of Equine Veterinary Science.

**Current University Committee Activity:**

Departmental Graduate School  
University research grant proposals, reviewer.  
Environmental safety for the Dimock Animal Pathology Building.

**PUBLICATIONS:**

Swerczek TW. The Pathology of Soft Tissues in Calves during Vitamin  
A Excess and Reversal (Master's Thesis), The University of  
Connecticut, 1966.

Swerczek TW, Schiefer B and Nielsen SW. Canine Actinomycosis. Zbl Vet  
Med B, 158:955-970,1968.

Swerczek TW, Trautwein G and Neilsen SW. Canine Nocardiosis. Zbl Vet  
Med B, 158:971-978, 1968.

Howard EB and Swerczek TW. Spontaneous Amyloidosis in Swiss Mice. Am  
J Vet Clin Path 2: 213-220, 1968.

Hall RC Jr., Swerczek TW, et al. Reversal of Chronic Bovine Hyervitaminosis A Bull 409, Storrs Agr Exp Station, 1968.

Swerczek TW. Medial Hyperplasia of the Pulmonary Arteries of Cats (PhD Thesis) The University of Connecticut, 1969.

Swerczek TW and Helmboldt CF. Cerebrospinal Nematodiasis in Groundhogs (*Marmota monax*) JAVMA 157:674-674, 1970.

Swerczek TW, Nielsen SW and Helmboldt CF. Ascariasis Causing Pulmonary Arterial Hyperplasia in Cats. Res. in Vet Sci 11:103-104. 1970.

Swerczek TW, Nielsen SW and Helmboldt CF. Transmammary Passage of *Toxocara cati* in the Cat. Am J Vet Res 32:89-92, 1971.

Jonas AM, Swerczek TW and Downing SE. Vaso-occlusive Pulmonary Hypertension- A Feline Model System. Proc 20th Ann Session of Am Assoc For Lab An Sci, 1969.

Swerczek TW. Medial Hyperplasia of Pulmonary Arteries in Cats. In. Research Animals in Medicine, Published by National Institute of Health, Bethesda, Md., 1972.

Swerczek TW and Prickett ME. Post-surgical Liver Damage Following Halothane Anesthesia in Horses. Proc AAEP, 1971.

Drudge JH, Lyons ET and Swerczek TW. Activity of Gel and Paste Formulations of Diclorous Against First-instars of *Gasterophilus* spp. Am J Vet Res, 33:1291-1293, 1972.

Jonas AM, Swerczek TW and Downing SE. A Pathogenetic Study of Medial Hypertrophy and Hyperplasia of Pulmonary Vessels in the Cat. Am J Path, 1973.

Swerczek TW, Crowe MW, Prickett ME and Bryans JT. Focal Bacterial Hepatitis in Foals: A Newly Recognized Disease Syndrome. Mod Vet Pract. 54:66-67, 1973.

Drudge JH, Lyons ET and Swerczek TW. Critical Tests and Safety Studies on a Levamisole-piperazine Mixture as an Anthelmintic in the Horse. Am J Vet Res, 35:67-72, 1974.

Crowe MW and Swerczek TW. Congenital Arthrogyrosis in Pigs Induced by Maternal Ingestion of Tobacco (*Nicotiana tabacum*). Jm J Vet Res, 35:1071-1073, 1973.



Swerczek TW. Immature Spermatozoa in Thoroughbred Stallions. The Blood Horse, February, 1974.

Crowe MW and Swerczek TW. Congenital Arthrogyrosis in Offspring of Sows Fed Tobacco. JAVMA, 165,450, 1974

Swerczek TW. Diseases of Foals, Rapidan Farm Digest, 1, No. 3, 1975

Eagle RC, Font RL and Swerczek TW. Malignant Medullo-epithelioma of the Optic Nerve Head in a Horse. Veterinary Pathology, 1978.

Swerczek TW and Crowe MW. Enterotoxemia in Young Hores due to Clostridium perfringens, Type D. 54th CRWAD, November 26-27,1973 Chicago

Swerczek TW. Pathology and Pathogenesis of Equine Fetal Diseases. Proc Soc of Theriogenology, Lexington, Kentucky, September 16, 1976.

Swerczek TW. The Etiology, Pathology and Pathogenesis of Diseases in Foals and Weanlings. Proc Soc Theriogenology, Lex. Ky. Sept. 16, 1976.

Swerczek TW. Immature Germ Cells in the Semen of Thoroughbred Stallions. J Reprod Fert, Suppl 23:135-137, 975.

Swerczek TW. Multifocal Hepatic Necrosis and Hepatitiis in Foals caused by Bacillus piliformis (Tyzzer's disease). Veterinary Annals, 17:130-132,1977.

Swerczek TW. Experimental Focal Bacterial Hepatitis in Foals (Tyzzer' disease). 55th CRWAD, 1974, Chicago.

Tobin T, Swerczek TW and Blake JW. Pine Oil Toxicity in the Horse: Drug Detection, Residues and Pathological Changes. Res Comm in Chem Path and Pharm, 15:191-301,1976.

Shrihakin S and Swerczek TW. Pathology and Pathogenesis of Parascaris equorum Infection in Foals. Am J Vet Res, 1973,39;1155-1160.

McCollum WH and Swerczek TW. Studies on an Outbreak of Equine Viral Arteritis on a Racetrack. J Eq Med and Surg, 1978, 2:293-299.

Bryans JT, Swerczek TW, Darlington RW and Crowe MW. Neonatal Foal Disease Associated with Perinatal Infection by Equine Herpesvirus I. J Eq Med and Surg. 1:20-26, 1977.

Swerczek TW. Current Status of Contagious Equine Metritis. Proceedings of the Society of Theriogenology. Sept 21-12, 1978, Oklahoma City, Oklahoma.

Swerczek TW. Contagious Eqine Metritis - Outbreak of the Disease in Kentucky and Laboratory Methods for Diagnosing the Disease. J Repro Fert, Suppl 27: 361-365, 1979.

Swerczek TW. The First Occurrence of Contagious Equine Metritis in the United States. JAVMA 173:405-407, 1978.

Swerczek TW. Contagious Equine Metritis in the United States. Vet Rec, 102:512, 1978.

Swerczek TW. Inhibition of the CEM organism by the Normal Flora of the Reproductive Tract. Vet Rec 103:125, 1978.

Concon JM, Newbert DS and Swerczek TW. A Common Condiment. Evidence of Carcinogenicity. Science, 1978.

Swerczek TW. CEM in Horses: Assuring Diagnostic Precision. JAVMA, Dec. 18, 1979.

Swerczek TW. Experimental Studies on Contagious Equine Metritis. International Symposium on CEM, Newmarket, England, Sept. 19-20, 1979.

Swerczek TW. Elimination of the CEM Organism from Mares by Excision of Clitoral Sinuses. Vet Rec 105:131, 1979.

Swerczek, TW. Contagious Equine Metritis: Test for Suspect Carriers. Vet Rec 105:131, 1979.

Swerczek TW. A Cooked Blood Agar Medium for the Contagious Equine Metritis Organism and other Fastidious Bacteria. Vet Rec 106:388-389.1980.

Swerczek TW. Toxicoinfectious Botulism in Foals and Adult Horses. JAVMA 176:217-220, 1980.

Swerczek TW. Experimentally Induced Toxicoinfectious Botulism in Horses and Foals. AJVR 41:348-350, 1980.

Lyons ET, Drudge JH, Swerczek TW, Crowe MW and Tolliver SC. Prevalence of *Strongylus vulgaris* and *Parascaris equorum* in Kentucky Thoroughbreds at Necropsy. JAVMA 179, 818-819, 1981.

Concon J, Swerczek TW and Newberg DS. Potential Carcinogenicity of Black Pepper (*Piper nigrum*). Chapter 19 in Antinutrients and Natural Toxicants in Foods. ED Robert L Ory. Food and Nutrition Press Inc., Westport, Cn, 1981.

Swerczek TW. Aggravation of Strangles, Equine Clostridial Typhlocolitis (Colitis X) and Bacterial Venereal Diseases in the Horse by Antibacterial Drugs. Proc AAEP, Miami Fl. 305-311,1979

Drudge JH, Lyons ET, Swerczek TW and Tolliver SC. Cambendazole for Strongyle Control in a Pony Band: Selection of a Drug-resistant Population of Small Strongyles and Teratologic Implications. AJVR 44:110-114, 1983.

Sahu SP, Rommel FA, Fales WH, Hamdy FM, Swerczek TW, Youngquist RS and Bryans JT. Evaluation and Various Serotests to Detect Antibodies in Ponies and Horses Infected with Contagious Equine Metritis Bacteria. AJAVR 44:1405-1409,1983.

Lyons ET, Drudge JH, Tolliver SC, Swerczek TW and Crowe MW. Prevalence of *Anaplocephala perfoliata* and Lesions of *Draschia megastoma* in Thoroughbreds in Kentucky an Necropsy. AJVR 45,996-999,1984.

Crowe MW and Swerczek TW. Equine Congenital Defects. AJVR. 46(2)353-355,1985.

Swerczek TW and Crowe ME. Hepatotoxicosis in Neonatal Foals. JAVMA 183:388,1983.

Sprinkle FP, Swerczek TW and Crowe MW. Meckel's Diverticulum in the Horse. Eq Vet Sci 14(4), 1984.

Swerczek TW. Contagious Equine Metritis. Chapter In: Foreign Animal Diseases. Committee on Foreign Animal Diseases of the United States Animal Health Association, Richmond, Virginia, 1984.

Swerczek TW. Equine fetal diseases. Chapter In: Current Therapy in Theriogenology II, 1985.

Lyons ET, Drudge JH, Tolliver SC, Swerczek TW and Crowe MW. Parasites in Kentucky Thoroughbreds at Necropsy : Emphasis on Stomach Worms and Tapeworms. AJVR 44(5):839-844.1983.

Lyons ET, Tolliver SC, Drudge JH, Swerczek TW and Crowe MW. Prevalence of some Internal Parasites Recovered at Necropsy of Thoroughbreds Born in 1982 in Kentucky. AJVR 46:679-683,1985.

Lyons ET, Tolliver SC, Drudge JH, Swerczek TW and Crowe MW. Parasites in Lungs of Dead Equids in Kentucky: Emphasis on Dictyocaulus arnfieldi. AJVR 46:924-927,1985.

Drudge JH, Lyons ET, Tolliver SC and Swerczek TW. Use of Oxibendazole for Control of Cambendazole-resistant Small Strongyles in a Band of Ponies: A six-year Study. AJVR 46:1507-2511,1985.

Sprinkle FP, Crowe MW and Swerczek TW. Choanal Atresia in Foals. MVP 65(3):306,1984.

Lyons, ET, Tolliver, SC, Drudge JH, Swerczek TW and Crowe MW. Lungworms (Dictyocaulis arnfieldi): Prevalence in Live Equids in Kentucky. AJVR 46(4):921-923, 1985.

Sprinkle FP, Swerczek TW and Crowe MW. Gastrocnemius Muscle Rupture and Hemorrhage in Foals. Eq. Prac. 7(5):10-17, 1985.

Lyons, ET, Tolliver SC, Drudge JH, Swerczek TW and Crowe MW. Common Internal Parasites in the Stomach, Large Intestine, and Cranial Mesenteric Artery of Thoroughbreds in Kentucky an Necropsy (1985 to 1986) AJVR. 1987;48:268-273.

Lyons, ET, Drudge, JG, Tolliver, SC and Swerczek TW. Pyrantal pamoate: Evaluating its Activity Against Equine Tapeworms. Vet. Med. 1986;81:290-295.

Swerczek TW: An Overview on the Etiologic Factors and Diagnosis of Equine Fetal Diseases. In Laboratory Diagnosis of Livestock Abortion. Third ed. Iowa State University Press/Ames. 1990. pp. 202-206.

Swerczek TW: Noninfectious Abortion in the Mare: Etiologic Factors and Pathologic Lesions. In Laboratory Diagnosis of Livestock Abortion. Third ed. Iowa State University Press/Ames. 1990. pp. 207-213.

Swerczek TW: Perinatal Mortality in Foals caused by Fescue Grass Toxicosis. In Laboratory Diagnosis of Livestock Abortion. Third ed. Iowa State University Press/Ames. 1990. pp. 207-213.

Swerczek TW and Roberts AW: Equine Virus Abortion (Equine Rhinopneumonitis Virus, Equine Herpesvirus I). In Laboratory

Diagnosis of Livestock Abortion. Third ed. Iowa State University Press/Ames. 1990. pp. 217-220.

Swerczek TW and Roberts AW: Laboratory Diagnosis of Equine Viral Arteritis Abortion. In Laboratory Diagnosis of Livestock Abortion. Third ed. Iowa State University Press/Ames. 1990. pp. 221-223.

Swerczek TW and Donahue JM: Equine Mycotic Abortions. In Laboratory Diagnosis of Livestock Abortion. Third ed. Iowa State University Press/Ames. 1990. pp. 224-228.

Swerczek TW and Donahue JH: Equine Bacterial Abortions. In Laboratory Diagnosis of Livestock Abortion. Third ed. Iowa State University Press/Ames. 1990. pp. 229-236.

Swerczek TW and Hong CB: Campylobacter fetus Abortion in the Mare. In Laboratory Diagnosis of Livestock Abortion. Third ed. Iowa State University Press/Ames. 1990. pp. 237-239.

Swerczek TW and Poonacha KB: Leptospiral Abortion in the Mare. In Laboratory Diagnosis of Livestock Abortion. Third ed. Iowa State University Press/Ames. 1990. pp. 240-242.

Swerczek TW and Giles RC: Equine Placentitis Caused by Higher Bacteria. In Laboratory Diagnosis of Livestock Abortion. Third ed. Iowa State University Press/Ames. 1990. pp. 243-245.

Swerczek TW: Equine Abortion caused by Histoplasma capsulatum. In Laboratory Diagnosis of Livestock Abortion. Third ed. Iowa State University Press/Ames. 1990. pp. 246-250.

Swerczek TW: Ehrlichia risticii (Potomac Horse Fever) Infection of the Equine Fetus. In Laboratory Diagnosis of Livestock Abortion. Third ed. Iowa State University Press/Ames. 1990. pp. 251-254.

Lyons ET, Tolliver SC, Drudge JH, Swerczek TW and Stamper S.: Transmission of Gastrointestinal Parasites in Dairy Calves on Pasture in Central Kentucky from 1987 through 1989. J. Helminthol. Soc. Wash. 58(2), 1991, 220-226.

Lyons ET, Swerczek TW, Drudge JH and Tolliver, SC: A Large Draschia megastoma-related Gastric Lesion in a Thoroughbred. Veterinary Medicine 1991; 86:332-334.

Swerczek TW: Recognizing the Common Causes of Equine Abortion: An Overview. Veterinary Medicine 1991; 86:1019-1024.

Swerczek TW: Noninfectious Causes of Abortion in the Mare. Veterinary Medicine 1991;86:1025-1029.

Swerczek TW: The Most Common Viral Causes of Equine Abortion. Veterinary Medicine. 1991;86:1205-1208.

Granstrom DE, Giles RC, Tuttle PA, Williams NM, Poonacha KB, Petrites-Murphy MB, Tramontin RR, Swerczek TW, Hong CB, Rezabek GB, Lyons ET and Drudge JH. Immunohistochemical Diagnosis of Protozoan Parasites in Lesions of Equine Protozoal Myeloencephalitis. J Vet Diagn Invest. (1991) 3:75-77.

Swerczek TW: Identifying the Bacterial Causes of Abortion in Mares. Veterinary Medicine. 1991;86:1210-1216.

Swerczek, TW. Disease Linked to Nutrition. The Chronicle of the Horse. January 10, 1992. 26-27.

Swerczek, TW. Tyzzer's Disease. The Merck Veterinary Manual. 7th. ed. (1991), pp. 152-153. C.M. Fraser, editor. Merck and Co., Inc. Rahway, New Jersey. USA.

Hong CB, Tramontin RR, Tuttle PA, Petrites-Murphy MB, Giles RC, Poonacha KB, Swerczek TW, Rooney JR: Adenomatous hyperplasia of equine allantoic epithelium. Vet Path, 1993,30,171-175.

Swerczek, TW: The Mycotic Causes of Equine Abortion. Veterinary Medicine 1992;87:62-65.

Foltz SD, Hanson BJ, Griffin AK, Dinvald LL, Swerczek TW, Walker RD, and Foreman JH: Clinical use of Ceftiofur sodium as a Treatment for Naturally Acquired Respiratory Infections in Horses. Equine Veterinary Journal.(1992)24,(4)300-304.

Swerczek, TW: Contagious Equine Metritis. In. Foreign Animal Diseases. USAHA. Richmond, Virginia. (1992).

Giles, RC, Donahue, JM, Hong CB, Tuttle PA, Petrites-Murphy MB, Poonacha, KB, Roberts, AW, Tramontine, RR, Smith B. and Swerczek TW.: Causes of abortion, stillbirth, and perinatal death in horses: 3527 cases (1986-1991). JAVMA,203,1170-1175,1993.

Rezabek, GB, Donahue, JM, Giles, RC, Petrites-Murphy, MB, Poonacha, KB, Rooney, JR, Smith, BJ, Swerczek, TW and Tramontin RR.: Histoplasmosis in Horses. J Comp. Path. 109,47-55,1993.

Poonacha, KB, Donahue, JM, Giles, RC, Hong, CB, Petrites-Murphy MB,

Smith, BJ, Swerczek, TW, Tramontin, RR, and Tuttle, PA.:  
Leptospirosis in Equine Fetuses, Stillborn Foals, and Placentas. Vet  
Pathol. 30,362-369,1993

Lyons, ET, Drudge, JH, Tolliver, SC, Swerczek, TW, Stamper, S, and  
Granstrom, DE,: Control of cambendazole-resistant small strongyles  
(Population S) with oxibendazole in a pony band: an 8 year field test  
(1984-1992). Veterinary Parasitology 52, 271-277, 1994.

Lyons, E.T., Swerczek, T.W., Tolliver, S.C., Drudge, J.H., Stamper,  
S., Granstrum, D.E., and Holland, R.E.: A study of natural  
infections of encysted small strongyles in a horse herd in Kentucky.  
Veterinary Medicine, 89:1146-1155, 1994

Lyons, E.T., Tolliver, S.C., Drudge, J.H., and Drudge, H.H.: Natural  
superinfection of *Parascaris equorum* in a stall-confined orphan horse  
foal. Vet. Parasitology 66, (1996) 119-123.

Lyons, E.T., Tolliver, S.C., Drudge, J.H., Stamper, S., Swerczek,  
T.W., and Granstrum, D.E.: A study (1977-1992) of population  
dynamics of endoparasites featuring benzimidazole-resistant small  
strongyles (Population S) in Shetland ponies. Vet parasitology 66  
(1996) 75-86.

Swerczek, T.W.: Chronic environmental cadmium toxicosis in horses  
and cattle. Views: Letter to the editor. J Am Vet Med Assoc (1997)  
211:1229-130

Swerczek, T.W. and Smith, R.A.: Comments on chronic environmental  
cadmium toxicosis in horses and cattle: Views: Letter to the Editor.  
J Am Vet Med Assoc (1998):212:341

Bowling, D.G., McCaw, W.C., Sutton, G.F., and Swerczek, T.W.:  
Suspect relationship between fertilizers, tobacco stalks, and cadmium  
antagonism as a cause of tetany and induced mineral deficiencies in  
cattle. Views: Letter to the editor. J Am Vet Med Assoc (1998)  
212:1187.

Tolliver, S.C., Swerczek, T.W., and Lyons, E.T.: Recovery of *Oxyuris*  
*equi* eggs from hemomelasma ilei lesions on ileal serosa of a  
Thoroughbred yearling filly. Veterinary Parasitology 80 (1999) 353-  
357.

Bair, H.D, Lyons, E.T., Swerczek, T.W., and Tolliver, S.C.: Atypical  
Specimens of Helminth Parasites (*Anoplocephala perfoliata*) and  
*Thelazia lacrymalis*) of Horses in Kentucky, U.S.A. Comp. Parasitol.  
67(2)2000 pp. 258-260.

Lyons, E.T., Swerczek, T.W., Tolliver, S.C. et.al. Prevalence of Selected Species of internal Parasites in Equids at Necropsy in Central Kentucky (1995-1999). Vet. Parasitol. 92:2000.51-62.

Lyons, E.T. Tolliver, S.C., Drudge, J.H., Collins, S.S. and Swerczek, T.W.: Continuance of Studies on Populations of Benzimidazole-Resistant Small Strongyles in a Shetland Pony Herd in Kentucky: Effect of Pyrantel pamoate (1992-1999). Vet Parasitology.

Swerczek, T.W. and Lyons, E.T.: Paragonimiasis in a Cat in Kentucky. Veterinary Medicine 95(12),2000, 909-911.

Swerczek, T.W., Donahue, J.M., and Hunt, R.H.: *Scedosporium prolificans* Associated arthritis and osteomyelitis in a Horse. JAVMA,218,1800-1802,2001.

Lyons, E.T., Swerczek, T.W., and Tolliver, S.C.: Central Nervous System Disorder in a Woodchuck (*Marmota monax*) in Central Kentucky caused by a Nematode in the genus *Baylisascaris*. J. Ky. Acad. Sci. 62(2)142-144.2001

Swerczek,T.W: Saprotrophic Fungi and Bacteria and Commensal Bacteria that Infect Frost-Damaged Pastures may be Contributing to Gut Microbial Overgrowth and Lesions Associated with the Mare Reproductive Loss Syndrome. Viewpoint J. of Equine Veterinary Science. 2002, 22, No. 6. 234-237

Lieto, L.D., Swerczek, T.W.and Cothran, E.G.: Equine Epitheliogenesis Imperfecta in Two American Saddlebred Foals Is a Lamina Lucida Defect. Vet. Pathol. 39:576-580. (2002)

T.W. Swerczek. Don't Short Salt. Beef, June 3003,14-16

Lyons, E.T., Swerczek, T.W. and Tolliver, S.C.: Parasitologic Examination of the Eyes, Esophagus, Rumen, and Feces of Cattle and the Small Intestine of Horses at Necropsy in Central Kentucky, U.S.A. in 2001 and 2002. Comparative Parasitology. 70(1), 2003.

Swerczek, T.W., Lieto, L.D. and Cothran, E.G.: Developmental Defects of Enamel in American Saddlebred Foals With Epitheliogenesis Imperfecta. Journal of Equine Veterinary Science. 2004,24,386-390.

Swerczek, T.W.: Tyzzer's disease in Animals. Merck Veterinary Manual. 10ed. 2004.



Swerczek, T.W. and Caudle A.B.: Bacterial Causes of Subfertility and Abortion in the Mare. Chapter 21. pp 168-175. Current Therapy in Large Animal Theriogenology. 2<sup>nd</sup> Edition. Robert S Youngquist and Walter R. Threlfall. Elsevier, Inc. Publisher, 2006.

Swerczek, T.W. and Dennis, S.M.: Equine Herpesvirus Infections. Chapter 22. pp 176-180. Current Therapy in Large Animal Theriogenology. 2<sup>nd</sup> Edition. Robert S Youngquist and Walter R. Threlfall. Elsevier, Inc. Publisher, 2006.

Swerczek, T.W. and Dennis, S.M.: Equine Viral Arteritis. Chapter 23. pp 181-183. Current Therapy in Large Animal Theriogenology. 2<sup>nd</sup> Edition. Robert S Youngquist and Walter R. Threlfall. Elsevier, Inc. Publisher, 2006.

Swerczek, T.W.: Bacterial Diseases in the Fetus and Placenta Associated with Fetal Loss in the Mare. Chapter 24. pp 183-188. Current Therapy in Large Animal Theriogenology. 2<sup>nd</sup> Edition. Robert S Youngquist and Walter R. Threlfall. Elsevier, Inc. Publisher, 2006.

Swerczek, T.W. and Dennis, S.M.: Fungal Abortion. Chapter 25.. pp 188-189. Current Therapy in Large Animal Theriogenology. 2<sup>nd</sup> Edition. Robert S Youngquist and Walter R. Threlfall. Elsevier, Inc. Publisher, 2006.

Swerczek, T.W. Tyzzer's Disease. The Merck Veterinary Manual. 9<sup>th</sup>. Edition. Cynthia M. Kahn Edition Merck and Co., Inc. Publisher, 2005.

Swerczek, T.W. Tyzzer's Disease in Cats and Dogs. Merck-Merial Manual of Pet Health. Cynthia M. Kahn editor. Merial Limited. Publisher, 2006.

#### **PAPERS AT PROFESSIONAL ORGANIZATIONS:**

Pathology of Diseases of Fetuses, Foals and Horses. Kentucky Veterinary Medical Association, 1979

Pathology of Diseases of Foals. Mid-American Conference, 1974

Pathology of Diseases of Fetuses and Foals. Pennsylvania Veterinary Medical Association, January, 1977

Pathology in Relation to Veterinary Medicine. Kentucky Association for Laboratory Technicians, March, 1977

Diseases of Foals. 1973 Stud Managers Course

Bacterial Hepatitis in Foals. Central Kentucky Equine Prctitioners, May, 1973

Equine Semen Evaluation and Equine Clostridial Enterotoxemia. Central Kentucky Equine Practitioners, April 6, 1974

Equine Semen Evaluation and Clostridial Enterotoxemia. Jackson Purchase VMA, March 30, 1974

Equine Semen Evaluation and Clostridial Enterotoxemia. Buffalo Trace VMA July 9, 1974.

Equine Semen Evaluation and Clostridial Enterotoxemia. Central Kentucky Equine Practitioners, April 16, 1974.

Toxic Hepatitis is Horses. Kentucky Medical Association, 1974 Annual Meeting, Medical Pathology Section.

Report on the International Conference on Equine Reproduction. Central Kentucky Equine Practitioners, October 4, 1974.

Diseases of Foals. Western Kentucky University, November 18, 1974.

Pathology of the Equine Heart. American Association of Equine Practitioners, December 1973, Atlanta, Georgia.

Vitamin E Deficiency in Calves. Buffalo Trace VMA, October 14, 1975.

Neonatal Diseases of Foals. Illinois Veterinary Medical Association, February, 1977.

Enterotoxemia in Horses. Farm Managers Club. October, 1975.

Focal Bacterial Hepatitis in Foals. Thoroughbred Club of Aberica. 1974.

Diseases of Foals. Western Kentucky University, October 9, 1975.

Diseases of Foals. Cambell County Health School, February 24, 1975.

Infectious Diseases of Horses. Warren County Horse Health School. October 27, 1975.

Diseases of Foals. Northern Kentucky 4-H Leaders School. Nicholson,

Ky. March 25, 1975.

Pathology in Relation to Veterinary Medicine. Kentucky Association of Laboratory Technicians, March, 1977.

Current Status of Contagious Equine Metritis. Society of Theriogenology, Oklahoma City, Ok, Sept 21-23, 1978.

Contagious Equine Metritis- Methods of Diagnosing the Disease. AVMA Annual Meeting, Dallas, TX. July 18-21, 1978.

Contagious Equine Metritis-Outbreak of the Disease in Kentucky and Laboratory Methods for Diagnosing the Disease. Second International Symposium on Equine Reproduction. Davis, Ca. July 24-28, 1978

Contagious Equine Metritis. Mid-West Society of Veterinary Pathologists, Chicago. Ill. April 27, 1978.

Laboratory Diagnosis of Contagious Equine Metritis. Southern Laboratory Diagnostic Laboratory Meeting, Montgomery, Al, June 1978.

Contagious Equine Metritis: Foreign Animal Disease Seminar. Denver, Co. June 6-8, 1978.

Equine Viral Arteritis: Foreign Animal Disease Seminar. Denver. Co. June 6-8. 1978.

Pathology of Equine Viral Arteritis. Foreign Animal Disease Seminar. Ames, Ia. 1978.

Pathology of African Horse Sickness, Foreign Animal Disease Seminar, Ames, Ia. 1978.

Interrelationship between Diet and Infectious Diseases in Horses. The Thoroughbred Farm Managers Club. January, 1979. Lexington, Ky.

Aggravation of Venereal Diseases in Horses by Antibiotics and Disinfectants. Thoroughbred Farm Managers Club. January, 1979, Lexington, Ky.

Moderator of the 14th Conference of Western Diagnostic Pathologists. Western College of Veterinary Medicine. Saskatoon, Canada, October 9-10. 1980.

Contagious Equine Metritis: Current Research and Diagnostic Methods. Western College of Veterinary Medicine, Saskatoon, Canada, Oct. 8, 1980

Toxicoinfectious Botulism in Foals and Adult Horses. 14th conference of Western Diagnostic Pathologists. Western College of Veterinary Medicine, Saskatoon, Canada, Oct. 9-10, 1980

Multifocal Hepatitis in Foals. 14th conference of Western Diagnostic Pathologists. Western College of Veterinary Medicine, Saskatoon, Canada, Oct. 9-10, 1980

Enterotoxemia in Horses. 14th conference of Western Diagnostic Pathologists. Western College of Veterinary Medicine, Saskatoon, Canada, Oct. 9-10, 1980

Early Abortion in Thoroughbred Mares. AAEP 26th Annual Convention. Anaheim, Ca, Nov 29-Dec 3, 1980.

The Relationship between Diet and Diseases in Foals and Horses. Pennsylvania Horse Breeders Association, Kennett Square, Pa. Dec 11 1980

Diseases of Neonatal Foals. Pennsylvania Horse Breeders Association. Kennett Square, Pa. Dec 11, 1980.

Reproductive Diseases of the Mare. Florida Equine Veterinary Medical Association. Ocala, Fl. Nov 7-9. 1980.

Contagious Equine Metritis. Florida Equine Veterinary Medical Association. Ocala, Florida. Nov 7-9, 1980.

Diseases of Neonatal Foals. Florida Equine Veterinary Medical Association, Ocala, Fl. Nov 7-9, 1980.

Research on Contagious Equine Metritis. Conference of Research Workers in North America, Chicago, Ill, Nov 10-11, 1980.

Diseases of Foals. Alberta Veterinary Medical Association, Edmonton, Alberta, Canada, Feb 5-7, 1981.

Venereal Diseases of Horses. Alberta Veterinary Medical Association, Edmonton, Alberta, Canada. Feb. 5-7, 1981.

Review of Field Postmortem Techniques. Illinois State Veterinary Medical Association, Champaign, Ill. Feb 13-16. 1981.

Diseases of Neonatal Foals. Illinois State Veterinary Medical Association. Champaign, Ill. Feb. 13-16. 1981.

Research on the Relationship between Nutrition and Diseases in Horses. Midway College, Midway, Ky. Feb 19, 1981.

Early Fetal Loss and Infectious Placentitis in the Mare. Presented with RH. Douglas. Third International Symposium on Equine Reproduction. Sydney, Australia. Jan 24-29. 1981.

Congenital Anomalies in Foals. Presented with MW Crowe. American Veterinary Medical Association, Salt Lake City, Utah, July, 1982.

Gastric Ulcers in Foals. The 120th Annual Meeting of the American Veterinary Medical Association. New York, NY. July, 1983.

The Effect of Diet on Diseases of the Horse. Egyptian Event. June 12, 1983.

Hepatotoxicity in Neonatal Foals. Kentucky Equine Practitioners Association, In: Veterinary Practitioner April 1983. No. 3.

Pathogenesis, Treatment and Control of Streptococcus equi Infection (strangles) in Horses. First Annual Eastern States Veterinary Conference, Orlando. Fl. Jan., 1984.

Prenatal and Neonatal Diseases of the Foal. Fifth Annual Ocala Equine Health Seminar, Ocala, Fl., Nov. 8-9, 1985.

The Relationship between Environment, Nutrition, Stress and Infectious Diseases of the Fetus and Neonatal Foal. Fifth Annual Ocala Equine Health Seminar, Ocala Fl., Nov 8-9. 1985.

Equine Fetal Diseases. The 24th Annual Ocala Equine Conference. Ocala, Fl., Nov 9-10, 1985.

Neonatal Diseases of the Foal. The 24th. Annual Ocala Equine Conference. Ocala, Fl., Nov 9-10. 1985.

Relationship between Management, Nutrition and Stress on Diseases of the Prenatal and Neonatal Foal. Transylvania University, Lexington, Ky. March 6, 1986.

Nutrition and New Alternative Methods for the Treatment of Diseases: Altech's 2nd Annual Biotechnology Symposium. April 23-24. 1986. Lexington, Ky.

Pathology of Equine Ehrlichial Monocytosis (Potomac Horse Fever) Kentucky Equine Practitioner Association. July, 1986. Lexington, Ky.

Alternative Methods for the Treatment of Diseases. Norden Laboratories. June 17, 1987. Lincoln, Nebr.

Advances in the Treatment of Equine Respiratory Tract Infections. The Upjohn Company, Sept. 11, 1987. Kalamazoo, Michigan.

The Interrelationship between Nutrition, Stress and Infectious Diseases of Horses. International Arabian Horse Fair. Aug. 31, 1989. Lexington, Ky.

Overview of Causes of Equine Abortions and Management Procedures that Contribute to Fetal Loss. The 62nd. Western Veterinary Conference. Febr. 18-22. 1990. Las Vegas, Nevada.

Reproductive Diseases of the Mare. Chairman of Section. The 62nd. Western Veterinary Conference. Febr. 18-22. 1990. Las Vegas, Nevada

Etiology, Pathogenesis and Pathology of Non-infectious Abortions in the Mare. The 62nd. Western Veterinary Conference. Febr. 18-22. 1990. Las Vegas, Nevada.

Etiology, Pathogenesis and Pathology Viral Abortions in the Mare. The 62nd. Western Veterinary Conference. Febr. 18-22. 1990. Las Vegas, Nevada.

The Relationship between Chronic Opportunistic Diseases and Induced Mineral Imbalances in Livestock. Northern Kentucky Ostrich Association. March 12, 1997.

Chronic Opportunistic diseases of Livestock. Southern Ohio Growers Nutritional Solutions Conference. March 20, 1998. Middletown, Ohio.

The Effect of Nutrition on Diseases of Cattle. East Central Nebraska Feedlot Association Meeting. November 19, 1998. Boone County, Nebraska.

The Interrelationship between Nutrition and Infectious Diseases of Livestock. East Central Nebraska Cattlemen Association Meeting. November, 20, 1998. Boone County, Nebraska.

Heavy Metal Problems in Livestock and Agriculture. Growers Nutritional Solutions Annual Meeting. December 1, 1998, Milan, Ohio

The Interrelationship between Nutrition, Toxic Heavy Metals and Infectious Diseases of Livestock. Western Minnesota Farmers for Animal Health. January 12, 1999. Alexandria, Minnesota.

The Relationship between Chronic Opportunistic Diseases of Livestock and induced Mineral Imbalances. Western Minnesota Farmers for Animal Health. January 13, 1999. Freeport, Minnesota

The interrelationship between highly nutritious diets and infectious diseases of pregnant and lactating mares and their foals. Canadian and New York Livestock Owners Association. March 10, 1999, Penn Yan, New York.

Induced trace mineral deficiencies caused by mineral imbalances in livestock. Canadian and New York Livestock Owners Association. March 10, 1999. Penn Yan, New York.

The effect of high protein rations, mineral imbalances and induced trace mineral deficiencies on metabolic bone disease in foals. Central Ohio Livestock Owners Association. March 16, 1999. Wapakoneta, Ohio.

The effect of mineral imbalances and induced trace mineral deficiencies on the immune system of livestock. Central Ohio Livestock Owners Association. March 16, 1999. Wapakoneta, Ohio.

The Relationship between Emerging Opportunistic Diseases of Livestock and induced Mineral Imbalances. Canadian and New York Livestock Owners Associations. April 20, 1999. Ogdensburg, New York.

Emerging Opportunistic Diseases of Equine Fetuses and Foals Related to induced Mineral imbalances. Canadian and New York Livestock Owners Associations. April 20, 1999. Ogdensburg, New York.

The Interrelationship between Feed, Forages and Environmental Factors on Essential Trace Minerals on Health and Diseases of Livestock. Featured speaker at the Annual Meeting of the Canadian and U.S. Nutritional Solutions Annual Meeting. Milan, Ohio. December, 2000.

Toxic Heavy Metals Causing Induced Essential Trace Mineral Deficiencies and Secondary Opportunistic Diseases of Livestock. Canadian and U.S. Nutritional Solutions Annual Meeting. Milan, Ohio. December, 2000.

The Role of Toxic Heavy Metals on Inducing Cardiovascular and Metabolic Diseases of Humans and Multiple Opportunistic Diseases of Livestock. Co-presentation with Dr. Frankel, MD. Harvard University. Canadian and U.S. Nutritional Solutions Annual Meeting. Milan, Ohio, December, 2000.

The Interrelationship between Feed, Forages and Environmental Factors on Essential Trace Minerals on Health and Diseases of Livestock. Ontario Feed and Fertilizer Meeting, Orangeville, Ontario, Canada, January, 2001.

Emerging Opportunistic Diseases of Equine Fetuses and Foals Related to Induced Mineral Imbalances. Seminar, Journal Club, HDM Medicine. November 15, 2001. Lexington, KY.

High Potassium Forages Causing Electrolyte and Mineral Imbalances in Livestock. Canadian and U.S. Nutritional Solutions Annual Meeting. Milan, Ohio. December 6, 2001

MRLS: A Forage Induced Electrolyte and Mineral Imbalance. K.A.E.P. Emerging Disease Seminar. March 7, 2002, Lexington, KY.

Feedstuffs and Health Problems. Ag.Info Days. Ontario Ministry of Agriculture, Food and Rural Affairs. Barrie, Ontario, Canada. January 18, 2002

Emerging Opportunistic Diseases of Equine Fetuses and Foals Related to Induced Mineral Imbalances. Western Ontario Livestock Owners Association. Woodstock, Ontario, Canada, January 17, 2002

High Potassium Forages Causing Electrolyte and Mineral Imbalances in Livestock. Western Ontario Livestock Owners Association. Woodstock, Ontario, Canada, January 17, 2002

Emerging Opportunistic Diseases of Equine Fetuses and Foals Related



to Nutritional Factors, and Natural Preventive Methods for Disease Control. Natural Solutions for Wound Healing in Horses. September 28, 2003. International Symposium on Alternative Veterinary Therapies. Four Harmony Foundation. September 28, 2003. Pine Knoll Farm, Lancaster Ky.

Historic presentation on the Equine Breeding Industry in Kentucky and Significant Research Findings Associated with the Breeding Industry in Kentucky. October 24, 2003, Annual meeting of the National Surgical Riodon Hand Society. Lexington, Ky.

Emerging Opportunistic Diseases of Equine Fetuses and Foals Related to Plant Bacterial Endophytes, and New Natural Therapies for Intrauterine Infusion in Mares. Seminar, Journal Club, HDM Medicine. January 15, 2004. Lexington, KY.

Nitrate as the primary cause of equine congenital hypothyroidism, fetal and neonatal losses. Seminar for Equine Practitioners. LDCC. Lexington, KY. August 1, 2006.

Nitrate Toxicity and Sodium Deficiency Associated with Hypomagnesemia, Hypocalcemia and the Grass Tetany Syndrome in Herbivores. Annual Growers Mineral Solutions Meeting, Sandusky, Ohio, December 4, 2007.

#### CO-AUTHORED PAPERS AT PROFESSIONAL MEETINGS:

Petrites-Murphy MB and Swerczek TW: Fibrous Osteodystrophy in an Equine Fetus. Proceedings, 39th Annual ACVP Meeting, 1988, p64

Giles, RC, Donahue JM, Tramotin RR, Poonacha KB, Tuttle PA, Swerczek TW, Petrite-Murphy MB, Hong CB: Equine Abortion due to Placentitis Caused by a Gram-positive Filamentous Bacterium. Proceedings, Fifth International Symposium World Association of Veterinary Laboratory Diagnosticians, 1989.

Poonacha KB, Swerczek TW, Donahue JM, Smith B, Tramotin RR, Tuttle PA, Giles RC, Hong CB, Petrites-Murphy MB, Williams NM: Leptospiral Infection Associated with Abortion in Mares. Proceedings, Fifth International Symposium World Association of Veterinary Laboratory Diagnosticians, 1989.

Hong CB, Giles RC, Petrites-Murphy MB, Poonacha KB, Tramontin RR, Tuttle PA and Swerczek TW (1990) Adenomatous Hyperplasia of the Equine Allantois. 41st Annual Meeting of the American College of

Veterinary Pathologists. Phoenix, AZ, December 9-14, 1990.

Poonacha KB, Giles RC, Tuttle PA, Tramontin RR, Swerczek TW, Hong CB, Petrites-Murphy MB, Williams NM: Pathology of leptospiral induced abortion in horses. Proceedings, 33rd Annual AAVLD Meeting, 1990.

Poonacha KB, Tramontin RR, Tuttle PA, Hong CB, Petrites-Murphy MB, Swerczek TW and Giles RC (1990) Pathology of Leptospira Induced Abortion in Horses. 33rd Annual Meeting American Association of Veterinary Laboratory Diagnosticians. Denver, CO, p 21, October 7-9, 1990.

Poonacha KB, Smith BJ, Donahue JM, Tramontin RR, Tuttle PA, Hong CB, Petrites-Murphy MB, Swerczek TW and Giles RC (1990) Leptospiral Abortion in Horses in Central Kentucky. Proc 36th Annu Am Assoc Eq Practnr. Lexington, KY, pp 397-402, December 2-5, 1990.

Hong CB, Tramontin RR, Tuttle PA, Petrites-Murphy MB, Giles RC, Poonacha KB, Swerczek TW, Rooney JR: Adenomatous hyperplasia of equine allantoic epithelium. Proceedings, 41st Annual ACVP Meeting, 1990.

Poonacha KB, Donahue JM, Giles RC, Hong CB, Petrites-Murphy MB, Smith BJ, Swerczek TW, Tramontin RR, and Tuttle PA (1991) Abortion in Mares Associated with Leptospiral Infection in U.S.A. Sixth International Conference on Equine Infectious Diseases. Cambridge, England. July 7-11, 1991.

Poonacha KB, Donahue JM, Giles RC, Hong CB, Petrites-Murphy MB, Swerczek TW and Tramontin RR, 1998. A study of epidemiological, clinical, microbiological and pathological changes associated with Rhodococcus equi infection of the lower respiratory system of horses in Central Kentucky. Eighth International Conference on equine infectious diseases, Dubai, United Arab Emirates, pp. 113.

Williams, N.M., Bolin, D.C., Donahue, J.M., Giles, R.C., Harrison, L.R., Hong, C.B. Poonacha, K.B., Roberts, J.F., Sebastian, M.M., Swerczek, T. W. and Tramontin, R.R.: Gross and histopathological correlates of MRLS. First workshop on Mare Reproductive Loss Syndrome (MRLS). University of Kentucky, College of Agriculture, Lexington, KY. August 27 and 28, 2002.

Bolin, D.C., Harrison, L.R. Donahue, J.M. Giles, R.C., Hong, C.B. Poonacha, K.B., Roberts, J.F., Sebastian, M.M., Sells, S.F., Smith, R.A., Swerczek, T. W. and Tramontin, R.R. Vickers, M.L., and Williams, N.M.: The pericarditis correlate of MRLS. . First workshop on Mare Reproductive Loss Syndrome (MRLS). University of Kentucky,

College of Agriculture, Lexington, KY. August 27 and 28, 2002.

Donahue, J.M. Sells, S.F. Bolin, D.C., Giles, R.C., Harrison, L.R., Hong, C.B., Poonacha, K.B., Roberts, J.F., Sebastian, M.M., Smith, R.A., Swerczek, T. W., Tramontin, R.R., Vickers, M.L., and Williams, N.M.: Bacteria associated with MRLS: late-term abortions. . First workshop on Mare Reproductive Loss Syndrome (MRLS). University of Kentucky, College of Agriculture, Lexington, KY. August 27 and 28, 2002.

EXPERIMENT STATION PUBLICATIONS:

Swine MMA Syndrome, Vet-13, January, 1973.

Swine Edema Disease. Vet-11, January, 1973.

Taxus (Yew) Poisoning. Vet-7, April 1973.

Swine Influenze. Vet-12, January, 1973.

Anaplasmosis in Cattle. Vet-16, September, 1974.

Blackleg in cattle. Vet-15, September, 1974.

Equine Tetanus. Vet-14, September, 1974.

Pseudorabies in Swine, 1975.

Aflatoxins in Animals. 1977.



## CURRICULUM VITAE

**John F. Timoney**  
**Keeneland Professor of Infectious Diseases**  
Gluck Equine Research Center, University of Kentucky

### **Citizenship and Place of Birth:**

U.S.A.; Dublin, Ireland

### **Education:**

University College, Dublin, B.Sc.	1961
University College, Dublin, M.V.B., M.R.C.V.S.	1965
University of Wisconsin, M.S.	1967
National University of Ireland, Ph.D.	1969
Training Course, Dermatologic Mycology CDC, Atlanta, GA	1973

### **Awards and Prizes:**

University Scholarships, 1962-63, 1964-65, and Prizes in Bacteriology, Parasitology (1964), Surgery and Clinical Medicine (1965).  
Senior International Fellowship, John E. Fogarty International Center, 1979-80.  
F.K. Ramsey Lectureship. Iowa State University, September 1981.  
D.Sc. Degree, National University of Ireland, Published Work. July 1983.  
Exchange Fellow, Office of International Cooperation and Development (OICD), 1990.  
Excellence in Equine Research Award, Bayer Animal Health, 1999.  
Honorary Membership, American College of Veterinary Microbiologists.

### **Employment:**

1965-67	Research Assistant, Department of Veterinary Science, University of Wisconsin
1967-72	Assistant Lecturer, College Lecturer, Food Hygiene and Preventive Medicine, Department of Veterinary Medicine, University College, Dublin
1972-86	Assistant Professor, Associate Professor of Veterinary Bacteriology, Department of Microbiology, NYS College of Veterinary Medicine, Cornell University
1978-84	Lecturer, Aquavet Program, Woods Hole, Massachusetts
1979-80	Visiting Lecturer, Bacteriology, The Medical School, University of Bristol, England
1985-86	Visiting Associate Professor of Veterinary Bacteriology, University of California/Davis, Davis, CA
1986-91	Professor of Veterinary Bacteriology, Department of Microbiology, NYS College of Veterinary Medicine, Cornell University
1991-present	Keeneland Professor of Infectious Diseases, Department of Veterinary Science University of Kentucky, Lexington

### **Selected Consultancies, Review Boards, etc.**

National Wildlife Federation, Washington, D.C., 1983  
Editorial Review Board, Cornell Veterinarian (until cessation of publication)  
New Jersey Marine Sciences Consortium, Sea Grant Program  
University of Delaware Sea Grant Program  
Occasional Reviewer - American Journal Veterinary Research; Equine Veterinary Journal;  
Plasmid; Antimicrobial Agents and Chemotherapy, Infection and Immunity. Journal of  
General Microbiology, DNA Sequence, Int. Archives of Allergy and Immunology.  
Consulting Editor in Veterinary Medicine, McGraw-Hill, Encyclopedia of Science and  
Technology  
Member, USDA Review Panel, Iowa State University, Dept of Microbiology,  
Immunology and Preventive Medicine  
Ad hoc Reviewer, USDA, Competitive Grants Program, NSF Molecular Biosciences/  
Prokaryotic Genetics  
External Examiner - University of Bristol, U.K.; University of Khartoum, Sudan;  
University of Guelph, Ontario, Canada, Virginia Maryland Regional College of  
Veterinary Medicine, Blacksburg, Swedish University of Agricultural Sciences,  
Uppsala.  
Panel Member, USDA Competitive Research Grants, Molecular and Cellular Basis of  
Animal Disease.  
Consultant, Fort Dodge Laboratories, Boehringer-Ingelheim; Megan Animal Health,  
IDEXX.  
Member, Scientific Advisory Committee, Grayson-Jockey Club Research Foundation.  
Ad hoc Grant Review: Welcome Trust; Horserace Betting Levy Board; Home for Rest  
for Horses.  
Member, Board of Governors, American College of Veterinary Microbiology, 2006-2008.

### **Patents:**

Patent 06/754613 - The Protection of Equines against *Streptococcus equi*.  
Patent 6,458,358 - Compounds Encoding the Protective M-like Protein of *Streptococcus equi* and Assays Therefor.

### **Textbooks, Editing:**

Hagan and Bruner's Infectious Diseases of Domestic Animals, 7th Edition, Gillespie, J.H.  
and J.F. Timoney, Comstock/Cornell University Press, 1981; 837 pages. Translated  
into Spanish, Italian and Chinese.  
Hagan and Bruner's Microbiology and Infectious Diseases of Domestic Animals, 8th  
Edition, Timoney, J.F., J.H. Gillespie, F.W. Scott, and J.E. Barlough.  
Comstock/Cornell University Press. 1988; 960 pages. Translated into Spanish and  
Italian.  
McGraw Hill Encyclopedia of Science and Technology – Consulting Editor for Veterinary  
Medicine. 1993-2010.

### **Teaching Experience (Cornell University):**

VM 516 Infectious Diseases I. There were 36 lectures and 12 sectioned laboratories in this course which dealt with infectious diseases of animals caused by bacteria and fungi. The laboratories emphasized recognition of bacterial pathogens in clinical specimens and their culture there from.

VM 718 Protective Immunity in Microbial Infections. This graduate level course was taught every other spring and dealt with the remarkable diversity of mechanisms by which pathogens evaded host defense mechanisms. Responsibility for this course was shared with Dr. Alex Winter.

Infectious Disease Rounds, Spring Semester. I was a frequent participant at this weekly gathering of microbiologists, clinicians and students interested in Infectious Diseases.

### **Graduate Students:**

Patrick McDonough, M.S., 1976. Bacteriological and immunological studies on attenuated strains of *Salmonella typhimurium*.

Bonnie Hartland, M.S., 1978. Studies on antibacterial mechanisms in the American oyster, *Crassostrea virginica*, and the Quahaug Clam, *Mercenaria mercenaria*.

Deborah Light, M.S., 1980. Purification of an M-like protein of *Streptococcus equi* extracted by non-ionic detergent.

Jorge Galán, Ph.D., 1982-86. Studies on the immune response of the horse to the M protein of the horse to *Streptococcus equi*.

Maowia Mukhtar, M.S., 1983-85. Chemotactic response of equine polymorpho- nuclear leucocytes to *Streptococcus equi*;

Ph.D., 1985-89. The M protein and the diversity of equine strains of *Streptococcus zooepidemicus*.

Diana Eggers, M.S., 1983-86. Studies on phagocytosis and intracellular killing of virulent and avirulent *Streptococcus equi* by equine neutrophils.

Jiabin Ding, Ph.D., 1988-1990. Molecular genetic studies of a protein of *Streptococcus equi* subsp. *equi* that cross reacts with the M-protein of *S. equi*.

Jeffrey Boschwitz, Ph.D. 1989-1994. Interactions of equine complement factors and antibody with the M-protein of *Streptococcus equi*.

Yanti Jusuf, Ph.D. 1993-1997. Proteins of *Leptospira kennewicki* reactive with serum antibodies of aborting mares and their fetuses.

Beatrice Nesch, Habilitat Dissertation, Freien Universität Berlin, 1993-1995. Serum and mucosal responses of horses to M protein of *Streptococcus equi* subsp. *equi*.

### Graduate Students (cont):

Fangting Liang, Ph.D. 1995-1998. Characterization of the 16 and 14 kDa immunoreactive surface proteins of merozoites of *Sarcocystis neurona*.

Jarlath Nally, Ph.D., 1996-2001. Temperature regulated antigens of *Leptospira interrogans*.

Suresh Muthupulani, Ph.D., 1999-2005. Characterization, immunogenicity and possible roles of *Streptococcus equi* linkage group 1 proteins in the pathogenesis of strangles.

Raksha Tiwari, Ph.D., 2002-2007. Bacteriophage SeP9 *Streptococcus equi* and the antibacterial activity of its lysin.

Ashutosh Verma, Ph.D., 2002-2007. Leptospiral proteins associated with equine recurrent uveitis.

Rafaela De Negri, Ph.D, 2009-. Ph.D. research in progress.

### Postdoctoral Students and Visiting Scientists:

Martin Groschup	Pawan Kumar	Andreea Stanica	Vijayachari Paluru
Toru Anzai	John Walker	Catherine Merant	Natarajaseenivasan
Sergey Artiushin	Aiping Qin	Sridhar Velenini	Kalimuthusamy
Abhineet Sheoran	Melanie Hartman	Jiande Yang	

### Research Interests:

Pathogenesis of streptococcal and leptospiral diseases in the horse.  
Characterization of protective immunogens of *Streptococcus equi* and *zoepidemicus*.  
Nasopharyngeal-mucosal immune responses of the horse.  
Characterization of in vivo expressed immunogens of *Leptospira interrogans*.  
Immune complex diseases of horses and black rhinos.  
Functional analysis of the pyrogenic mitogens of *Streptococcus equi*.

### Service:

Diagnostic serology and bacteriology of equine streptococcal disease.  
Seminar Coordinator, Department of Veterinary Science, University of Kentucky, 1994-1997.  
PreVet Advisor 1996, 1997.

### Selected Committee Memberships:

Planning Committee. Task Forces and International Symposium on the Appropriate Use of Antibiotics. Fogarty International Center, NIH, Bethesda, Maryland, 20205. 1984-85.



### Selected Committee Memberships (cont):

American Association of Veterinary Laboratory Diagnosticians Committee on the Development of Standards for Antimicrobial Susceptibility Testing.  
Curriculum Committee, 1974-1983, Cornell University College of Veterinary Medicine.  
Second Year Subcommittee Task Force for Curriculum Review, 1984.  
Recombinant DNA Committee, Cornell University, 1977-82.  
Admissions Committee. NYS College of Veterinary Medicine, 1986-87.  
Graduate Field Representative, Graduate Field of Veterinary Medicine, Cornell University, 1986-1991. Responsible for drafting new guidelines for the Field.  
College Research Council, Cornell University College of Veterinary Medicine, 1991.

### Past and Current Research Support:

1. Dextra Baldwin McGonagle Foundation, Inc. (1973). \$5,000
2. U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Grant #04-6-022-44009, MESA, N.Y. Bight Project. "Heavy Metal and Antibiotic Resistance in Bacterial Strains in N.Y. Bight" (1975-77). \$107,996
3. U.S. Department of Commerce, National Oceanic and Atmospheric Administration. "Antibacterial Mechanisms in Clams and Oysters." (1977-79). \$21,000
4. Bristol Laboratories, Syracuse, N.Y. \$1,000
5. Research Foundation of the State of New York, Contract No. C-126973 "Studies on Bacterial and Viral Depuration of Clams from Great South Bay." (1978) Co-investigator. \$71,000
6. Department of Health, Education and Welfare. Fogarty International Center. Senior International Fellowship No. F06 TW00326-01. "Genetic and Physical Characterization Studies on R Factor Plasmids of the H Incompatibility Group." (1979-80). \$22,783
7. U.S. Department of Agriculture, Animal Health Bill, Grant #901-15-136. "Development of strains of *Streptococcus equi* rich in M Protein Content for Use in Strangles Vaccines." (1979-82). \$64,519
8. Harry M. Zweig Memorial Fund for Equine Research. The function and vaccine potential of M protein from equine strains of *Streptococcus zooepidemicus*. (1982). \$17,000
9. U.S. Department of Agriculture, Animal Health Bill, Grant #82-CRSR-2-063-0. "The vaccine potential of M protein rich extracts of *S. equi* in the horse." (1981-82). \$43,767
10. U.S. Department of Agriculture, Animal Health Bill, Grant #82-CRSR-2-2044. "Genetic basis of edema disease toxin production by *E. coli* from outbreaks of edema disease in swine (1982-83). \$43,062
11. Standardbred Research Grant for the Development of Strangles Vaccine in Memory of David R. Johnston (1983-85). \$80,186
12. Harry M. Zweig Memorial Fund for Equine Research Development of a nomograph to relate ELISA and Bactericidal Antibody Titers to *S. equi*. Co-investigator with Dr. R. Jacobson (1982-83). \$35,000

**Past and Current Research Support (cont):**

13. U.S. Department of Agriculture, Formula Funds. Studies on the Toxin of Edema Disease of Swine (1983-84).	\$15,500
14. U.S. Department of Agriculture, Animal Health Bill. Grant #84 CRSE-2-2441. "Cloning the Gene for the Toxin of Edema Disease of Swine." (1984-85).	\$48,203
15. U.S. Department of Agriculture, Formula Funds "Cloning the M Protein Gene of <i>Streptococcus equi</i> in <i>Escherichia coli</i> ." (1984-85).	\$13,000
16. U.S. Department of Agriculture. Animal Health Bill. Grant No. 86-CRSR-2-2839. "Identification and Artificial Synthesis of the Peptide of <i>S. equi</i> Active in Mucosal Immunity. (1986-88).	\$107,205
17. U.S. Department of Agriculture, Formula Funds. Cloning of the Immunologically Reactive Proteins of <i>Erysipelothrix rhusiopathiae</i> in <i>E. coli</i> . (1986-87).	\$17,637
18. Zweig Memorial Fund. The Interaction of <i>Streptococcus equi</i> with the equine nasopharynx. (1988).	\$18,000
19. Norden Laboratories. <i>S. equi</i> vaccine development. (1987-88).	\$100,000
20. NYS. Ag. and Markets. <i>Salmonella enteritidis</i> in laying hens. Co-principal investigator with R.C. Baker. (1987-88).	\$17,500
21. South Eastern Poultry Breeders Conference. The problem of <i>S. enteritidis</i> in eggs. Co-principal with R.C. Baker. (1988-89).	\$25,000
22. Zweig Memorial Fund. Determination of nucleotide sequence of M protein gene of <i>Streptococcus equi</i> . (1989).	\$28,917
23. Zweig Memorial Fund. Characterization of the epitopes of the M protein of <i>Streptococcus equi</i> involved in protective responses of the horse.	(1990) \$37,539 (1991) \$32,000
24. U.S. Department of Agriculture. Animal Health Bill. Detection of Avian Antibody Response to <i>Salmonella enteritidis</i> by K ELISA. (Co-Investigator) (1990-1992).	\$100,000
25. Grayson-Jockey Club Research Foundation, Inc. Characterization and sequence determination of opsonic and mucosally active epitopes of M protein of <i>Streptococcus equi</i> . (1992-1994).	\$72,227
26. U.S. Department of Agriculture. NRICGP Use of PCR to study the M protein genes of the equine group C streptococci. (1992-1994).	\$101,000
27. Fort Dodge Laboratories. Unrestricted Grant for Research on Protective Immunity to <i>S. equi</i> . (1995-1997).	\$150,000
28. US Department of Agriculture NRICGP. M-like Proteins of <i>Streptococcus equi</i> in Virulence and Immunity. 1995-1997.	\$120,000
29. Grayson-Jockey Club Research Foundation Inc. Mucosal Immunogenicity of M-protein of <i>Streptococcus equi</i> Genetically Coupled to Cholera Toxin A2 Subunit. 1996-1998.	\$72,900
30. Boehringer Ingelheim – Megan Animal Health, Salmonella Vectored Strangles Vaccine. 1998-1999.	\$80,000
31. Grayson-Jockey Club Research Foundation, Inc. Characterization of the Pyrogenic Mitogen of <i>Streptococcus equi</i> . 1999-2001	\$57,182

**Past and Current Research Support (cont):**

- |   |           |
|---|-----------|
| 32. Fort Dodge Laboratories. Inactivation of the <i>hasA</i> Gene of <i>Streptococcus equi</i> Strain Pinnacle. 2000-2001.  | \$66,500  |
| 33. Grayson-Jockey Club Research Foundation, Inc. Identification of Immunogenic Proteins Unique to <i>Streptococcus equi</i> . 2001-2003.   | \$90,250  |
| 34. Niarchos Foundation. Potential Novel Proteins of <i>Streptococcus equi</i> for Development of More Effective Vaccines against Strangles. 2001-2002.                           | \$50,000  |
| 35. Grayson-Jockey Club Research Foundation. Mucosally Immunogenic Surface Expressed Proteins of <i>Streptococcus equi</i> . 2003-2004.   | \$46,500  |
| 36. Grayson-Jockey Club Research Foundation, Inc. Systemically immunogenic surface and secreted proteins of <i>Streptococcus equi</i> . 2004-2005.                                | \$42,450  |
| 37. Grayson-Jockey Club Research Foundation, Inc. Rapid diagnostic assay for <i>Streptococcus equi</i> . 2006-2008.   | \$91,198  |
| 38. Grayson-Jockey Club Research Foundation, Inc. New tools for detection of leptospira in horses. 2005-2006.   |           |
| 39. USDA Special Research Grant. Advanced Genetic Technologies, KY. Genome sequencing for the animal and human pathogen, <i>Streptococcus zooepidemicus</i> . RO 2005-2007. Co-PI | \$675,000 |
| 40. CSREES/USDA/Biohelix Corp. Lateral flow molecular assay for detecting <i>Streptococcus equi</i> . 2008-2009. Co-PI  | \$26,646  |
| 41. KY Science & Engineering Foundation. Rapid test for <i>S. equi</i> and <i>L. interrogans</i> in clinical specimens from horses. 2008-2010. Co-PI                              | \$42,393  |

**Seminars and Presentations at National and International Meetings (1981-present):**

Timoney, J.F. R Plasmids in Pathogenic Enterobacteriaceae from Calves. International Plasmid Conference on Molecular Biology, Pathogenicity and Ecology of Bacterial Plasmids, January 1981. Santo Domingo.

Timoney, J.F. The Human Health Implications of Antibiotic Resistant Bacteria From Animals. F.K. Ramsey Memorial Lecture. College of Veterinary Medicine, Iowa State University, September 1981.

Timoney, J.F., Lisa Pesante, Cynthia Ernst. Hyaluronidase Associated with a Temperate Bacteriophage of *Streptococcus equi*. ASM International Conference on Streptococcal Genetics, Sarasota, Florida. November 1981.

Timoney, J.F. The Immunologically Reactive Proteins of *Streptococcus equi*. XXII World Veterinary Conference, Perth, Australia. August 1983.

Galán, J.E., J.F. Timoney. Local Antibody Responses of the Nasopharynx of the Horse to Proteins of *Streptococcus equi*. Conference of Research Workers in Animal Diseases, Chicago, Illinois. November 1983.

### **Seminars and Presentations at National and International Meetings (cont):**

Timoney, J. F., Andrea Horris, Diane Barta. Edema Disease Toxin and the K82 and K85 Antigens are Plasmid Encoded Traits. Conference of Research Workers in Animal Diseases, Chicago, Illinois. November 1983.

Timoney, J. F. Strangles, A New Look at an Old Disease. Invited Seminar. Department of Veterinary Medicine, University of Pennsylvania, New Bolton Center. March 1984.

Timoney, J. F., J. E. Galán. 1984. The Protective Response of the Horse to *Streptococcus equi*. IXth Lancefield International Symposium on Streptococci and Streptococcal Diseases, Lake Yamanaka, Japan, September.

Timoney, J.F., J. E. Galán. The Protective Response of the Horse to an Avirulent Strain of *Streptococcus equi*. Conference of Research Workers in Animal Disease, Chicago, Illinois. November 1984.

Galán, J.E., J.F. Timoney. 1984. *Streptococcus equi* Associated Immune Complexes in the Sera of Horses with Purpura Hemorrhagica. Conference of Research Workers in Animal Disease, Chicago, Illinois, November.

Mukhtar, M.M., J.F. Timoney. 1985. Chemotactic Response of Equine Polymorphonuclear Neutrophils to *Streptococcus equi*. Joint Conf. of the 17th International Leucocyte Culture Conference and 22nd National Meeting of the Reticuloendothelial Society, Ithaca, New York. July

Timoney, J.F. Antibiotic Resistance: Epidemiology and Clinical Implication in Veterinary Medicine. 122nd AVMA Meeting, Las Vegas, Nevada. July 1985.

Timoney, J.F., J.E. Galán. Present status of *Streptococcus equi* Vaccine. 122nd AVMA Meeting, Las Vegas, Nevada. July 1985.

Mukhtar, M.M., J.F. Timoney. Chemotactic Response of Equine Polymorphonuclear Leucocytes to *Streptococcus equi*. Conference of Research Workers in Animal Diseases. Chicago, November 1985.

Galán, J.E., J.F. Timoney. Studies on the Passive Protection of Newborn Foals to *Streptococcus equi* Infection. Conference of Research Workers in Animal Diseases, Chicago, November 1985.

Timoney, J.F., C. Tusch, J. Cepits. A Monoclonal Antibody Against Edema Disease Toxin. Conference of Research Workers in Animal Diseases. Chicago, November 1985.

Timoney, J.F. Strangles: New Information on the Pathogenesis and Immunology of an Old Disease. 104th Ann. Mtg. Pennsylvania Vet. Med. Assoc. White Haven, PA, October 1986.

### Seminars and Presentations at National and International Meetings (cont):

Timoney, J.F., P. Blanchard, D.C. Hirsh, J.E. Galán. Characterization of an M-like Protein from a Group G *Streptococcus* Pathogenic for the Cat. Conference of Research Workers in Animal Diseases. Chicago, November 1986.

Galán, J.E., J.F. Timoney. Cloning the M protein Gene of *Streptococcus equi* in *Escherichia coli*: Expression of Opsonic and Purpuragenic Determinants. Conference of Research Workers in Animal Diseases. Chicago, November 1986.

Timoney, J.F. Use of a Monoclonal Antibody to Characterize and Study the Distribution of a Mouse Lethal Toxin in Edema Disease Strains of *E. coli*. International Symposium on Verocytotoxin producing *E. coli*. Toronto, Canada. July 1987.

Timoney, J.F., Blanchard, P. Hirsh, D.C., Galán, J.E. Identification and Distribution of an M protein from a Group G *Streptococcus* Pathogenic for the Cat. 10th Lancefield International Symposium on Streptococci and Streptococcal Diseases. Cologne, Fed. Rep. Germany. September 1987.

Timoney, J.F. Recent Field and Laboratory Observations on the Epizootiology and Pathogenesis of *Streptococcus equi* Infection. Fifth International Conference on Equine Infectious Diseases, Lexington, Kentucky, October 1987.

Galán, J.E., Timoney, J.F., Curtiss, R. III. Expression of the *Streptococcus equi* M-protein Gene in *E. coli* and *S. typhimurium*. Fifth International Conference on Equine Infectious Diseases, Lexington, Kentucky, October 1987.

Conboy, H. Steve, Timoney, J.F., Martin, S. *Streptococcus equi* Antibodies in Standardbred Mares Colostrum and Milk and the Duration of Maternally Derived *Streptococcus equi* Antibodies in the Nursing Foal. Fifth International Conference on Equine Infectious Diseases, Lexington, Kentucky, October 1987.

Timoney, J.F., Baker R.C. Egg Transmission of *Salmonella enteritidis*. *Salmonella enteritidis* Multiagency Workshop, NYS Dept. of Health, Albany, NY, December 1987.

Timoney, J.F. Update on Strangles. 80th Annual Conference for Veterinarians, January 1988.

Timoney, J.F. Biology of *Salmonella enteritidis* Infection in Birds and Results of Challenge Studies. 88th Annual Meeting American Society for Microbiology, Miami, Florida, May 1988.

Curtiss, R. III, Goldschmidt, R.M., Nakayama, K., Kelly, S.M., Galán, J.E., Timoney, J.F. Avirulent *Salmonella typhimurium* Oral Vaccine Strains Expressing Streptococcal Antigens. 88th Annual Meeting American Society for Microbiology, Miami, Florida, May 1988.

### Seminars and Presentations at National and International Meetings (cont):

Timoney, J.F., Galán, J.E. Characteristics of a Protective Protein of *Erysipelothrix rhusiopathiae*. 10th Congress, International Pig Veterinary Society. Rio de Janeiro, Brazil, August 1988.

Mukhtar, M.M., J.F. Timoney. Identification of M-Proteins on Equine Strains of *Streptococcus zooepidemicus*. 69th Annual Meeting of the Conference of Research Workers in Animal Disease. Chicago, November 1988.

Timoney, J.F. Recent Progress in Understanding the Epizootiology, Pathogenesis and Immunology of Strangles. British Equine Veterinary Association Annual General Meeting, London, England, December 1988.

Groschup, M., K. Cussler, R. Weiss, J.F. Timoney. Protective Properties of Antigenic Timoney, J.F. *Salmonella enteritidis* - Unravelling the Puzzle. Cornell Poultry Conference. Ithaca, July 1989.

Components in Different Extracts of *Erysipelothrix rhusiopathiae*. 70th Annual Meeting of the Conference of Research Workers in Animal Disease. Chicago, November 1989.

Timoney, J.F., N. Sikora, H.L. Shivaprasad and B. Lucio. Evaluation of gm Flagellin as Antigen in an Enzyme Linked Immunosorbent Assay for Serum Antibody in Hens Infected with *Salmonella enteritidis*. 70th Annual Meeting, Conference of Research Workers in Animal Disease. November 1989.

Timoney, J.F., M.M. Mukhtar, J. Galán, J. Ding. The M-Proteins of the Equine Group C Streptococci. ASM 3rd International Conference on Streptococcal Genetics. Minneapolis, June 1990.

Gonzales, R.N., J.F. Timoney, B.F. Netherton, J.L. Watts, P.M. Sears, G.L. Hayes. Epidemiology of Human Group G Streptococcal Mastitis in Dairy Cows. Annual Meeting American Dairy Science Association, Raleigh, June 1990.

Timoney, J.F., N. Sikora, H.L. Shivaprasad, M. Opitz. Sensitivity and Specificity of a Flagellin Based ELISA for Antibody to *Salmonella enteritidis*. Annual Convention of American Veterinary Medical Association, San Antonio, July 1990.

Timoney, J.F. Immunity to the Equine Group C Streptococci. 100th Anniversary Meeting of the New York State Veterinary Medical Society. Rochester, October 1990.

Timoney, J.F. *Streptococcus equi* - Current Thinking on Protective Immunity. Annual Convention American Association of Equine Practitioners. Lexington, December 1990.

Groschup, M.H., K. Cussler, J.F. Timoney. Characterization of a Protective Antigen of *Erysipelothrix rhusiopathiae*. 71st Conference of Research Workers in Animal Disease. Chicago, 1990.

### Seminars and Presentations at National and International Meetings (cont):

Ding, J., J.F. Timoney. Sequence Analysis of a Gene of *Streptococcus equi* Encoding a 58 k Protein Reactive with Antiserum to M-Protein. 71st Conference of Research Workers in Animal Disease. Chicago, 1990.

Timoney, J.F., M.H. Groschup. Protective antigens of *Erysipelothrix rhusiopathiae*. Int. Conf. on Characterization and Quantitation of Immunogens in Veterinary Biology. Ames, Iowa, July 1992.

Timoney, J.F. Pathogenicity of *Streptococcus zooepidemicus* in the equine uterus. John P. Hughes International Workshop on Equine Endometritis, Newmarket, England, August 1992.

Timoney, J.F., A. Umbach. Variability of the M proteins of equine isolates of *Streptococcus zooepidemicus*. 73rd Conference of Research Workers in Animal Disease. Chicago, 1992.

Boschwitz, J.S., J.F. Timoney. 1992. The effect of the M protein on the deposition and degradation of equine C3 on the surface of *Streptococcus equi*. 73rd Conference of Research Workers in Animal Disease. Chicago.

Jusuf, S.S.D., J.F. Timoney, J.M. Donahue. 1993. Antigens of *Leptospira interrogans* serovar *kennewicki* recognized by serum from aborting mares, fetuses and foals. 7th Conference of Research Workers in Animal Disease, November.

Timoney, J.F., M. Zhou, J. Walker. 1993. Structural features of the M protein of *Streptococcus equi* subsp. *zooepidemicus*. 7th Conference of Research Workers in Animal Disease, November.

Timoney, J.F., A. Umbach, J.E. Boschwitz, J.A. Walker. 1994. *Streptococcus equi* subsp. *equi* expresses two M-like proteins including a homologue of the variable M protein of subsp. *zooepidemicus*. 7th Int. Conf. Equine Infectious Diseases. Tokyo, Japan, June.

Walker, J.A., J.F. Timoney. 1994. Application of the polymerase chain reaction to the study of the molecular basis of M protein variation in *Streptococcus equi* subsp. *zooepidemicus*. 7th Int. Conf. Equine Infectious Diseases. Tokyo, Japan, June 1994.

Timoney, J.F. 1994. The role of *Streptococcus equi* subsp. *zooepidemicus* in lower respiratory tract infections of foals. 7th Int. Conf. Equine Infectious Diseases. Tokyo, Japan, June.

Artiushin, S.C., J.F. Timoney. 1996. PCR for detection of *Streptococcus equi* subsp. *equi*. XIIIth Lancefield International Symposium on Streptococci and Streptococcal Diseases. Paris, France, September.

### Seminars and Presentations at National and International Meetings (cont):

Timoney, J.B., S.C. Artiushin. 1996. The M-like proteins of *Streptococcus equi* subsp. *equi*. XIIIth Lancefield International Symposium on Streptococci and Streptococcal Diseases. Paris, France, September.

Timoney, J.F., T. Anzai, M. Blair. 1996. Clonal invasion of the equine respiratory tract by *Streptococcus equi* subsp. *zooepidemicus*. XIIIth Lancefield International Symposium on Streptococci and Streptococcal Diseases. Paris, France, September.

Timoney, J.F. 1997. Protective immunity to Streptococci in horses and new approaches to vaccination. Workshop on Equine Respiratory Bacteriology, Horserace Betting Levy Board, London, December.

Timoney, J.F., S. Artiushin, J. Wang. 1999. Regions of the protective M-like (SeM) of *Streptococcus equi* recognized by serum and mucosal antibodies of convalescent horses. 78<sup>th</sup> Annual Conference of Research Workers in Animal Diseases, Chicago.

Sheoran, A.S., S. Artiushin, J.F. Timoney. 1997. Stimulation of nasopharyngeal mucosal IgA specific for protective M-like protein of *Streptococcus equi*. 78<sup>th</sup> Annual Conference of Research Workers in Animal Diseases, Chicago.

Artiushin, S., J.F. Timoney, J. Nally. 1997. Development of PCR method for detection of *Leptospira kennewicki* infection in horses. 78<sup>th</sup> Annual Conference of Research Workers in Animal Diseases, Chicago.

Sheoran, A.S., J.F. Timoney. 1997. Serum and mucosal IgA and IgG subisotype responses of *Streptococcus equi* in infected and vaccinated horses. 2<sup>nd</sup> Int. Symposium, Basic Aspects of Vaccines, Bethesda.

Timoney, J.F., J. Wang, Y. Jusuf, B. Smith, M. Donohue. 1997. Recombinant Lk90 and Lk74 proteins as antigens in an ELISA for antibodies to *Leptospira kennewicki* in horse sera. An. Mtg. Am Leptospirosis Research Conference, Des Moines.

Sheoran, A.S., S.S.D. Jusuf, J.M. Donohue, B.Smith, J.F. Timoney. 1997. IgGa subclass restriction of equine fetal antibody response to *Leptospira interrogans serovar pomona* type *kennewicki*. An Mtg. Am. Leptospirosis Research Conference, Des Moines.

Artiushin, S., J.F. Timoney, J. Nally. 1997. Detection of *Leptospira interrogans serovar pomona* type *kennewicki* by PCR. An. Mtg. Am. Leptospirosis Research Conference, Des Moines.

Lahmers, K.K., D. Gross, P.S. French, S.A. Chevalier, J.F. Timoney, K. Hinchcliff, P. Morley, R.D. Slemons. 1998. Dynamics of respiratory tract flora during influenza. A infection in exercised and non-exercised horses. 79<sup>th</sup> Annual Conference of Research Workers in Animal Diseases, Chicago.



### Seminars and Presentations at National and International Meetings (cont):

Timoney, J.F., A.S. Sheoran, J. Nally. 1998. Mucosal and serum antibody subisotype responses following intranasal administration of ponies with attenuated *Salmonella typhimurium*. 5<sup>th</sup> International Veterinary Immunology Symposium. Ludhiana, India.

Sheoran, A.S., S. Artiushin, J.F. Timoney. 1998. Mucosal immunogenicity of an avirulent *Salmonella typhimurium* expressing an immunogenic polypeptide of the M-like protein (SeM) of *Streptococcus equi*. 5<sup>th</sup> International Veterinary Immunological Symposium. Ludhiana, India.

Sheoran, A.S., S. Artiushin, J.F. Timoney. 1998. Intranasal immunization of horses with attenuated *Salmonella typhimurium* expressing M-protein of *Streptococcus equi*. 3<sup>rd</sup> Int Symposium. Basic Aspects of Vaccines, Bethesda.

Timoney, J.F., S. Artiushin, J. Wang. 1998. Regions of the protective M-like protein of *Streptococcus equi* recognized by serum and mucosal antibodies of convalescent horses. 8<sup>th</sup> Int. Conf. Eq. Infectious Diseases. Dubai, UAI, March.

Holland, R.E., C.R. Tudor, J.F. Timoney, T. Anzai, T.M. Chambers. 1998. Equine influenza disease in donkeys: severe bronchopneumonia due to clonal invasion by *Streptococcus zooepidemicus*. 8<sup>th</sup> International Conference Equine Infectious Diseases. Dubai, UAI, March.

Jusuf, S.S.D., J.F. Timoney, J.M. Donohue. 1998. Proteins of *Leptospira interrogans serovar pomona* type *kennewicki* reactive with serum antibodies of aborting mares and their fetuses. 8<sup>th</sup> International Conference Equine Infectious Diseases. Dubai, UAI, March.

Timoney, J.F. Protective Immunity in Equine Strangles. Faculdade de Farmacia, University of Lisbon, June 1, 1998. Invited guest lecturer.

Artiushin, S., J.F. Timoney, J. Nally. 1998. Detection of *leptospira interrogans serovar pomona* type *kennewicki* by PCR. 8<sup>th</sup> International Conference Equine Infectious Diseases. Dubai, UAI, March.

Li, W., S. Fiala, N. Gibson, J. Timoney, R. Caines, W.M. Acree, H.J. Chu. 1998. Efficacy of a modified live *Streptococcus equi* vaccine in an equine experimental model 8<sup>th</sup> International Conference Equine Infectious Diseases. Dubai, UAI, March.

Sheoran, A.S., S. Artiushin, J.F. Timoney. 1998. Stimulation of nasopharyngeal mucosal IgA specific for protective M-like protein of *Streptococcus equi*. 8<sup>th</sup> International Conference Equine Infectious Diseases. Dubai, UAI, March.

Timoney, J.F. 1999. Equine Strangles. Department of Microbiology, Swedish University of Agricultural Sciences, Uppsala, February.

### Seminars and Presentations at National and International Meetings (cont):

Timoney, J.F. 1999. Wild Horse and Burro National Meeting. Bureau of Land Management, Fort Collins, Colorado, April.

Karzenski, S., M.V. Crisman, V. Buechner-Maxwell, J.J. Dascanio, J.F. Timoney, A. Sheoran. 1999. Effect of prepartum vaccination on levels of immunoglobulin subisotypes specific for the M-like protein of *Streptococcus equi* in sera and nasal washes of foals; 17<sup>th</sup> An. Veterinary Medical Forum; Am. Coll. Vet. Int. Med, June; World Equine Veterinary Association Congress, Lyons, September.

Artiushin, S., A. Sheoran, J.F. Timoney. 1999. Comparison of cholera toxin chimera and attenuated *Salmonella typhimurium* as vectors for mucosal delivery. 14<sup>th</sup> Lancefield Int. Symp. On Streptococci and Streptococcal Diseases. Auckland, October.

Sheoran, A., T. Anzai, Y. Kuwamoto, T. Kondo, R. Wada, T. Inoue, J. Timoney. 1999. Characterization of a potent mitogenic and pyrogenic protein produced by *Streptococcus equi*. 14<sup>th</sup> Lancefield Int. Symp. On Streptococci and Streptococcal Diseases. Auckland, October.

Nally, J.E., S. Artiushin, A.S. Sheoran, P.J. Burns, B. Simon, R.M. Gilley, J. Gibson, S. Sullivan, J.F. Timoney. 1999. Induction of mucosal and systemic antibody specific for SeM F3 of *Streptococcus equi* by intranasal vaccination using a sucrose acetate isobutyrate based delivery system. Am. Soc. For Microbiology, General Meeting, Chicago, May. Controlled Release Society General Meeting, Boston, June.

Timoney, J.F., J. Wang, S. Artiushin, A. Sheoran, J. Nally, P. Kuman. 1999. Virulence and immunogenicity of clone of *Streptococcus equi* in which expression of SeM is blocked by Tn916 mutagenesis. A) 80<sup>th</sup> Conf. Res. Workers in Animal Diseases, Chicago, November. b) 14<sup>th</sup> Lancefield International Symposium on Streptococci and Streptococcal Diseases, Auckland, October.

Sheoran, A.S., J. Nally, J.F. Timoney. 1999. Intranasal immunization with attenuated *Salmonella typhimurium* stimulates specific nasal, intestinal, vaginal, and systemic antibody responses in the horse. 80<sup>th</sup> Conf. Res. Workers in Animal Diseases, Chicago, November.

Timoney, J.F. 2000. Induction of nasopharyngeal mucosal immune responses in the horse. Annual Symposium of the Comparative Respiratory Society, Melbourne, Australia, November.

Artiushin, S., A. Sheoran, J.F. Timoney. 1999. Characterization of the mitogens from *Streptococcus equi*. 80<sup>th</sup> Conf. Res. Workers in Animal Diseases, Chicago, November.

Timoney, J.F. 1999. Equine Strangles. 45<sup>th</sup> Annual Convention of the American Association of Equine Practitioners, Albuquerque, New Mexico, December.

### Seminars and Presentations at National and International Meetings (cont):

Timoney, J.F., A.S. Sheoran, S. Artiushin, S. Tinge, J. Nally. 2000. Strategies for intranasal immunization of the horse: possibilities and limitations. 2<sup>nd</sup> International Veterinary Vaccines and Diagnostic Conference, Oxford, July.

Timoney, J.F., P. Kumar, A.S. Sheoran. 2000. M cells and lymphoid tissue of the equine nasopharyngeal tonsil. 2<sup>nd</sup> International Veterinary Vaccines and Diagnostic Conference, Oxford, July.

Nally, J.E., B. Stevenson, J.F. Timoney. 2000. Temperature regulated proteins of *Leptospira interrogans*. Biology of Spirochetes. Gordon Conference, Ventura, Jan.

Nally, J.E., A.S. Sheoran, B. Smith, B. Stevenson, J.F. Timoney. 2000. An equine fetal antibody response to temperature regulated proteins of *Leptospira interrogans serovar pomona* type *kennewicki*. American Society for Microbiology 100th General Meeting, Los Angeles, May.

Artiushin, S.C., J.F. Timoney, J.E. Nally. 2000. Isolation and molecular analysis of a sphingomyelinase-like protein from *Leptospira interrogans serovar pomona* type *kennewicki*. 81<sup>st</sup> Conf. Res. Workers in Animal Diseases, Chicago, November.

Timoney, J.F. 2000. Equine Streptococcal Disease: Pathogenesis and Protective Immunity. Department of Medical Microbiology and Immunology, University of Kentucky, September.

Chanter, N., J.F. Timoney. 2000. Strategies for improved control of equine streptococcal infections. 2<sup>nd</sup> International Veterinary Vaccines and Diagnostics Conference, Oxford, July.

Nally, J.E., J.F. Timoney, S.C. Artiushin. 2001. Characterization of 2 temperature regulated proteins of *Leptospira interrogans*. American Society for Microbiology, 101<sup>st</sup> General Meeting, Orlando, May.

Raghavan, P.U.M., S.S.D. Jusuf, S. Artiushin, S. MCDonough, S.C. Barr, P. McDonough, T. Divers, J.F. Timoney, Y.F. Chang. 2001. Molecular cloning and characterization of a 90 kDa membrane protein of *Leptospira interrogans serovar pomona* type *kennewicki*. Society for Microbiology. 101<sup>st</sup> General Meeting, Orlando, May.

Artiushin, S.C. J.F. Timoney, J.E. Nally. 2001. Isolation and molecular analysis of a host-inducible lipoprotein from *Leptospira interrogans serovar pomona* type *kennewicki*. American Society for Microbiology, 101<sup>st</sup> General Meeting, Orlando, May.

Qin, A., S.C. Artiushin, J.F. Timoney. 2001. Identification of potential protective antigens of *Streptococcus equi*. American Society for Microbiology, 101<sup>st</sup> General Meeting, Orlando, May.

### Seminars and Presentations at National and International Meetings (cont):

Artiushin, S.C., A. Qin, J.F. Timoney, G. Burcham. 2001. Identification of potential protective antigens of *Streptococcus equi*. 82<sup>nd</sup> Annual Mtg. Conf. Res. Workers in Animal Diseases, St. Louis. November

Breathnach, C.C, M.R. Yeargan, J.F. Timoney, G.P. Allen. 2001. The mucosal cellular immune response of horses to infection with equine herpes virus-1. 82<sup>nd</sup> Annual Mtg. Conf. Res. Workers in Animal Diseases, St. Louis. November.

Walker, J.A., J.F. Timoney. 2001. Inactivation of the gene encoding hyaluronate synthase from *Streptococcus equi*. 82<sup>nd</sup> Annual Mtg. Conf. Res. Workers in Animal Diseases, St. Louis. November.

Qin, A., S.C. Artiushin, J.F. Timoney. 2001. Two novel immunoreactive proteins expressed by *Streptococcus equi*. 82<sup>nd</sup> Annual Mtg. Conf. Res. Workers in Animal Diseases, St. Louis, November.

Artiushin, S.C., J.F. Timoney. 2001. Evaluation of recombinant Lk73.5 in ELISA for serodiagnosis of leptospirosis in the horse. 82<sup>nd</sup> Annual Mtg. Conf. Res. Workers in Animal Diseases, St. Louis, December.

Timoney, J., S.C. Artiushin, J. Nally, J. Wang. 2002. Ocular antibody responses of uveitic horses to recombinant proteins of *Leptospira interrogans*. 3<sup>rd</sup> Scientific Mtg. of the International Leptospirosis Society, Bridgetown, Barbados, October.

Artiushin, S.C., J.F. Timoney. 2002. Distribution of *lk73.5* among the leptospira. 3<sup>rd</sup> Scientific Mtg. of the International Leptospirosis Society, Bridgetown, Barbados, October.

Timoney, J.F., A. Qin, S.C. Artiushin. 2002. Genomic associations of genes for immunoreactive proteins of *Streptococcus equi*. 15<sup>th</sup> Lancefield International Symposium on Streptococci and Streptococcal Diseases, Goa, India, October.

Walker, J.A., S.C. Artiushin, J.F. Timoney. 2002. Identification of sequences unique to *Streptococcus equi*. 6<sup>th</sup> ASM Conference on Streptococcal Genetics, Ashville, North Carolina, September.

Artiushin, S.C., A. Qin, J.F. Timoney. 2002. Use of *Streptococcus equi* genomic data for identification of potential protective antigens. Functional genomics of Gram-positive microorganisms. 11<sup>th</sup> International Conference on Bacillus, San Diego, California, May.

Timoney, J.F. 2001. Update on equine strangles. Kentucky Veterinary Medical Association, January.

Artiushin, S.C., J.F. Timoney, G. Burcham, A. Qin. 2002. Variable distribution and sequences of genes for surface proteins in *Streptococcus equi* and *S. zooepidemicus*. 102<sup>nd</sup> General Mtg. American Society for Microbiology, Salt Lake City, Utah, May.

### Seminars and Presentations at National and International Meetings (cont):

Palaniappan, R.U., Y.F. Chang, S. Artiushin, J.F. Timoney, S.P. McDonough, S.C. Barr, T.J. Divers. 2002. Leptospirosis: Evaluation of leptospiral recombinant antigens in a hamster model. 102<sup>nd</sup> General Mtg. American Society for Microbiology, Salt Lake City, Utah, May.

Verma, A., S. Artiushin, J.F. Timoney. 2003. Cytotoxic effects of the sphingomyelinase-like Lk73.5 on equine pulmonary endothelial cells. Proceedings of the 103<sup>rd</sup> General Meeting of the American Society for Microbiology, Washington, D.C., May.

Artiushin, S.C., J.F. Timoney. 2003. Identification of two new superantigen-like mitogens of *Streptococcus equi*. Proceedings of the 103<sup>rd</sup> General Meeting of the American Society for Microbiology, Washington, D.C., May.

Muthupalani, S., J.F. Timoney. 2003. Novel immunogenic proteins of *Streptococcus equi active* in equine platelet aggregation and adhesion. Proceedings of the 103<sup>rd</sup> General Meeting of the American Society for Microbiology, Washington, D.C., May.

Muthupalani, S., A. Qin, P. Kumar, S.C. Artiushin, J.F. Timoney. 2003. Functional studies on surface proteins of *Streptococcus equi* encoded by genes of linkage Group1. CRWAD Annual Meeting, Chicago, IL, November.

Tiwari, R., A. Qin, S.C. Artiushin, P. Kumar, J.F. Timoney. 2003. Se18.7, A novel secreted protein of *Streptococcus equi* which binds to striated muscle and inhibits phagocytosis. CRWAD Annual Meeting, Chicago, IL, November.

Kumar, P., S. Muthupalani, A. Qin, S.C. Artiushin, J.F. Timoney. 2003. Interaction of surface exposed proteins of *Streptococcus equi* with equine tonsillar tissues. Proceedings CRWAD Annual Meeting, Chicago, IL, November.

Timoney, J.F. 2003. Systemic and mucosal humoral immune responses to bacterial antigens. Havemeyer Foundation Workshop, Genomic Applications to Equine Immunity, Ithaca, NY, June.

Wagner, C.R., V.G. Puram, J.F. Timoney, E.B. Bailey. 2003. Equine T cell receptors beta chain c DNA sequences determined by 5'RACE. Havemeyer Foundation Workshop, Genomic Applications to Equine Immunity, Ithaca, NY, June.

Artiushin S., A. Qin, J.F. Timoney. 2003. Reactivity of recombinant proteins of *Streptococcus equi* with mucosal IgA. 84<sup>th</sup> Annual Meeting of the CRWAD, Chicago, IL, November.

Verma, S.C. Artiushin, J.F. Timoney. 2003. Intraocular expression of proteins of *Leptospira interrogans* in uveitic horses. CRWAD Annual Meeting, Chicago, IL, November.

### Seminars and Presentations at National and International Meetings (cont):

Artiushin, S.C., A. Verma, J.F. Timoney. 2004. Evaluation of recombinant proteins in ELISA for serodiagnosis of leptospirosis in the dog. ASM General Meeting, New Orleans, LA, May.

Timoney, J.F. 2004. Non-immune approaches to the prevention and control of *Streptococcus equi* infection. USAHA, Greensboro, NC, October.

Timoney, J.F., A. Graves, S. Muthupalani, S. Artiushin, J. Morrow. 2004. Evaluation of SeM, Se75.3 and Se18.7 in ELISAs for serum antibody to *Streptococcus equi*. AAVLD, Greensboro, NC, October.

Timoney, J.F., P. Kumar, S. Muthupalani. 2004. Early pathogenesis of equine strangles. CRWAD Annual Meeting, Chicago, November.

Artiushin, S.C., J.F. Timoney. 2004. Variability of Se18.7, SeM and Se46.8 proteins in strains of *Streptococcus equi* and *Streptococcus zooepidemicus*. CRWAD, Chicago, November.

Tiwari, R., S. C. Artiushin, J.F. Timoney. 2004. P9, a temperate bacteriophage of *Streptococcus equi*. CRWAD, Chicago, November.

Verma, A., S.C. Artiushin, J.F. Timoney. 2004. Antigenic relationship between *Leptospira interrogans* and equine ocular tissue. CRWAD, Chicago, November.

Tiwari, R., A. Qin, J.F. Timoney. 2004. Se18.9, a novel antiphagocytic protein of *Streptococcus equi*. 104<sup>th</sup> ASM General Meeting, New Orleans, LA, May.

Sponseller, B., J.F. Timoney. 2005. Severe acute rhabdomyolysis in 4 horses associated with *Streptococcus equi*. American College Veterinary Internal Medicine Forum, August.

Artiushin, S.C., J.F. Timoney, 2005. Difference in sequence and expression of immunoreactive proteins Se18.7, SeM and Se46.8 in *Streptococcus equi* and *Streptococcus zooepidemicus*. Functional Genomics of Gram-positive microorganisms. 13<sup>th</sup> International Conference, San Diego, CA, August.

Tiwari, R., J.F. Timoney. 2005. Characterization of P9, a temperate bacteriophage of *Streptococcus equi*. 105<sup>th</sup> General Mtg., American Society for Microbiology Atlanta, GA, May 2005.

Timoney, J.F., P. Kumar, S. Muthupalani. 2005. Interaction of *Streptococcus equi* with the equine nasopharynx. XVIth Lancefield International Symposium on Streptococci and Streptococcal Diseases, Cairns, Australia, October.

Verma, A., B. Stevenson, J.F. Timoney. 2005. LfhA, a Novel Factor H Binding Protein of *Leptospira interrogans*. 105<sup>th</sup> General Mtg., American Society for Microbiology, Atlanta, GA, May.

### Seminars and Presentations at National and International Meetings (cont):

Tiwari, R., Artiushin, S. and Timoney, J.F. P9, a temperate bacteriophage of *Streptococcus equi* XVIth Lancefield International Symposium on Streptococci and Streptococcal Diseases. Cairns, Australia, October 2005.

Verma, A., S.C Artiushin, J.F. Timoney. 2005. Leptospira proteins associated with equine recurrent uveitis. 4<sup>th</sup> International Meeting of the Leptospirosis Society, Chiang Mai, Thailand, November.

Artiushin, S., J.F. Timoney, G. Artiushin. 2005. PCR and ELISA for detection of Leptospira in horses. 86<sup>th</sup> Annual Conference of Research Workers in Animal Diseases, St. Louis, December.

Timoney, J.F. 2005. The origin and virulence of *Streptococcus equi*: insights provided by genomic sequence. Keynote lecture. 86<sup>th</sup> Annual Conf. of Research Workers in Animal Diseases, St. Louis, December.

Timoney, J.F. 2005. Equine infectious diseases- how far we have come. Sir Frederick Smith Memorial Lectureship, British Equine Veterinary Association, London, December.

Timoney, J.F. 2005. Equine tonsillar complex-structure and function as they relate to entry and defense. British Equine Veterinary Association, London, December.

Verma, A., J. Hellwege, S. Artiushin, P.F. Ziffel, P. Kraiczy, J.F Timoney, B. Stevenson 2006. Factor H binding proteins of *Leptospira interrogans*. Gordon Scientific Conference, Biology of Spirochetes, Italy, February.

Artiushin, S., J. Walker, J.F Timoney. 2006. Mobile genetic elements in genomes of *S. equi* and *S. zooepidemicus*. 7<sup>th</sup> ASM Conference on Streptococcal Genetics, Saint Malo, France, June.

Yang, J., J. Liu, S. Artiushin, C. Merant, J.F. Timoney. 2006. IdeE of *Streptococcus equi* – another antiphagocytic factor. 87<sup>th</sup> Annual Conf. of Research Workers in Animal Diseases, Chicago, December.

Artiushin, S., J.F. Timoney. 2006. Role of mobile genetic elements in formation of *Streptococcus equi* from an ancestral *S. zooepidemicus*. 87<sup>th</sup> Annual Conf. of Research Workers in Animal Diseases, Chicago, December.

Tiwari, R., J.F. Timoney. 2006. Characterization and lytic activity of *Streptococcus equi* bacteriophage P9. 106<sup>th</sup> General Mtg., American Society for Microbiology, Orlando, Florida, May (ASM Student Travel Grant Award).

Timoney, J.F. 2006. Equine immune response to proteins of *S. equi* and *zooepidemicus*. 4<sup>th</sup> Int. Vet Vaccines and Diagnostics Conference, Oslo, Norway, June.

### Seminars and Presentations at National and International Meetings (cont):

Timoney, J.F. 2006. Current understanding of the pathogenesis of strangles and its sequelae. Havemeyer Foundation Workshop on *S. equi*, Barbados, November.

Timoney, J.F. 2006. Origin and biology of *Streptococcus equi* and the pathogenesis of strangles. Invited Seminar, University of Tennessee, Knoxville, October.

Artiushin S, J.F. Timoney, Y. Tong, A. Schlegel. 2007. Evaluation of the isothermal helicase dependent amplification (HDA) assay for detection of *Streptococcus equi*. 88<sup>th</sup> Annual Meeting, Conference of Research Workers in Animal Diseases, Chicago, IL, December.

Timoney J.F., C. Merant, A.S. Artiushin, C. Crawford, P. Pesavento, W. Fortney, S. Murdock. 2007. Characteristics of *Streptococcus zooepidemicus* from outbreaks of hemorrhagic pneumonia in canines. 88<sup>th</sup> Annual Meeting, Conference of Research Workers in Animal Diseases, Chicago, IL, December.

Timoney J.F. 2007. Vaccines for the prevention/control of leptospirosis in animals. Invited speaker, International Workshop on Laboratory Techniques for Leptospirosis, Government Medical College, Surat, India, December.

Timoney J.F. 2008. Surface exposed and secreted proteins of *Streptococcus equi*. Invited speaker, Dorothy Russell Havemeyer Foundations Workshop on Getting to Grips with Strangles, Edinburgh, United Kingdom, May.

DeNegri, R., J.F. Timoney, S. Artiushin. 2008. Immunologic significance of N-terminal amino acid variation in SeM of *Streptococcus equi*. 89<sup>th</sup> Annual Meeting of Conference of Research Workers in Animal Disease, Chicago, IL, December.

Artiushin, S., S. Gorecki and J.F. Timoney. 2008. Streptokinases of *Streptococcus equi* and *zooepidemicus*. 89<sup>th</sup> Annual Meeting of Conference of Research Workers in Animal Disease, Chicago, IL, December.

Artiushin, S., J.F. Timoney. 2008. Presence of prophages in *Streptococcus equi* and *Streptococcus zooepidemicus*. 16<sup>th</sup> International Meeting on Microbial Genomics, Arrowhead, CA, August.

Artiushin, S., J.F. Timoney. 2009. Streptokinases of *Streptococcus equi* and *zooepidemicus*. 109<sup>th</sup> General Mtg., American Society for Microbiology, Philadelphia, PA, May.

Natarajaseenivasan, K., J.F. Timoney. 2009. Characterization of *Leptospira* isolates from field rats in a farming community. 109<sup>th</sup> General Mtg., American Society for Microbiology, Philadelphia, PA, May.



### Seminars and Presentations at National and International Meetings (cont):

Artiushin, S., J.F. Timoney. 2009. Development and evaluation of a platform for rapid, simple and sensitive detection of *Streptococcus equi*. Kentucky Science and Engineering Foundation, Louisville, KY.

Timoney, J.F. 2009. Genomes of *Streptococcus equi* and *zooepidemicus*: Rosetta stones for strangles improvement?

- a) 5<sup>th</sup> International Veterinary Vaccines and Diagnostics Conference, Madison, WI, July.
- b) Department of Veterinary Molecular Biology, Montana State University, Bozeman, MT, October.
- c) College of Veterinary Medicine, University of Minnesota, St. Paul, MN, October.

Timoney, J.F., M. Fettinger, M. Donahue, S.C. Artiushin. 2009. Identification of *Leptospira interrogans* serovar Pomona type kennewicki in specimens from horses and wild animals. 90<sup>th</sup> Annual Mtg. of Conference of Research Workers in Animal Diseases, Chicago, IL, December.

Verma, A., J.F. Timoney, B. Stevenson. 2009. LruA-specific antibodies cross-react with alpha crystalline. 90<sup>th</sup> Annual Mtg. of Conference of Research Workers in Animal Diseases, Chicago, IL, December.

Artiushin, S.C., J.F. Timoney. 2009. Development of isothermal helicase dependent DNA amplification (tHDA) assay for detection of pathogenic leptospira. 90<sup>th</sup> Annual Mtg. of Conference of Research Workers in Animal Diseases, Chicago, IL, December.

### Chapters in Books, Reviews, etc.

Timoney, J.F. 1976. Feline Salmonellosis. *Veterinary Clinics of North America*, 6:395-398.

Timoney, J.F. 1976. Toxoplasmosis. *Veterinary Clinics of North America*, 6:379-385.

Timoney, J.F. 1976. Panleukopenia. *Veterinary Clinics of North America*, 6:385-391.

Timoney, J.F. 1976. Feline Infectious Peritonitis. *Veterinary Clinics of North America*. 6:391-395.

Timoney, J.F. 1976. Feline salmonellosis. In: *Current Veterinary Therapy*, R.W. Kirk, Ed., 9th Ed., 1976.

Timoney, J.F., *et al.* 1978. Panel report on the colloquium on selected diarrheal diseases of the young. *JAVMA* 173:515-518.

Timoney, J.F. 1980. Zoonotic Aspects of Subtherapeutic Antimicrobials in Feed. In: *The Effects on Human Health of Subtherapeutic Use of Antimicrobials in Animal Feeds*. National Academy of Sciences, Washington, D.C. pp. 182-202.

Timoney, J.F. and Jennifer Graves Port. 1981. Heavy Metal and Antibiotic Resistance in *Bacillus* and *Vibrio* from Sediments of the New York Bight. In: *Ecological Stress and the New York Bight: Science and Management*. Estuarine Research Federation.

Timoney, J.F. 1981. R Plasmids in Pathogenic Enterobacteriaceae from Calves. In: *Proc. Int. Plasmid Conf.* Santo Domingo. Plenum Press, New York, 1981.

Timoney, J.F. 1984. The Tetracyclines. In: *Antibiotics, Sulfonamides and Public Health*. CRC Press Handbook Series in Zoonoses, Ed. by J.H. Steele, CRC Press Inc.

### Chapters in Books, Reviews, etc. (cont):

- Timoney, J.F. and J. Galán. 1985. The protective response of the horse to an avirulent strain of *Streptococcus equi*. In: Recent Advances in Streptococcal and Streptococcal Diseases. Reedbooks, Ltd., Surrey, U.K.
- Galán, J.E. and J.F. Timoney. 1987. Molecular and genetic analysis of the M protein of *S. equi*. In: Proceedings of 2nd International Conference on Streptococcal Genetics. Miami, FL. R. Curtiss III (ed.). Am. Soc. for Microbiology. Wash., D.C.
- Galán, J.E., Timoney, J.F. and Curtiss, R. III. 1988. Expression and Localization of the *Streptococcus equi* M protein in *Escherichia coli* and *Salmonella typhimurium*. In: D. Powell (ed.) Proceedings of the Fifth International Conference on Equine Infectious Diseases, University of Kentucky Press, Lexington, KY.
- Timoney, J.F. 1989. Shedding and maintenance of *Streptococcus equi* in atypical and typical strangles. In: D. Powell (ed.) Proceedings of the Fifth International Conference on Equine Infectious Diseases. University of Kentucky Press, Lexington, KY.
- Timoney, J.F., M.M. Mukhtar, J. Ding and J. Galán. 1991. The M-proteins of the equine group C streptococci. In: Streptococcal Genetics, 1990. G. Dunny, P. Cleary and L. McKay, Ed. American Society for Microbiology, Washington, D.C.
- Timoney, J.F., M. Mukhtar, J. Galán and J. Ding. 1991. M-proteins of the equine group C streptococci. In: Genetics and Molecular Biology of Streptococci, Lactococci and Enterococci. Eds., G.M. Dunny, P.P. Cleary, and L.C. McKay. Am. Soc. for Microbiol, Washington, DC.
- Timoney, J.F. 1993. Strangles. In: The Veterinary Clinics of North America, Equine Practice. J.L. Traub-Dargatz (ed.) W.B. Saunders Co., Philadelphia.
- Timoney, J.F. 1993. Streptococcus. In: Pathogenesis of bacterial infections of animals. C.L. Gyles and C.O. Thoen (eds.) Iowa State University Press, Ames, Iowa.
- Timoney, J.F., Blanchard, P., Hirsh, D.C. and Galán, J.E. 1994. Identification and Distribution of an M protein from a Group G *Streptococcus* Pathogenic for the Cat. In: R. Luttkick (ed.) Proceedings 10th Lancefield Symposium on Streptococci and Streptococcal Diseases. Fischer Verlag, Stuttgart.
- Timoney, J.F., A. Umbach, M. Zhou and J.A. Walker. 1994. Molecular genetic analysis of the M proteins of *S. equi* subsp. *zooepidemicus* from horses. In: Pathogenic Streptococci: Present and Future. Ed. A. Totolian, Lancer Publications, St. Petersburg, Russia, pp 476-478.
- Timoney, J.F., A. Umbach, J.E. Boschwitz and J.A. Walker. 1994. *Streptococcus equi* subsp. *equi* expresses two M-like proteins including a homologue of the variable M protein of subsp. *zooepidemicus*. In: Proceedings VIIth Int. Conf. Equine Infectious Diseases. Eds. T. Kumanomido and W. Plowright, R & W Publications, Newmarket, England.
- Walker, J.A. and J.F. Timoney. 1994. Application of the polymerase chain reaction to the study of the molecular basis of M-protein variation in *Streptococcus equi* subsp. *zooepidemicus*. In Proceedings VIIth Int. Conf. Equine Infectious Diseases. Eds. W. Plowright and H. Nakajima, R & W Publications, Newmarket, England.
- Timoney, J.F., T. Anzai, and M. Blair. 1997. Clonal invasion of the equine respiratory tract by *Streptococcus equi*. In "Streptococci and the Host" Eds: T. Horaud, M. Sicard, A. Bouvet, R. Leclercq and H. DeMonclos. Plenum Press. NY.

### Chapters in Books, Reviews, etc. (cont):

- Artiushin, A and J.F. Timoney, 1997. PCR for detection of *Streptococcus equi*. In "Streptococci and the Host" Eds: T. Horaud, M. Sicard, A. Bouvet, R. Leclercq and H. DeMonclos. Plenum Press. NY.
- Timoney, J.F. 1995. Streptococcal Infections. In 'The Equine Manual'; Eds. A.J. Higgins and I.M. Wright. Saunders, London. pp. 70-75.
- Timoney, J.F. and Erickson, D. 1998. Streptococcal Disease. In "Current Veterinary Therapy: Food Animal Practice 4. Eds: J.L. Howard and R. Smith. W.B. Saunders . Philadelphia. pp 390-393.
- Timoney, J.F. 2004. Streptococcus. In Pathogenesis of Bacteria Infections in Animals. Eds: C.L. Gyles, J.F. Prescott, J.G. Songer and C.O. Thoen. Blackwell Publishing, Ames, Iowa. pp 23-42.
- Timoney, J.F. 2004. Strangles. In Infectious Diseases of Livestock. J.A.W. Coetzer and R.C. Tustin. Oxford University Press. Volume III.
- Timoney, J.F. 2004. Glanders. The Merck Veterinary Manual 9<sup>th</sup> Ed. Merck/ Merial, Whitehouse Station, NJ. pp 93-94.
- Timoney JF. 2008. Contagious Equine Metritis. In Foreign Animal Diseases, 7<sup>th</sup> Edition. Eds: C. Brown and A. Torres. United States Animal Health Association, pp 225-230.
- Timoney, J.F. 2009. Strangles: Immunology and Management. In Current Therapy in Equine Medicine. Eds: N. Edward Robinson and K.A. Sprayberry. Saunders-Elsevier. pp 124-128.
- Timoney, J.F. 2010. Streptococcus. In Pathogenesis of Bacterial Infections in Animal, 4<sup>th</sup> Edition. Eds: C.L. Gyles, J.F. Prescott, J.G. Songer and C.O. Thoen. Blackwell Publishing.

### Scientific Papers in Reviewed Journals

- Timoney, J.F. 1968. The sources and extent of salmonella contamination in rendering plants. Vet. Rec., 83:54.
- Timoney, J.F. and C.A. Whelan. 1969. Salmonellae in the Dublin meat supply. Irish Vet. J., 23:46.
- Timoney, J.F. 1969. The inactivation of *Erysipelothrix rhusiopathiae* in macrophages from normal and immune mice. Res. Vet. Sci., 10:301.
- Timoney, J.F. 1969. The sources of salmonellae in poultry carcasses. Vet. Rec., 85:165.
- Timoney, J.F. and C.A Whelan. 1970. A simple technique for the determination of thermal death times of salmonella. J. Med. Lab. Technol., 27:94.
- Timoney, J.F. 1970. The inactivation of *Erysipelothrix rhusiopathiae* in pig buffy coat leukocytes. Res. Vet. Sci. 11:189.
- Timoney, J.F. 1970. Seasonal variations in the tonsillar carrier rate of *Erysipelothrix rhusiopathiae* in Irish market pigs. Irish Vet. J., 24:81.
- Timoney, J.F. 1970. The effect of de complementation on *Erysipelothrix rhusiopathiae* infection in the mouse. Immunology, 19:561.
- Timoney, J.F., W.R. Kelly, J. Hannon, and D. Reeves. 1970. A study of salmonella contamination in some Dublin poultry processing plants. Vet. Rec. 87:158.
- Timoney, J.F. 1970. *Salmonella give* infection in cattle. Vet. Rec., 86:520.
- Timoney, J.F. 1970. Salmonellae in Irish pigs at slaughter. Irish Vet. J., 24:141.

### Scientific Papers in Reviewed Journals (cont):

- Timoney, J.F. and D.T. Berman. 1970. Erysipelothrix arthritis in swine: Bacteriologic and immunopathologic aspects. *Am. J. Vet. Res.*, 31:1411.
- Timoney, J.F. and D.T. Berman. 1970. Erysipelothrix arthritis in swine: Serum synovial fluid gradients for antibody and serum proteins in normal and arthritic joints. *Am. J. Vet. Res.*, 31:1405.
- Timoney, J.F. 1971. Antibody and rheumatoid factor in synovia of pigs with erysipelotheix polyarthritis. *J. Comp. Path.*, 81:243.
- Timoney, J.F. 1972. The sensitivity of salmonellae of animal origin to chemotherapeutic agents in the Republic of Ireland. *Irish Vet. J.*, 24:100.
- Timoney, J.F., B.J. Sheehan, and P.J. Timoney. 1974. Leptospira and infectious canine hepatitis (ICH) virus antibodies and nephritis in Dublin dogs. *Vet. Rec.*, 96:316.
- Campbell, S.G., R.M. Whitlock, J.F. Timoney and A.M. Underwood. 1974. An unusual epizootic of actinobacillosis in dairy heifers. *JAVMA*, 166:604.
- Timoney, J.F. 1976. Erysipelas arthritis in swine: concentrations of complement and third component of complement in synovia. *Am. J. Vet. Res.*, 37:5.
- Timoney, J.F. 1976. Erysipelas arthritis in swine: Lysosomal enzyme levels in synovial fluids. *Am. J. Vet. Res.*, 37:295.
- Timoney, J.F. 1976. Toxoplasma antibody in sera from Dublin dogs. *Irish Vet. J.*, 30:41.
- Timoney, J.F. and U. Yarkoni. 1976. Immunoglobulins IgG and IgM in synovial fluids of swine with erysipelotheix polyarthritis. *Vet. Microbiol.* 1:467.
- Spanier, J. and J.F. Timoney. 1977. Bacteriophages from *Streptococcus equi*. *J. Gen. Virol.*, 35:39
- Dondero, N.D., C.T. Thomas, M. Khare, J.F. Timoney and G.M. Fukui. 1977. Salmonella in surface waters of central New York State. *Appl. Microbiol.* 33:791.
- Timoney, J.F., H.C. Neibert and F.W. Scott. 1977. Feline Salmonellosis: A nosocomial outbreak and experimental studies. *Cornell Vet.*, 68:211-219.
- Mayhew, I.G., R.W. Dellers, J.F. Timoney, M.J. Kemen, R. Fayer and M.N. Lunde. 1977. Spinal cord disease in the horse, a multidisciplinary study - microbiology and serology. *Cornell Vet.*, 67:148-158. Supplement #6.
- Timoney, J.F. 1978. The epidemiology and genetics of antibiotic resistance of *Salmonella typhimurium* isolated from diseased animals in New York. *J. Infect. Dis.*, 137:67-73.
- Timoney, J.F., Jennifer Port, Janis Giles, and J. Spanier. 1978. Heavy metal and antibiotic resistance in the Bacterial Flora of Sediments of New York Bight. *Appl. Environ. Microbiol.* 36:465-472.
- McDonough, P.L., S.J. Shin, J.M. Fairbrother, D.C. Kradel and J.F. Timoney. 1978. Salmonellosis due to Lactose Fermenting *Salmonella typhimurium*. 21st Ann. Proc. Am. Assoc. Vet. Lab. Diagnosticians, pp. 253-264.
- Hartland, Bonnie and J.F. Timoney. 1979. *In vivo* clearance of enteric bacteria from the hemolymph of the hard clam and the American oyster. *Appl. Environ. Microbiol.*, 37:517-520.
- Baker, R.C., J.P. Goff and J.F. Timoney. 1979. Prevalence of Salmonellae on Eggs from Poultry Farms in New York State. *Poultry Science.* 59:289-292.
- Cummings, J.F., A. deLahunta, and J.F. Timoney. 1979. Neuritis of the cauda equina, a chronic idiopathic polyradiculo neuritis in the horse. *Acta Neuropathol. (Berl.)* 46:17-24.

**Scientific Papers in Reviewed Journals (cont):**

- Cherubin, C.E., J.F. Timoney, M. Sierra, P. Ma., J. Marr, and S. Shin. 1980. A sudden decline in ampicillin resistance in *S. typhimurium*. *J. Am. Med. Assoc.* 243:439-442.
- Timoney, J.F., Diane E. Taylor, S. Shin and P. McDonough. 1980. pJT2: Unusual H1 Plasmid in a Highly Virulent Lactose-Positive and Chloramphenicol-Resistant *Salmonella typhimurium* strain from Calves. *Antimic. Ag. and Chemother.* 18:480-482.
- Linton, A.H., J.F. Timoney and M.H. Hinton. 1981. The Ecology of Chloramphenicol Resistance in *Salmonella typhimurium* and *Escherichia coli* in Calves. *J. Appl. Bact.* 50:115-129.
- Timoney, J.F. and A.H. Linton. 1982. Experimental Ecologic Studies on H2 Plasmids in the Intestine and Faeces of the Calf. *J. Appl. Bact.* 52:417-424.
- Timoney, J.F., Lisa Pesante and Cynthia Ernst. 1982. Hyaluronidase Associated with a Temperate Bacteriophage of *Streptococcus equi*. *Microbiology 1982*. Ed. by David Schlessinger, American Society of Microbiology.
- Timoney, J.F. and Ann Abston. 1984. Accumulation and Elimination of *E. coli* and *S. typhimurium* by Hard Clams in an *in vitro* system. *Appl. and Envir. Microbiol.* 47:986-988.
- Timoney, J.F., P.J. Timoney and K.L. Strickland. 1984. Lysogeny and the immunologically reactive proteins of *Streptococcus equi*. *Vet. Rec.* 115:148-149.
- Timoney, J.F. and Diana Eggers. 1985. Bactericidal antibody responses of horses to *S. equi*. *Eq. Vet. Journal.* 17:306-310.
- Timoney, J.F. and J. Trachman. 1985. Immunologically reactive proteins of *S. equi*. *Infec. and Imm.* 48:20-34.
- Baker, R.C., R.A. Quereshi, T.S. Sandhu, and J.F. Timoney. 1985. The frequency of salmonellae on duck eggs. *Poultry Sci.* 64:646-652.
- Galán, J. and J.F. Timoney. 1985. Mucosal nasopharyngeal immune response of the horse to protein antigens of *S. equi*. *Infec. and Imm.* 47:623-628.
- Timoney, J.F. 1986. Characteristics of an R antigen of *Streptococcus equi* and *Streptococcus zooepidemicus*. *Cornell Vet.* 76:49-60.
- Galán, J. and J.F. Timoney. 1986. Immune complexes in purpura hemorrhagica of the horse contain IgA and M antigen of *Streptococcus equi*. *J. Immunol.* 135:3134-3137.
- Galán, J.E., J.F. Timoney and F.W. Lengemann. 1986. Passive transfer of mucosal antibody to *Streptococcus equi* in the foal. *Infec. and Imm.* 54:202-206.
- McDonough, P.L., S.J. Shin, and J.F. Timoney, 1986. Salmonella serotypes from animals in New York State, 1978-83. *Cornell Veterinarian.* 76:30-37.
- Timoney, J.F. 1986. Genetic and characterization studies on edema disease toxin. *Proceedings International Pig Veterinary Society, 9th Congress, 1986, Barcelona, Spain*, p. 199.
- Galán, J.E. and J.F. Timoney. 1987. Molecular analysis of the M Protein of *Streptococcus equi* and expression of the M Protein Gene in *Escherichia coli*. *Infect. and Imm.* 55:3181-3187.
- Galán, J.E. and J.F. Timoney. 1988. Immunologic and genetic comparison of *Streptococcus equi* isolates from the United States and Europe. *J. Clin. Microbiol.* 26:1142-1146.
- Mukhtar, M.M. and J.F. Timoney. 1988. Chemotactic response of equine polymorphonuclear leucocytes to *Streptococcus equi*. *Res. Vet. Sci.* 45:225-229.

### Scientific Papers in Reviewed Journals (cont):

- Timoney, J.F. and J.E. Galán. 1988. Characteristics of a Protective Protein of *Erysipelothrix rhusiopathiae*. Proceedings International Pig Veterinary Society, 10th Congress, Rio de Janeiro, Brazil, p. 149.
- Timoney, J.F. 1988. Strangles - A Contemporary View. Guest Editorial. Equine Vet. J. 20:392-394.
- McDonough, P.C., J.F. Timoney, R.H. Jacobson and R. Khakhria. 1989. Clonal groups of *Salmonella typhimurium* in New York State. J. Clin. Microbiol. 27:622-627.
- McDonough, P.C., R.H. Jacobson, and J.F. Timoney. 1989. Virulence determinants of *Salmonella typhimurium* from animal sources. Am. J. Vet. Res. 50:662-670.
- Timoney, J.F., H.L. Shivaprasad, B. Rowe and R.C. Baker. 1989. Egg transmission following experimental infection of laying hens with *Salmonella enteritidis* Phage Type 4. Vet. Rec. 125:600-601.
- Shivaprasad, H.L., J.F. Timoney, S. Morales, B. Lucio, and R.C. Baker. 1990. Pathogenesis of *Salmonella enteritidis* in laying chickens. I. Studies on egg transmission, clinical signs, fecal shedding and serologic responses. Avian Dis. 34:548-557.
- Timoney, J.F., N. Sikora, M.L. Shivaprasad and M. Opitz. 1990. Detection of antibody to *Salmonella enteritidis* by a gm flagellin-based ELISA. Vet. Rec. 127:168-169.
- Galán, J.E., and J.F. Timoney. 1990. Cloning and Expression in *Escherichia coli* of a protective antigen of *Erysipelothrix rhusiopathiae*. Infect. Immun. 58:311-312.
- Groschup, M.H. and J.F. Timoney. 1990. Modified Feist broth as a serum-free alternative for enhanced production of protective antigen of *Erysipelothrix rhusiopathiae*. J. Clin. Microbiol. 28:2573-2575.
- Boschwitz, J.S., M.H. Groschup and J.F. Timoney. 1991. A comparison of different methods of extraction of the M-protein from *Streptococcus equi*. Cornell Vet. 81:25-36.
- Groschup, M.H., J.J. Boschwitz and J.F. Timoney. 1991. A convenient gel holder for preparative electrophoretic separation of aggregated bacterial proteins. Electrophoresis 12:90-93.
- Groschup, M.H., G. Hahn and J.F. Timoney. 1991. Antigenic and genetic homogeneity of *Streptococcus uberis* strains from the bovine udder. Epidemiol. Infect. 107:297-310.
- Groschup, M.H., K. Cussler, R. Weiss and J.F. Timoney. 1991. Characterization of a protective protein antigen of *Erysipelothrix rhusiopathiae*. Epidemiol. Infec. 107:637-649.
- Hamlen, H.J., J.F. Timoney and R.J. Bell. 1992. Hematologic parameters of foals during a strangles epizootic. Equine Vet. Sci. 12:86-92.
- Divers, T., J.F. Timoney and R.H. Lewis. 1992. Equine glomerulonephritis and renal failure associated with complexes of group C streptococcal antigen and IgG antibody. Vet. Immunol. and Immunopathol. 32:93-102.
- Timoney, J.F. and M. Mukhtar, 1992. Variability in the M-like Proteins of equine strains of *S. equi* subsp. *zooepidemicus*. In: Proceedings 6th Int. Conf. on Equine Infectious Diseases, Cambridge, R&W Publications (Newmarket) Ltd., UK., in press.
- Groschup, M.H. and J.F. Timoney. 1993. An R-like protein of *Streptococcus uberis* stimulates opsonizing antibodies. Res. Vet. Sci. 54:124-126.
- Boschwitz, J.S. and J.F. Timoney. 1993. Purification and characterization of equine complement factor C3. Vet. Immunol. and Immunopathol. 38:139-154.

### Scientific Papers in Reviewed Journals (cont):

- Timoney, J.F. and M.M. Mukhtar, 1993. The protective M proteins of the equine group C streptococci. *Vet. Microbiol.* 37:389-395.
- Timoney, J.F. and M.M. Groschup. 1993. Properties of a protective protein antigen of *Erysipelothrix rhusiopathiae*. *Vet. Microbiol.* 37:381-387.
- Boschwitz, J.S. and J.F. Timoney. 1994. Inhibition of C3 deposition on *Streptococcus equi* subsp. *equi* by M protein: A mechanism for survival in equine blood. *Infect. Immun.* 62: 3515-3520.
- Hamlen, H.J., J.F. Timoney and R.J. Bell. 1994. Epidemiologic and immunologic characteristics of *Streptococcus equi* infection in foals. *JAVMA* 204:768-775.
- Boschwitz, J.S. and J.F. Timoney. 1994. Characterization of the antiphagocytic properties of fibrinogen for *Streptococcus equi* subsp. *equi*. *Microbiol. Pathogenesis.* 17:121-129.
- Efstratiou, A., G. Colman, G. Hahn, J.F. Timoney, J. Boefgras and D. Monget. 1994. Biochemical differences among human and animal streptococci of Lancefield group C or group G. *J. Med. Microbiol.* 41:145-148.
- Timoney, J.F., J. Walker, Mei Zhou and J. Ding. 1995. Cloning and sequence analysis of a protective M-like protein gene from *Streptococcus equi* subsp. *zooepidemicus*. *Infect. Immun.* 63:1440-1445.
- Runge, V.M., J.W. Wells, N.M. Williams, C. Lee, J.F. Timoney and A.B. Young. 1995. Detectability of early brain meningitis with magnetic resonance imaging. *Invest. Radiol* 30:484-495.
- Runge, V.M. J.W. Wells, N.M. Williams, J.F. Timoney, and C. Lee, 1996. The use of gadolinium-BOTPA on magnetic resonance imaging in brain infection. *Invest. Radiology* 31:294-299.
- Timoney, J.F. and J. Guan 1996. Characterization of murine monoclonal antibodies recognizing opsonic, mouse protective, chaining, and mucosally relevant epitopes on the M protein of *Streptococcus equi* subsp. *equi*. *Res. Vet. Sci.* 60:76-81.
- Timoney, J.F., Artiushin, S.C. and Boschwitz, J.S. 1997. Comparison of sequences and functions of *Streptococcus equi* M-like proteins SeM and SzPSe. 1997. *Infect. Immun.* 65:3600-3605.
- Timoney, J.F. and S.C. Artiushin. 1997. Detection of *Streptococcus equi* in equine nasal swabs and washes by DNA amplification. *Vet. Rec.* 141:446-447.
- Sheoran, A.S., Sponseller, B.T, Holmes, M.A. and Timoney, J.F. 1997. Serum and mucosal antibody isotype responses to M-like protein (SeM) of *Streptococcus equi* in convalescent and vaccinated horses. *Vet. Immunol. and Immunopathol.* 59:239-251.
- Timoney, J.F., T. Anzi, and M. Blair. 1997. Clonal invasion of the equine respiratory by *Streptococcus zooepidemicus*. *Adv. Exp. Med. Biol.* 418:611-613.
- Timoney, J.F. 1997. Glanders. *Merck Veterinary Manual*, 8<sup>th</sup> Ed. Merck and Co., Rahway, NJ.
- Liang, F.T., Granstrom, D.E., Timoney, J.F. and Shi, Y.F. 1997. Micropreparative high resolution purification of proteins by a combination of sodium dodecyl sulfate-polyacrylamide gel electrophoresis, isoelectric focusing, and membrane blotting. *Analytical Biochemistry.* 250:61-65.
- Runge, V.M., J.F. Timoney and N.M. Williams. 1997. MR imaging of experimental pyelonephritis in rabbits. *Investigative Radiology.* 32:696-704.

### Scientific Papers in Reviewed Journals (cont):

- Artiushin, S. and J.F. Timoney. 1997. PCR for detection of *Streptococcus equi*. Adv. Expt. Biol. Med. 418:359-361.
- McDonough, P.L., Jacobson, R.M., Timoney, J.F., Mutalib, Al, Kradel, D.C., Chang, Y., Shin, S.J., Lein, D.H., Trock, S., and Wheeler, K. 1997. Interpretations of antibody responses to *Salmonella enterica* serotype *enteritidis* gm flagellin in poultry flocks are enhanced by a kinetics based ELISA (KELA). Clin. Diagnostic Lab. Immunol. 5:550-555.
- Morton, J., N. Collin, J.F. Timoney, J.A. Mumford, and N. Chanter. 1998. Characterization of the haemolytic activities of *Streptococcus equi*. Microbial Pathogenesis. 24: 211-221.
- Runge, V.M., N.M. Williams, C. Lee and J. F. Timoney, 1998. Magnetic resonance imaging in a spinal abscess model. Invest. Radiol. 33:246-255.
- Liang, F.T., Granstrom, D.E., Zhao, X.M., and Timoney, J.F. 1998. Evidence that surface proteins Sn14 and 16 of *Sarcocystis neurona* merozoites are involved in infection and immunity. Infect. Immun. 66:1834-1838.
- Walker, J.A. and J.F. Timoney. 1998. Molecular basis of variation in the protective SzP proteins of *Streptococcus zooepidemicus*. Am. J. Vet. Res. 59: 1129-1133.
- Anzai, T., A.S. Sheoran, Y. Kuwamoto, T. Kondo, R. Wade, T. Inoue and J.F. Timoney. 1999. *Streptococcus equi* but not *Streptococcus zooepidemicus* produces potent mitogenic responses from equine peripheral blood mononuclear cells. Vet Immun. and Immunopath. 67: 235-246.
- Timoney, J.F., S. Artiushin, and J. Wang. 1999. Regions of the protective M-like protein of *Streptococcus equi* recognized by serum and mucosal antibodies of convalescent horses. Equine Infectious Diseases VIII. Ed. Wernery, Wade, Mumford and Kaaden. R & W Publications (Newmarket) pp 88-94.
- Anzai, T., J.F. Timoney, T. Kuwamoto, Y. Fujita, R. Wada and T. Inoue. 1999. In vivo pathogenicity and resistance to phagocytosis of *Streptococcus equi* strains with different levels of capsule expression. Veterinary Microbiology 67: 277-286.
- Timoney, J.F. 1999. Equine Strangles. Am. Assoc. Eq. Practitioners Proceedings. 45: 31-37.
- Takai, S., T. Anzai, H. Yashiro, C. Ishii, S. Tsubaki, R. Wada and J.F. Timoney. 2000. Detection of DNA restriction fragment polymorphism in *Streptococcus equi*. Vet. Rec. 146: 159-161.
- Sheoran, A.S., J.F. Timoney, M.A. Holmes, S.S. Karzenski, and M.V. Crisman. 2000. Immunoglobulin isotypes in sera and nasal mucosal secretions and their neonatal transfer and distribution in horses. Am. J. Vet. Res. 61: 1-7.
- Anzai, T. J.A. Walker, M.B. Blair, T.M. Chambers and J.F. Timoney. 2000. Comparison of the phenotypes of *Streptococcus zooepidemicus* isolated from tonsils of healthy horses and specimens obtained from foals and donkeys with pneumonia. Am. J. Vet. Res. 61: 162-166.
- Al-Ghamdi, G.M., V. Kapur, T.R. Ames, J.F. Timoney, D.N. Lane, M.A. Mellencamp. 2000. Use of repetitive sequence-based polymerase chain reactions for molecular epidemiologic analysis of *Streptococcus equi* subspecies *equi*. Am. J. Vet. Res. 61:699-705.



### Scientific Papers in Reviewed Journals (cont):

- Nally, J., S. Artiushin, A.S. Sheoran, P.J. Burns, B. Simon, R.M. Gilley, J. Gibson, S. Sullivan, and J.F. Timoney. 2000. Induction of mucosal and systemic antibody specific for SeM F3 of *Streptococcus equi* by intranasal vaccination using a sucrose acetate isobutyrate based delivery system. *Vaccine*. 19:1-6.
- Timoney, J.F., Artiushin, S., and A.S. Sheoran. 1998. Detection of strangles carriers. *Vet. Rec.* 142:648.
- Sheoran, A.S., J.E. Nally, J.M. Donahue, B.J. Smith and J.F. Timoney. 2000. Antibody isotypes in sera of equine fetuses aborted due to *Leptospira interrogans serovar pomona* type kennewicki infection. *Vet. Immun. And Immunopathol.* 77:301-309.
- Kumar, P. and J.F. Timoney. 2001. Light and electron microscopic studies on the nasopharynx and nasopharyngeal tonsil of the horse. *Anat. Histol. Embryologia.* 30:77-84.
- Kumar, P., J.F. Timoney and A.S. Sheoran. 2001. M cells and associated lymphoid tissue of the equine nasopharyngeal tonsil. *Eq. Vet. J.* 33:224-230.
- Nally, J.E., J.F. Timoney and B. Stevenson. 2001. Temperature-regulated protein synthesis by *Leptospira interrogans*. *Infect. Immun.* 69:400-404.
- Sheoran, A.S., J.F. Timoney, S.A. Tinge, P. Sundaram and R. Curtiss III. 2001. Intranasal immunogenicity of a  $\Delta$  cya  $\Delta$  crf – pab A mutant of *Salmonella enterica* serotype Typhimurium for the horse. *Vaccine*. 19:3591-3599.
- Newton, J.R., K. Verhezen, N.C. Talbot, J.F. Timoney, J.F.N. Wood, K.H. Lakhans and N. Chanter. 2000. Control of strangles outbreaks by isolation of guttural pouch carriers using PCR and culture of *Streptococcus equi*. *Eq. Vet. J.* 32:515-526.
- Artiushin, S.C., J.F. Timoney, A.S. Sheoran, and S.K. Muthupalani. 2001. Characterization and immunogenicity of pyrogenic mitogens SePE-H and SePE-I of *Streptococcus equi*. *Microbial Pathogenesis.* 32:71-85.
- Nally, J.E., S. Artiushin and J.F. Timoney. 2001. Molecular Characterization of thermoinduced immunogenic proteins Qlp42 and Hsp15 of *Leptospira interrogans*. 69:7616-7624.
- Sheoran, A.S., S.C. Artiushin, and J.F. Timoney. 2002. Nasal mucosal immunogenicity for the horse of a SeM peptide of *Streptococcus equi* genetically coupled to cholera toxin. *Vaccine*. 22:1653-1659.
- Walker, J.A. and J.F. Timoney. 2002. Construction of a stable non-mucoid deletion mutant hyaluronate of the *Streptococcus equi* Pinnacle vaccine strain. *Veterinary Microbiology.* 2457:1-11.
- Raghavan, P.U.M., Y. Chang, S.S.D. Jusuf, S. Artiushin, J.F. Timoney, S.P. McDonough, S.C. Barr, T.J. Divers, K.W. Simpson, P.L. McDonough and H.O. Mohammed. 2002. Cloning and molecular characterization of an immunogenic LigA protein of *Leptospira interrogans*. *Infect. Immun.* 70:11.
- Anzai, T., J.F. Timoney, Y. Kuwamoto, R. Wada, M. Oikawa and T. Higuchi. 2002. Polymerase chain reaction-restriction fragment length polymorphism analysis of the SzP gene of *Streptococcus zooepidemicus* isolated from the respiratory tract of horses. *Am. J. Vet. Res.* 63:1298-1301.
- Anzai, T., J.F. Timoney, Y. Kuwamoto, R. Wada, M. Oikawa and T. Higuchi. 2002. Polymerase chain reaction-restriction fragment length polymorphism analysis of the SzP gene of *Streptococcus zooepidemicus* isolated from the respiratory tract of horses. *Am. J. Vet. Res.* 63:1298-1301.

### Scientific Papers in Reviewed Journals (cont):

- Palaniappan, R.U., Y.F. Chang, S.S. Jusuf, S. Artiushin, J.F. Timoney, S.P. McDonough, S.C. Barr, T.J. Divers, K.W. Simpson, P.C. McDonough and H.O. Mohammed. 2002. Cloning and molecular characterization of an immunogenic Lig A protein of *Leptospira interrogans*. *Infect. Immun.* 70:5924-5930.
- Artiushin, S., J.F. Timoney, J. Nally and A. Verma. 2004. Host-inducible immunogenic sphingomyelinase-like protein Lk73.5 of *Leptospira interrogans*. *Infect. Immun.* 72:742-749.
- Timoney, J.F. 2004. The pathogenic equine streptococci. *Vet. Res.* 35:1-13.
- Breathnach, C.C, M.R. Yeargan, J.F. Timoney and G.P. Allen. 2006. Detection of equine herpesvirus-specific effector and memory cytotoxic immunity in the equine upper respiratory tract. *Vet. Immunol. Immunopathol.* 111:117-25.
- Verma, A., J. Hellwage, S. Artiushin, P.F. Ziffel, P. Kraiczy, J.F. Timoney and B. Stevenson. 2006. LfhA, a novel factor H-binding protein of *Leptospira interrogans*. *Infect. Immun.* 74:2659-66.
- Timoney, J.F., A. Qin, S. Muthupalani, and S. Artiushin. 2007. Vaccine potential of novel surface exposed and secreted proteins of *Streptococcus equi*. *Vaccine* 25:5583-5590.
- Timoney, J.F., J. Yang, J. Liu, and C. Merant. 2007. IdeE reduces the bactericidal activity of equine neutrophils for *Streptococcus equi*. *Vet. Immunol. and Immunopathol.* 122:76-82.
- Tiwari, R., A. Qin, S. Artiushin and J.F. Timoney. 2007. Se18.9, an antiphagocytic factor H-binding protein of *Streptococcus equi*. *Vet. Microbiol.* 121:105-115.
- Timoney, J.F. and P. Kumar. 2008. Early pathogenesis of equine *Streptococcus equi* infection (strangles), *Eq. Vet. J.* 40: 637-642.
- Verma, A., S.R. Rathinam, C. Gowri Priya, V.R. Muthukkaruppan, B. Stevenson Brian and J.F. Timoney. 2008. LruA and LruB antibodies in sera of humans with leptospiral uveitis. *Clin. Vaccine Immunol.* 15:1019-1023.
- Kumar, P. and J.F. Timoney. 2008. Histomorphology of the subcommissural organ of the horse, *Indian J. of Animal Sciences.* 78:1227-30.
- Pesavento, P.A., K.F. Hurley, M.J. Bannasch, S. Artiushin and J.F. Timoney. 2008. A clonal outbreak of acute hemorrhagic pneumonia in intensively housed (shelter) dogs caused by *Streptococcus equi* subsp. *zooeidemicus*. *Vet. Pathol.* 45:51-53.
- Tiwari, R. and J.F. Timoney. 2008. *Streptococcus equi* bacteriophage SeP9 binds to group C carbohydrate but is not infective for the closely related *S. zooeidemicus*. *Vet. Microbiol.* 135:304-307.
- Causey, R.C., S.C. Artiushin, J.F. Crowley, J.A. Weber, A.D. Homola, A. Kelley, L.A. Stephenson, H.M. Opitz, S. Guilmain and J.F. Timoney. 2009. Immunization of the equine uterus against *Streptococcus equi* subsp. *zooeidemicus* using an intranasal attenuated Salmonella vector. *Veterinary Journal.* doi:10.1016/j.tujl.2009.05.001.
- Kumar, P. and J.F. Timoney. 2009. Light and ultrastructural studies on the ependymal secretion and formation of Reissner's fibre in horses. *Indian J. Am. Sci.* 79:1087-1188.
- Timoney, J.F., R. DeNegri, A. Sheoran and N. Forster. 2010. Affects of N-terminal variation in the SeM protein of *Streptococcus equi* on antibody and fibrinogen binding. *Vaccine.* Doi:10.1016/j.vaccine.2009.11.064.

March 2011

## CURRICULUM VITAE

**Peter Joseph Timoney**

**Date and Place of Birth:** 5 June, 1941; Dublin, Ireland

**Resident Address:** 3417 Nantucket Dr., Lexington, KY 40502

**Marital Status:** Married, four children

**College and University Education:**

MVB (Hons)	National University of Ireland, University College, Dublin, 1964
MRCVS	Registration of membership of the Royal College of Veterinary Surgeons, London, July, 1964
MS	University of Illinois, Champaign-Urbana, Illinois, 1966 <u>Title of Thesis:</u> Viraemic and Serologic Response of Certain Species of Wild Mammals Following Experimental Inoculation with Powassan Virus
PhD	The University of Dublin (Trinity College), Dublin, 1974 <u>Title of Thesis:</u> A Study of Certain Respiratory Viruses of Cattle in Ireland
FRCVS	Royal College of Veterinary Surgeons, London, 1978 <u>Title of Thesis:</u> Louping Ill Infection in the Horse

**Awards and Honor Societies:**

Obtained First Place in First and Final University Examinations and Second Place in Second, Third and Fourth Examinations in Veterinary Medicine.

Undergraduate Merit Scholarships awarded on the results of First, Second, Third and Fourth University Examinations in Veterinary Medicine.

Awarded College Prizes in Veterinary Anatomy and Histology, Pathology, and Bacteriology, Surgery, Clinical Medicine, Preventive Medicine and Practical Medicine.

University of Kentucky Special Faculty Grant Award 1988-1990

Equine Veterinary Journal Open Literary Award in 1976

Phi Zeta, Gamma Sigma Delta

Who's Who in Veterinary Science and Medicine, 1987, 1990, 1993

Who's Who in America, 47<sup>th</sup>- 64<sup>th</sup> Editions

Who's Who in Agriculture, 2003

Who's Who in Ireland, The Influential Irish, 2006

**Awards and Honor Societies (cont):**

1999 American Hanoverian Society Research Grant Award "The Risk of Transmission of Equine Viral Arteritis Through the Use of Frozen Semen."

Honorary Life Member, World Equine Veterinary Association, 1999 -

USDA Secretary of Agriculture Honor Award Recipient, 2001 and 2002

Who's Who in the South and Southwest, 28<sup>th</sup> – 33<sup>rd</sup> Editions

2005 American Hanoverian Research Grant Award "Detectability of Equine Arteritis Virus in Raw and Cryopreserved Semen by Virus Isolation and RT-PCR Assay."

Inducted into University of Kentucky Gluck Equine Research Hall of Fame, 2009

**Professional Experience:**

1964-1966      Research Associate, Centre for Zoonoses Research, College of Veterinary Medicine, University of Illinois, Urbana, Illinois.

1966-1967      Research Officer, General Diagnostic Section, Veterinary Research Laboratory, Abbotstown, Castleknock, Co. Dublin, Ireland. (November.1966-January 1967: seconded to British Ministry of Agriculture Fisheries and Food as Temporary Veterinary Inspector involved in Foot and Mouth Disease Eradication Program during the 1967-68 epizootic in the U.K.)

1967-1972      Research Officer, Virology Section, Veterinary Research Laboratory, Abbotstown, Castleknock, Co. Dublin, Ireland.

1972-1979      Senior Research Officer, Head, Equine Diseases Section, Veterinary Research Laboratory, Abbotstown, Castleknock, Co. Dublin, Ireland.

1973              Visited the following institutions in the USA and Canada to acquire experience in the field of equine infectious diseases.

Department of Veterinary Science, University of Kentucky, Lexington, Kentucky  
USDA's National Animal Parasite Laboratory, Beltsville, Maryland  
USDA's National Animal Disease Center, Ames, Iowa  
Veterinary Research Institute, Iowa State University, Ames, Iowa  
USDA's Animal Disease Research Laboratory, Denver, CO, College of Veterinary Medicine, Fort Collins, Colorado  
USDA's Vector and Pioneering Research Laboratory and College of Veterinary Medicine, Washington State University, Pullman, Washington  
New York State College of Veterinary Medicine, Cornell University, Ithaca, New York  
Animal Diseases Research Institute, Ottawa, Ontario, Canada.

1979-1981      Associate Professor and Senior Virologist, Diagnostic Laboratory, and Associate Professor, Department of Microbiology, New York State College of Veterinary Medicine, Cornell University, Ithaca, New York.

1981-1983      Scientific Director, Irish Equine Centre, Johnstown, Naas, Co. Kildare, Ireland.

1981-1983      Adjunct Associate Professor of Virology, Diagnostic Laboratory and Department of Preventive Medicine, New York State College of Veterinary Medicine, Cornell University, Ithaca, New York.

**Professional Experience (cont):**

1983-1987	Associate Professor of Virology, Department of Veterinary Science, University of Kentucky, Lexington, Kentucky.
1987-1991	Director of Graduate Studies, Department of Veterinary Science, University of Kentucky, Lexington, Kentucky.
1987-1989	Professor of Virology and Associate Chairman for Research, Department of Veterinary Science, University of Kentucky, Lexington, Kentucky.
1988-	Frederick Van Lennep Chair in Equine Veterinary Science
1989-1990	Acting Chairman, Department of Veterinary Science and Acting Director, Maxwell H. Gluck Equine Research Center, University of Kentucky, Lexington, Kentucky
1990-1999, 2002-2008	Chairman, Department of Veterinary Science, University of Kentucky, Lexington, Kentucky
1990-2006	Director, Maxwell H. Gluck Equine Research Center, University of Kentucky, Lexington, Kentucky

**Other Professional Experience:**

Responsible for the planning and design of the Irish Equine Centre (diagnostic, investigational and research facility), Johnstown, Co. Kildare, Ireland, 1981-1983.

**Fields of Specialization:**

Arbovirology; Equine virology, microbiology, epidemiology, pathology and vaccinology; Diagnostic virology

**Research Experience:**

Pathogenicity studies on Powassan virus for different species of North American mammals, 1964-1966.

Epidemiologic studies on salmonellosis in beef cattle in Ireland, 1966-1967.

Epidemiologic studies on louping ill in human, domestic and wildlife species in Ireland, 1966-1978.

Epidemiologic, virologic and vaccination studies on viral respiratory disease in cattle in Ireland, 1967-1972.

Investigation of the infectious aetiology of naturally occurring chronic renal disease in dogs in Dublin, 1971-1972.

Studies on the pathogenesis of border disease and bovine viral diarrhoea virus in sheep, 1972-1974.

Development of improved and more rapid diagnostic tests for louping ill infection, 1970-1978.

Investigation of the aetiology and pathogenesis of neonatal mortality in foals in Ireland, 1975-1979.

Pathogenicity studies on louping ill virus for the horse, 1976-1978.

Epidemiologic studies on contagious equine metritis in various countries throughout the world, 1977-

Pathogenicity studies on *Taylorella equigenitalis* for different species of domestic and laboratory animals, 1977-1983.

**Research Experience (cont):**

Investigation of the physical, metabolic and antigenic properties of *Taylorella equigenitalis*, 1977-1983.

Investigation of the aetiology and epidemiology of canine viral gastroenteritis in the North-East USA, 1979-1982.

Epidemiologic studies on equine herpesvirus type 1 abortion in the USA, 1979-

Studies on latency in equine herpesvirus type 1 infection in the horse, 1983-

Epidemiologic studies on equine arteritis virus infection in various countries throughout the world, 1984-

Studies on the mechanism of persistence of equine arteritis virus in the stallion, 1984-

Investigation of the pathogenesis of equine arteritis virus in equids, 1985-

Development of improved methods for the prevention and control of equine viral arteritis, 1984 –

Studies on the taxonomy, transmissibility, pathogenicity, persistence and significance of a CEM-like bacterium for horses and donkeys, 1998 -

**Current Research Interests:**

Investigation of the mechanism(s) underlying establishment and persistence of equine arteritis virus in the reproductive tract of the stallion with special emphasis on the role of androgens and local immunity on maintenance of the carrier state.

Identification of the site(s) of localization of EAV in the accessory sex glands and elsewhere where the virus is harbored in the reproductive tract of the carrier stallion.

Characterization of the genomic variation among isolates of equine arteritis virus with reference to the variation in pathogenicity among strains of the virus and pathogenesis of the carrier state in the stallion.

Identification of the determinant(s) of virulence among isolates of EAV as they relate to the abortifacient properties of particular strains of the virus.

Further studies on the value of an in vitro model of equine arteritis virus persistence for increasing our understanding of the carrier state in the stallion.

Investigation of the role of equine arteritis virus in early embryonic loss in the mare.

Development of more rapid, reliable and economical diagnostic procedures for detection of equine arteritis virus infection.

Study of the prevalence of equine arteritis virus infection in alpacas and llamas.

Determination of possible infectivity of frozen semen, embryos derived from stallions contaminated with *Taylorella equigenitalis*.

Investigation of the prevalence of *Taylorella asinigenitalis* in non-horse equid populations.

Determination of the role of *Taylorella asinigenitalis* as a cause of infertility in the donkey and the horse.

**Research Grants and Contracts:**

**Competitive Funding:**

1980-1981: USDA-ARS Research Agreement No. 58-519B-0-912. "Studies on Haemophilus equigenitalis, the causal agent of contagious equine metritis." Principal Investigator, \$44,975, direct costs for 1 year.

1985-1987: Grayson Foundation Grant "The Carrier State in Equine Herpes Virus Type I (EHV-1)." Co-Principal Investigator, \$50,539, direct costs for 2 years.

1986-1987: Grayson Foundation Grant "Characterization of the Carrier State in Equine Arteritis Virus Infected Stallions and the Responses of EVA-Vaccinated and Unvaccinated Mares Following Venereal Exposure to the Virus." Principal Investigator, \$30,760, direct costs for one year.

1988-1989: University of Kentucky Research Award "Molecular Studies of Equine Arteritis Virus with Special Reference to Detection of the Carrier State in the Stallion." Principal Investigator, \$3,500, direct costs for 6 months.

1993-1994: University of Kentucky Research Award "Development of Synthetic Peptides to Selected Regions of ORF3 and ORF5 Proteins of a Virulent Strain of Equine Arteritis Virus." Co-Principal Investigator, \$3,000, direct costs for 1 year.

2001-2002: Stavros S. Niarchos Foundation Grant "Identification of Factors that Optimize *In Vitro* Detection of Equine Arteritis Virus." Principal Investigator, \$20,000, total costs for one year.

2006-2007: Grayson-Jockey Club Research Foundation Grant "Detection of Antibodies to EAV by Microsphere Immunoassay." Co-Principal Investigator, \$24,702, direct costs for 1 year.

2006-2008: American Quarter Horse Association Grant "Development of Real-Time PCR-Based Diagnostic Assays for Detection of Virus Infections in Horses." Co-Principal Investigator, \$49,158, direct costs for 2 years.

2007-2008: American Quarter Horse Association Grant "Investigating Equine Arteritis Virus Transmission Risks with Embryo Transfer in Vaccinated and Nonvaccinated Embryo Donor Mares." Co-Principal Investigator, \$106,589.

2008-2009: Grayson-Jockey Club Research Foundation Grant "Molecular Epidemiology of EAV: 2006 Occurrence in the US." Co-Principal Investigator, \$31,967, direct costs for 1 year.

**Non-Competitive Funding:**

1984-1986: USDA Hatch Project KY 378 "A Sero-Epidemiological Study of Getah, Vesicular Stomatitis and Equine Arteritis Virus Infection." Co-principal Investigator.

1985-1987: USDA Hatch Project KY 396 "Investigation of the Carrier State of Equine Arteritis Virus in the Stallion." Co-principal Investigator.

1988-Present: Frederick Van Lennep Professorship Endowment Fund. Programmatic support for research on equine viral arteritis. Principal Investigator, approximately \$70,000, direct costs per annum.

1989-1991: USDA Hatch Project KY 382 "Development of cDNA Probes for Detection of Equine Arteritis Viral RNA in Carrier Stallions' Semen." Co-principal Investigator.

1992-1993: USDA Hatch Project KY358 "Antigenic Cross-Comparison Studies of Isolates of Equine Arteritis Virus Using the Microneutralization Test and Investigation of Some of the Variables in the Test Procedure."

**Non-Competitive Funding:**

2005-2007: Fort Dodge Animal Health Research Agreement "Molecular Basis of Attenuation of the Modified Live Virus Vaccine Strain of Equine Arteritis Virus." Co-Principal Investigator, \$156,335, total costs for 2 years.

2008-2010: Fort Dodge Animal Health Research Agreement "Development and Characterization of Equine Arteritis Virus Vectors Chimeric Viruses as Vaccines against Porcine Reproductive and Respiratory Syndrome Virus (PRRSV). Co-Principal Investigator, \$211,000, total costs for 2 years.

2009-2010: Research Activity Award (RAA) "Identification of putative equine arteritis virus (EAV) receptor(s) in equine peripheral blood mononuclear cells." Principal Investigator, \$1,180.50.

**Graduate Faculty Membership:**

Graduate Faculty, Cornell University, 1980-1983  
Graduate Faculty, University of Kentucky, 1983 –

**Graduate Student Committees:**

Dr. Sandra Burnett - PhD - Chairman of Committee  
Dr. John Fairbrother - PhD - Chairman of Committee  
Dr. Reed Holyoak - PhD - Chairman of Committee  
Dr. Tom Little - PhD - Chairman of Committee  
Dr. Suzanne Neu - PhD - Chairman of Committee  
Dr. Neil Williams - PhD - Chairman of Committee  
Mr. Jianqiang Zhang – PhD – Chairman of Committee  
Dr. Yi Zhang - PhD - Chairman of Committee  
Dr. Christa Adam – PhD – Committee Member  
Dr. Karen Affleck - PhD - Committee Member  
Dr. Ben Baker - PhD - Committee Member  
Mr. Jeff Bosken – PhD - Committee Member  
Dr. Cormac Breathnach - PhD - Committee Member  
Dr. Fernanda Camargo – PhD – Committee Member  
Dr. Levent Dirikolu - PhD - Committee Member  
Dr. Clara Fenger - PhD - Committee Member  
Dr. John Lay - PhD - Committee Member  
Dr. Teri Lear - PhD - Committee Member  
Dr. Christina McManus - PhD – Committee Member  
Dr. Edward Mitchell, PhD - Committee Member  
Dr. Barbara Murphy – PhD – Committee Member  
Dr. Jennifer Myka - PhD – Committee Member  
Dr. Eileen Ostlund - PhD - Committee Member  
Dr. Kristen Simpson - PhD - Committee Member  
Dr. Scott Stanley - PhD - Committee Member  
Dr. Tom Wood - PhD - Committee Member  
Dr. Weisong Zhou - PhD– Committee Member  
Dr. Roberta Dwyer - MS - Chairman of Committee  
Mr. Todd Murphy - MS - Chairman of Committee  
Ms. Jennifer Myka - MS - Chairman of Committee  
Mr. Steve Schneider - MS - Chairman of Committee  
Ms. Darrilyn Albright - MS - Committee Member  
Mr. Dave Bouchey - MS - Committee Member  
Dr. Ken Dickey - MS - Committee Member  
Ms. Jennifer Donofrio – MS – Committee Member  
Ms. Holly McCoy - MS - Committee Member  
Ms. Leanne Mellbye - MS - Committee Member  
Ms. Kathryn Smith – MS – Committee Member



**Graduate Student Committees (cont):**

Ms. Michelle Ward – MS – Committee Member  
Ms. Kimberly Brown – PhD Candidate, Dept. of Ag. Economics – Committee Member  
Ms. Patricia Earle - PhD Candidate - Committee Member  
Ms. Yun Young Go – PhD Candidate – Chairman of Committee  
Ms. Zhengchun Lu – PhD Candidate – Committee Member  
Dr. Barry Meade, PhD Candidate – Chairman of Committee  
Ms. Kathryn Smith, PhD Candidate – Committee Member

**Related Professional Experience:**

Examiner in Virology, Institute of Laboratory Medical Technology, London, 1971-1975.

US National Board Examinations in Veterinary Medicine Review Panel, 1981.

External Examiner (Masters Thesis), University of Melbourne, School of Veterinary Science, 1987.

External Examiner, Fellowship Thesis by Dr. Richard Newton, appointed by Royal College of Veterinary Surgeons, London, U.K., 2003.

Organized First International Workshop on the Diagnosis of EAV Infection, Lexington, Kentucky, October 19-21, 2004.

External Examiner, Doctoral Thesis, Mlle. Albertine Leon, Universite de Caen/Basse-Normandie, Ecole Doctorale Clinic Biologie, Caen, France, 2006.

Completed Course, "Preparedness & Response to Agricultural Terrorism Management Level", National Center for Biomedical Research and Training Academy of Counter-Terrorist Education, Louisiana State University, May, 2006.

**Teaching Experience:**

Presented a series of lectures in the Undergraduate Virology Course, College of Veterinary Medicine, Dublin, Ireland, 1975-1977.

Participated in Infectious Disease Rounds, New York State College of Veterinary Medicine, Cornell University, with presentations on a variety of infectious disease topics, 1979-1981.

Guest Lecturer, Exotic Animal Disease Course, Canadian Department of Agriculture, Ottawa, Canada, April, 1986.

Postgraduate Course, Equine Infectious Diseases, Faculty of Veterinary Science, Central University of Venezuela, Maracay, Venezuela, May 30-June 2, 2000.

Guest Lecturer, Equine Infectious Diseases, Masters Program in Hippology, University of Messina, Faculty of Veterinary Medicine, Messina, Sicily, October 2, 2001.

Guest lecturer, USDA Contagious Equine Metritis Training Course, University of Pennsylvania, New Bolton Center, PA, July 15, 2009; Honalee, Portland, OR, August 22<sup>nd</sup>, 2009.

**Advisors of Visiting Faculty:**

Advisor to Dr. David Mardon, Eastern Kentucky University, who spent a six month sabbatical leave at the Gluck Equine Research Center, January-June 1990, conducting research on equine arteritis virus.

**Scientific Memberships:**

American Association for the Advancement of Science  
American Association of Equine Practitioners  
American Association of Veterinary Laboratory Diagnosticians  
American Society for Microbiology  
American Society for Virology  
American Veterinary Medical Association  
C.L. Davis Foundation for Advancement of Veterinary Pathology  
Conference of Research Workers in Animal Disease  
Royal College of Veterinary Surgeons, London  
Kentucky Association of Equine Practitioners  
World Equine Veterinary Association  
World Association of Veterinary Microbiologists, Immunologists and Specialists in Infectious Diseases  
United States Animal Health Association

**Consultancies, Advisorships and Appointments in Regional, National and International Organizations:**

O.I.E. designated world expert on equine viral arteritis, 1991 -  
Vice-President, World Equine Veterinary Association, 1991 - 1995.  
President, World Equine Veterinary Association, 1995 - 1999.  
Councillor (Companion Animals) World Veterinary Association, 1997 - 2001.  
Consultant, Japan Racing Association, 1992 -  
Scientific Advisory Council, Daryl Laboratories, Inc., Santa Clara, California, 1981-1986.  
Consultant, Fort Dodge Laboratories, Fort Dodge, Iowa, 1986 -1992; 1994 -  
Scientific Advisory Board, Equine Biodiagnostics, Inc., Lexington, KY, 1997 -  
Advisor to the USDA at Special Meeting on Regulations for Contagious Equine Metritis, Ithaca, New York, 1981.  
Advisor to the New Zealand Ministry of Agriculture and Food at Special Meeting on Regulations for Equine Viral Arteritis, Wellington, 1988.  
Advisor to the Australian Department of Primary Industries and Energy, Quarantine and Inspection Service at Special Meeting on Regulations for Equine Viral Arteritis, Melbourne, 1988.  
Advisor to the USDA at Meeting on Contagious Equine Metritis: Review and Evaluation of the Regulations, Washington, D.C., 1988.  
Advisor to the New Zealand Equine Research Foundation on Equine Viral Arteritis, 1989.  
Advisor to the USDA at Special Meeting on Italian Regulations for Equine Viral Arteritis, Rome, 1990.  
Advisor to the USDA at Special Meeting on Italian Regulations for Equine Viral Arteritis, Washington, D.C., 1992.  
Chairman, Round Table of Specialists on Emerging Equine Diseases, O.I.E., Paris, 1978.  
Co-Chair, Virology Section, Sixty-Ninth Annual Conference of Research Workers in Animal Diseases, Chicago, Illinois, 1988.

**Consultancies, Advisorships and Appointments in Regional, National and International Organizations (cont):**

Co-Chair, Virology Section, Seventieth Annual Conference of Research Workers in Animal Diseases, Chicago, Illinois, 1989.

Chairman, Workshop on Equine Viral Arteritis, 6th International Conference on Equine Infectious Diseases, Cambridge, England, 1991.

Chairman, Program on Equine Infectious Diseases and Regulatory Considerations, 24th World Veterinary Congress, Rio De Janeiro, 1991.

Advisory Council to the Scientific Organizing Committee, 7th International Conference on Equine Infectious Diseases, Japan Racing Association, 1992-1994.

Co-Chair, Third Congress World Equine Veterinary Association, Geneva, Switzerland, 1993.

Co-Chair, Third Geneva Congress of Equine Medicine & Surgery, Geneva, Switzerland, 1993.

Co-Chair, General Session on Equine Viral Arteritis, 7th International Conference on Equine Infectious Diseases, Tokyo, 1994.

Co-Chair, First International Congress on Genetics & Disease in the Horse, Interlaken, Switzerland, 1994.

Co-Chairman, Workshop on Arteriviridae and Poxviridae, Thirteenth Symposium of the World Association of Veterinary Microbiologists, Immunologists and Specialists in Infectious Diseases, Perugia-Mantova, Italy, 1994.

Chair, Search Committee for Scientific Director, Irish Equine Centre, Johnstown, Co. Kildare, Ireland, 1994.

Co-Chair, International Organizing Committee, 8th International Conference on Equine Infectious Diseases, 1994 - 1998.

Chair, Session on Equine Reproduction, Viral Infections and Factors Influencing Breeding, Twenty-Fifth World Veterinary Congress, Yokohama, Japan, 1995.

Rapporteur, Fourteenth International Symposium of the World Association of Veterinary Microbiologists, Immunologists & Specialists in Infectious Diseases, Edinburgh, Scotland, 1996.

O.I.E. Rapporteur, The First European Symposium on Equine Viral Arteritis, Utrecht, The Netherlands, 1996.

Vice-Chairman, American Horse Council Subcommittee on International Trade and Health, 1997 -

Chairman, Session on Respiratory Diseases, Reproductive Disease, and Colloquium on International Movement of Horses and Control of Infectious Diseases, 8<sup>th</sup> International Conference on Equine Infectious Diseases, Dubai, U.A.E., 1998.

Vice-Chair, United States Animal Health Association's Infectious Diseases of Horses Committee, 1999 -

Facilitator, Infectious Diseases Forum, Forty-Fifth and Forty-Sixth Annual Conventions of the American Association of Equine Practitioners, Albuquerque, New Mexico, 1999-2000.

Advisor to the Trinidad and Tobago Racing Authority at Special Meeting on Equine Import Regulations, Port-au-Spain, 2000.

**Consultancies, Advisorships and Appointments in Regional, National and International Organizations (cont):**

Advisor to the USDA at Bilateral Meeting with Canada on Contagious Equine Metritis, Washington, DC, 2002.

Vice Chair, National Institute for Animal Agriculture, Equine Health Committee, 2002-

Chairman, Program on Infectious Diseases in Horses, 27<sup>th</sup> World Veterinary Congress, Tunis, 2002.

USDA Designated Foreign Animal & Poultry Disease Expert on Contagious Equine Metritis, Getah, Louping Ill and Borna Disease, 2002.

Advisor to the New Zealand Equine Health Association and Nevele R Stud, Christchurch, New Zealand at Special Meeting on Equine Viral Arteritis, Wellington, New Zealand, 2003.

Advisor to the USDA at Special Meeting on Developing a Uniform Methods and Rules for Equine Viral Arteritis, Washington, DC, 2003.

American Horse Council's Task Force on Equine Identification, 2003-2004.

Chair, United State's Animal Health Association's Infectious Diseases of Horses Committee, 2003-2008.

National Institute for Animal Agriculture, Chair, Equine Health Committee, 2004 -2007 .

Member, USDA Equine Technical Working Group in Negotiations with European Union, 2004 -

Advisor to the USDA at Special Meeting on Equine Piroplasmiasis, Washington, DC, 2005.

Member, Board of Directors, National Institute for Animal Agriculture, 2006 -

Co-Chair, Special Meeting "Alcune Malattie Del Cavallo E Problematiche Connesse Alla Loro Sorveglianza," March 17, Rome, 2008.

Vice-Chair, Equine Disease Prevention Guidelines Group, 2009-

**Committee Memberships, Offices in Regional, National and International Organizations:**

Irish Equine Research Trust Fund Committee, 1975-1979.

Irish Liaison Committee on Equine Diseases, 1976-1979; 1982-1983.

Equine Technical Subcommittee to the Irish National Horse Board, 1977-1979.

Special Veterinary Subcommittee of the Irish Liaison Committee on Equine Diseases, 1977-1979.

Equine Advisory Council, Cornell University, 1979-1981.

Governor, Irish Equine Foundation, 1981-1983.

Scientific Advisory Committee, Irish Equine Foundation, 1981-1986.

Equine Subcommittee of the Irish Veterinary Association, 1983.

Equine Viral Arteritis Advisory Committee, Kentucky Department of Agriculture, 1984 -

American Horse Council's Health and Regulatory Committee, 1990 -

**Committee Memberships, Offices in Regional, National and International Organizations (cont):**

Kentucky Council on Higher Education Equine Trust and Revolving Fund Advisory Committee, 1992 -  
Kentucky Department of Agriculture Equine Regulations Advisory Committee, 1994-  
American Horse Council's Advisory Committee to the USDA on Federal CEM Regulations, 1994.  
American Association of Equine Practitioners Infectious Diseases Committee, 1996 - 1998.  
American Horse Council's Working Group on Equine Viral Arteritis, 1996 -  
United States Animal Health Association Import-Export Committee, 1997 -  
USDA's Focus Group on Contagious Equine Metritis, 1998 -  
American Horse Council's Working Group on West Nile Virus, 2000 -  
American Horse Council's Subcommittee on International Trade and Health, Vice-Chairman, 2001 -  
Safeguarding Animal Health Review Panel of the National Association of State Departments of Agriculture, 2000-2001.  
Governor's Task Force on the Mare Reproductive Loss Syndrome, 2001 -  
Kentucky Association of Equine Practitioners Emerging Disease Committee, 2001 -  
United States Animal Health Association's Foreign & Emerging Diseases Committee, 2001 -  
American Association of Equine Practitioners' Infectious Diseases Committee, 2006 - 2009.  
Secretary of Agriculture's Advisory Committee on Foreign Animal & Poultry Diseases, 2006 - 2008.  
Member, USDA CEM Review panel, 2006-2007.  
Member, Governor's Advisory Commission for the 2010 Alltech FEI World Equestrian Games, 2006 -  
Member, Breeders' Cup Security, Health & Injury Management Committee, 2007 -  
Member, United States Animal Health Association's Committee on International Standards, 2007 -  
Vice Chair, Equine Diseases Prevention Guidelines Group, 2009 -  
Member, National Animal Health Surveillance System Sub-Committee of the Animal Health Surveillance and Information Systems Joint Committee of AAVLD and USAHA, 2009 -  
Member, United States Animal Health Association's Committee on Animal Emergency Management, 2009 -

**Scientific Reviewer Activities:**

USDA, Formula Funds Scientific Review Committee, New York State College of Veterinary Medicine, Cornell University, 1980.  
Scientific Reviewer for the Wellcome Trust, London, 1991.  
Reviewer, Merck Veterinary Manual (7<sup>th</sup>, 8<sup>th</sup> and 9<sup>th</sup> Editions).

**Scientific Reviewer Activities:**

Scientific Reviewer for the Home of Rest for Horses, Bucks, England, 1995.

Scientific Advisory Committee, Grayson-Jockey Club Research Foundation, Inc., 1991 - 1997.

Scientific Reviewer, CD-EQUIS from Vetstream, 1999, 2002.

Analytical Contributor & Reviewer, USDA National Animal Health Monitoring System Equine '98 Study on EVA, 1999-2000.

Reviewer for the American Journal of Veterinary Research, British Veterinary Journal, Equine Veterinary Journal, Irish Veterinary Journal, Cornell Veterinarian, Veterinary Microbiology, Equine Practice, Journal of the American Veterinary Medical Association, Journal of Veterinary Diagnostic Investigation, Scientific and Technical Review (O.I.E.), Veterinary Record, Journal of Equine Veterinary Science, Journal of the South African Veterinary Association, The Veterinary Journal, Journal of Clinical Microbiology, Ippologia, Emerging Infectious Diseases, New Zealand Veterinary Journal, Veterinary Bulletin, Journal of Veterinary Medicine B, Journal of Veterinary Internal Medicine.

Editorial Advisory Board, Equus, 2001-

Editorial Advisory Board, International Equine Science, 2001 -

Editorial Advisory Board, Journal of Equine Veterinary Science, 2001 -

Editorial Advisory Board, The Horse, 1997 - 2003.

Editorial Board, Journal of Equine Veterinary Science, 1997 - 2001.

**Committee Service (University of Kentucky):**

Search Committee, Phillip Morris Professorship in Tobacco Research, 1987.

Advisory Committee to the University's Center for Electron Microscopy, 1987 -

College of Agriculture, Merit Evaluation Review Committee, 1987.

Search Committee for Dean, College of Medicine and Vice Chancellor for Clinical Professional Services, 1987 - 1988.

Intellectual Properties Committee, 1988 - 1991.

Graduate School Committee on Fellowships and Traineeships (Life Sciences), 1988 - 1990.

College of Agriculture, Advisory Committee on Promotion and Tenure, 1988.

College of Agriculture, Electron Microscopy Facility Advisory and Coordinating Committee, 1989 -

Medical Center Clinical Sciences Area Advisory Committee, 1989 - 1991.

College of Medicine Select Committee for Basic Health Science, 1989 - 1990.

Institutional Animal Care and Use Committee Executive Committee, 1989 -

University of Kentucky Equine Research Foundation Board of Directors, 1989 -

University of Kentucky Equine Research Foundation Equine Research Hall of Fame Scientific Selection Subcommittee, 1989 - 1991.

**Committee Service (University of Kentucky):**

University of Kentucky Equine Research Foundation Liaison Committee, 1989 -  
University of Kentucky Equine Research Foundation Public Relations Committee, 1989 -  
Dissertation Year Fellowship Awards Committee, 1990.  
Presidential and Open Competition Academic Year Fellowship Awards Committee, 1991.  
Chair, Search Committee for Director of the Graduate Center for Toxicology, 1993.  
Committee on Honorary Degrees, 1997 - 1999.  
Graduate Council, 1997 - 1999.  
Task Force Committee, 1997.  
Public Service Self-Study Committee, 1999 -  
Graduate Center for Toxicology Periodic Review Committee, 2001.  
University of Kentucky Natural Products Task Force, 2002 -

**Scientific Presentations at Regional, National, International Meetings:** (organizations only are listed; more than one presentation has been given before some of these organizations)

Institute of Laboratory Medical Technology, Carrickmacross, Co. Monaghan, 1972; Dublin, 1976 (Invited).  
International Thoroughbred Breeders Meeting, Pasadena, California, 1972 (Invited).  
Fourth International Congress on Equine Infectious Diseases, Lyons, 1976.  
Institute of Biology of Ireland, Dublin, 1977 (Invited).  
Annual Congress of British Equine Veterinary Association, Dublin, 1977.  
BEVA, Special Scientific Meeting on Contagious Equine Metritis, Cambridge, 1977 (Invited).  
Irish North-Western Scientific Council, Sligo, Co. Sligo, 1977 (Invited).  
Limerick and District Veterinary Clinical Society, Limerick, Co. Limerick, 1977 (Invited).  
New York State College of Veterinary Medicine, Cornell University, Ithaca, New York, 1977; 1985; 1987 (Invited).  
Second International Conference of Equine Authorities and Ministerial Veterinary Services, Madrid, 1978 (Invited).  
Second International Symposium on Equine Reproduction, Davis, California, 1978.  
Irish Veterinary Association, Newbridge, Co. Kildare, 1978; 1985 (Invited).  
Irish Bloodstock Breeders' Association, Kill, Co. Kildare, 1978 (Invited).  
Round Table on Emerging Equine Diseases, OIE, Paris, 1978 (Invited).

**Scientific Presentations at Regional, National, International Meetings:**

Annual Meeting of the Association of Veterinary Teachers and Research Workers, Scarborough, 1978.

International Meeting on Contagious Equine Metritis, Paris, 1978 (Invited).

International Symposium on Equine Venereal Diseases, Newmarket, 1979 (Invited).

Irish Thoroughbred Broodmare Owner's Association, Ennis, Co. Limerick, 1979 (Invited).

Annual Meeting of the New York State Horse Council, Ithaca, New York, 1980 (Invited).

Annual New York Horse Breeders Conference, Albany, New York, 1980 (Invited).

Invitational Workshop on Equine Viral Respiratory Diseases and Complications, Ohio State University, Columbus, Ohio, 1980 (Invited).

University of Pennsylvania, School of Veterinary Medicine, New Bolton Centre, Kennett Square, Pennsylvania, 1980 (Invited).

Annual Meeting of the New York State Veterinary Medical Society, White Plains, New York, 1980; Ellenville, New York, 1981 (Invited).

American Society for Microbiology, Rochester, New York, 1981; Miami, Florida, 1981.

Annual Conference for Veterinarians, New York State College of Veterinary Medicine, Ithaca, New York, 1981 (Invited).

Irish Thoroughbred Breeders Association, Kill, Co. Kildare, 1981 (Invited).

Department of Veterinary Science, University of Kentucky, Lexington, Kentucky, 1982; 1987; 1994; 1996.

International Workshop on Contagious Equine Metritis, Irish Equine Centre, Naas, Co. Kildare, 1982 (Invited).

Annual Congress of the Irish Veterinary Association, Bundoran, Co. Sligo, 1982 (Invited).

Irish Academy of Medical Laboratory Science, Dublin, 1983 (Invited).

Eighth Annual Kentucky Horseman's Short Course, Lexington, Kentucky, 1984 (Invited).

Kentucky Thoroughbred Farm Managers, Lexington, Kentucky, 1984 (Invited).

Grayson Foundation International Conference of Thoroughbred Breeders Organizations, Drumoland Castle, Co. Clare, Ireland, 1984 (Invited).

Sixty-Fifth Annual Meeting of the Conference of Research Workers in Animal Disease, Chicago, Illinois, 1984.

Maryland Horse Breeders Association and Extension Service, University of Maryland, Timonium, Maryland, 1985 (Invited).

Lexington Fayette Urban County Government Division of Parks and Recreation and Transylvania University, Lexington, Kentucky, 1985 (Invited).

Warren County Committee of Agriculture, Bowling Green, Kentucky, 1985 (Invited).



**Scientific Presentations at Regional, National, International Meetings (cont):**

Fourth Annual Meeting of the Society of Veterinary Epidemiology and Preventive Medicine, Reading, U.K., 1985 (Invited).

Greater Louisville Association of Equine Practitioners, Louisville, Kentucky, 1985 (Invited).

Ninth Annual Kentucky Horseman's Short Course, Lexington, Kentucky, 1985 (Invited).

Twelfth Annual Mid-America Veterinary Conference, Louisville, Kentucky, 1985 (Invited).

Sixty-Sixth Annual Meeting of the Conference of Research Workers in Animal Disease, Chicago, Illinois, 1985.

Thirty-First Annual Meeting of the American Association of Equine Practitioners, Toronto, 1985.

International Meeting of a Veterinary Delegation from the Tripartite Group and the USDA, The University of Kentucky Equine Research Foundation, Lexington, Kentucky, 1986 (Invited).

International Thoroughbred Exposition and Conference, Lexington, Kentucky, 1986 (Invited).

Fourth International Congress on Equine Reproduction, Calgary, 1986.

Ninetieth Annual Meeting of the United States Animal Health Association, Louisville, Kentucky, 1986 (Invited).

Sixty-Seventh Annual Meeting of the Conference of Research Workers in Animal Diseases, Chicago, Illinois, 1986.

Thirty-Second Annual Meeting of the American Association of Equine Practitioners, Nashville, Tennessee, 1986.

Horse Farm Management Symposium, University of Kentucky, Lexington, Kentucky, 1986 (Invited).

Seventy-Ninth Annual Conference for Veterinarians, New York State College of Veterinary Medicine, Cornell University, Ithaca, New York, 1987 (Invited).

Round Table on Equine Viral Arteritis, University of Montreal, Faculty of Veterinary Medicine, St.-Hyacinthe, Quebec, 1987 (Invited).

Association of Equine Veterinarians of Quebec, St.-Hyacinthe, Quebec, 1987 (Invited).

University of Florida, College of Veterinary Medicine, Gainesville, Florida, 1987 (Invited).

Florida Thoroughbred Breeders Association, Ocala, Florida, 1987 (Invited).

Association of Equine Practitioners of Ontario, Toronto, 1987.

University of Ontario, College of Veterinary Medicine, Guelph, Ontario, 1987 (Invited).

Twenty-third World Veterinary Congress, Montreal, 1987 (Invited).

Fifth International Conference on Equine Infectious Diseases, Lexington, Kentucky, 1987.

University of Kentucky, College of Agriculture Field Day, Princeton, Kentucky, 1988.

Twenty-third Annual Meeting Harness Horsemen's International, Buffalo, New York, 1988 (Invited).

**Scientific Presentations at Regional, National, International Meetings (cont):**

Fifth International Symposium on Veterinary Epidemiology and Economics, Copenhagen, 1988.

Special USDA Meeting to Review Contagious Equine Metritis Regulations, Washington, DC, 1988 (Invited).

Centenary Congress of the Irish Veterinary Association, Dublin, 1988 (Invited).

Fifteenth Annual Mid-America Veterinary Conference, Louisville, 1988 (Invited).

New Zealand Standardbred Breeders Association (South Island Branch), Hamilton, 1988 (Invited).

New Zealand Harness Racing Conference and New Zealand Standardbred Breeders Association (Canterbury Branch), Christchurch, 1988 (Invited).

Round Table on Equine Viral Arteritis, New Zealand Ministry of Agriculture, Wellington, 1988 (Invited).

Scientific Workshop on Equine Viral arteritis, Australian Animal Health Laboratory, C.S.I.R.O., Geelong, Victoria, 1988 (Invited).

Round Table on Equine Viral Arteritis, Australian Department of Primary Industries and Energy, Melbourne, 1988 (Invited).

Australian Harness Racing Council, Melbourne, 1988 (Invited).

University of Melbourne, School of Veterinary Science, Department of Veterinary Clinical Sciences, Werribee, Victoria, 1988 (Invited).

Special Meeting on Contagious Equine Metritis, Australian Department of Primary Industries and Energy, Canberra, 1988 (Invited).

Ninety-Second Annual Meeting of the United States Animal Health Association, Little Rock, Arkansas, 1988 (Invited).

Sixty-Ninth Annual Conference of Research Workers in Animal Diseases, Chicago, Illinois, 1988.

Twentieth Annual Convention of the American Horse Council, Arlington, Virginia, 1989 (Invited).

New Jersey Standardbred Breeders and Owners Association Symposium, Freehold, New Jersey, 1989 (Invited).

Eighth Annual Meeting of the American Society for Virology, London, Ontario, 1989.

World Trotting Conference, Toronto, 1989 (Invited).

Eleventh International Symposium of the World Association of Veterinary Microbiologists, Immunologists and Specialists in Infectious Diseases, Perugia-Mantova, Italy, 1989.

Fortieth Annual Meeting of the American College of Veterinary Pathologists, Baltimore, Maryland, 1989.

Seventieth Annual Meeting of the Conference of Research Workers in Animal Diseases, Chicago, Illinois, 1989.

Ninetieth Penn Annual Conference, School of Veterinary Medicine, University of Pennsylvania, Philadelphia, 1990 (Invited).

**Scientific Presentations at Regional, National, International Meetings (cont):**

Special Meeting with Director General, Veterinary Services, Italian Ministry of Health, to Review Italian Import Requirements for Equine Viral Arteritis, Rome, 1990 (Invited).

Round Table on Equine Viral Arteritis, Istituto Zooprofilattico Sperimentale, Delle Regioni Lazio e Toscana, Rome, 1990 (Invited).

Special Meeting on Equine Viral Arteritis. Associazione Nazionale Allevatori del Cavallo Trotatore (A.N.A.C.T.), Rome, 1990 (Invited).

Annual Spring Clinic for Horse Owners, College of Veterinary Medicine, University of Minnesota, St. Paul, Minnesota, 1990 (Invited).

Annual Congress of the Finnish Veterinary Association, Helsinki, 1990 (Invited).

Seventy-First Annual Meeting of the Conference of Research Workers in Animal Diseases, Chicago, Illinois, 1990.

Thirty-Sixth Annual Meeting of the American Association of Equine Practitioners, Lexington, Kentucky, 1990 (Invited).

Roundtable on Equine Infectious Diseases: Current and Prospective Vaccine Strategies for Their Control. The Upjohn Co., Kalamazoo, Michigan, 1991 (Invited).

Sixth International Conference on Equine Infectious Diseases, Cambridge, England, 1991.

Twenty-Fourth World Veterinary Congress, Rio De Janeiro, 1991.

Seventy-Second Annual Meeting of the Conference of Research Workers in Animal Diseases, Chicago, Illinois, 1991.

Forty-Second Annual Meeting of the American College of Veterinary Pathologists, Orlando, Florida, 1991.

Second Annual Meeting of the Institute of Equine Science and Technology, Texas A&M University, College Station, Texas, 1992 (Invited).

International Seminar: Update on Some Infectious Diseases of Ruminants, Horses, and Swine, of Economic Importance. Mantova, Copanello and Perugia, Italy, 1992 (Invited).

Meeting on Equine Viral Arteritis and the Regulatory Problems it Presents. American Horse Council, Louisville, Kentucky, 1992 (Invited).

Seventy-Third Annual Meeting of the Conference of Research Workers in Animal Diseases, Chicago, Illinois, 1992.

Special Meeting on Equine Viral Arteritis. Unione Nazionale Incremento Razze Equine, Rome, 1992 (Invited).

Annual Meeting of the Southern Animal Health Association, Louisville, Kentucky, 1993 (Invited).

Special Meeting on Equine Viral Arteritis. Irish Equine Veterinary Practitioners, Newbridge, Co. Kildare, Ireland, 1993 (Invited).

Special Meeting on Infectious Arteritis of Horses, Office International Des Epizooties, Paris, France, 1993 (Invited).

**Scientific Presentations at Regional, National, International Meetings (cont):**

Ninth International Congress of Virology, Glasgow, 1993.

Asociacion Argentina de Veterinaria Equina, Buenos Aires, 1993 (Invited).

Argentinian Association of Thoroughbred Breeders, Buenos Aires, 1993 (Invited).

“Wirusowe Zapalenie Tetnic Koni,” Sekcja Epizootiologiczna Polskiego Towarzystwa Nauk Weterynaryjnego SGGW, Warsaw, Poland, 1993 (Invited).

Third Congress World Equine Veterinary Association, Geneva, Switzerland, 1993.

Universitat Bern, Klinik für Nutztiere und Pferde, Bern, Switzerland, 1993 (Invited).

Kentucky Association of Equine Practitioners, Lexington, Kentucky, 1994 (Invited).

Northwest Pacific Equine Practitioners Association, Puget Sound Chapter, Seattle, Washington, 1994 (Invited).

Northwest Pacific Equine Practitioners Association, Portland and Roseburg, Oregon, 1994 (Invited).

Northwest Pacific Equine Breeders and Owners Association, Portland, Oregon, 1994 (Invited).

Forty-fourth Canadian Animal Diseases Conference, Nepean, Ontario, 1994.

Annual Meeting of the Norwegian Virological Society, Oslo, 1994.

Seventh International Conference on Equine Infectious Diseases, Tokyo, 1994 (Invited).

Thirty-Third Congress of the British Equine Veterinary Association, Dublin, 1994 (Invited).

Thirteenth Symposium of the World Association of Veterinary Microbiologists, Immunologists & Specialists in Infectious Diseases, Perugia-Mantova, Italy, 1994 (Invited).

Seminar on “Disease Risks Associated with the International Movement of Horses,” United Arab Emirates Equestrian & Racing Federation, Abu Dhabi, U.A.E., 1994 (Invited).

International Seminar on “Update on Some Infectious Diseases of Ruminants and Horses,” Isernia, Italy, 1994 (Invited).

Equine America '94, Lexington, KY, 1994.

13th Annual Meeting of the North American Department of the Royal Warmblood Association of the Netherlands, Lexington, Kentucky, 1995 (Invited).

Kentucky Thoroughbred Farm Managers' Club, Lexington, Kentucky, 1993, 1995 (Invited).

Istituto Zooprofilattico Sperimentale Delle Regioni Lazio E Toscana, Rome, 1995 (Invited).

Twenty-Fifth World Veterinary Congress, Yokohama, Japan, 1995.

Tenth International Seminar: Update on Infectious Diseases of Ruminants, Horses and Pigs, Agrigento, Perugia and Camerino, Italy, 1995 (Invited).

Thirty-Sixth Annual Meeting of the American Association of Veterinary Laboratory Diagnosticians, Reno, Nevada, 1995.

**Scientific Presentations at Regional, National, International Meetings (cont):**

Fourteenth International Symposium of the World Association of Veterinary Microbiologists, Immunologists & Specialists in Infectious Diseases, Edinburgh, Scotland, 1996.

Annual Convention of the American Saddlehorse Association, Lexington, Kentucky, 1996 (Invited).

First European Symposium on Equine Viral Arteritis, Utrecht, The Netherlands, 1996 (Invited).

Fourteenth International Symposium of the World Association of Veterinary Microbiologists, Immunologists and Specialists in Infectious Diseases, Edinburgh, Scotland, 1996.

Eleventh International Seminar on "The Control of the Most Common Infectious Diseases of Ruminants and Horses" Arborea, Perugia and Cittoduceale, Italy, 1996 (Invited).

First International Veterinary Microbiology Congress, University of Istanbul Veterinary Faculty, Istanbul, Turkey, 1996 (Invited).

Fifteenth Annual Meeting of the American Society for Virology, London, Ontario, 1996.

Forty-Second Annual Convention of the American Association of Equine Practitioners, Denver, Colorado, 1996 (Invited).

Seventy-Seventh Annual Meeting of the Conference of Research Workers in Animal Diseases, Chicago, Illinois, 1996.

Kentucky Association of Equine Practitioners, Lexington, Kentucky, 1997 (Invited).

Department of Virology, National Veterinary institute, Uppsala, Sweden, 1997 (Invited).

International Equine Neurology Conference, Ithaca, New York, 1997 (Invited).

Fifth World Equine Veterinary Association Congress, Padova, Italy, 1997 (Invited).

Twelfth International Seminar "Update on Lentiviruses and Some Prominent Zoonoses." Gioia del Colle and San Leo, Italy, 1997 (Invited).

Aggiornamento su Alcune Malattie da Virus del Cavallo, Sala delle Conferenze del Credito Agrario Bresciano, Brescia, Italy, 1997 (Invited).

Forty-Third Annual Convention of the American Association of Equine Practitioners, Phoenix, Arizona, 1997 (Invited).

Fortieth Annual Meeting of the American Association of Veterinary Laboratory Diagnosticians, Louisville, Kentucky, 1997.

Seventy-Eighth Annual Meeting of the Conference of Research Workers in Animal Diseases, Chicago, Illinois, 1997.

Eighth International Conference on Equine Infectious Diseases, Dubai, U.A.E., 1998 (Invited).

Convegno Internazionale Recenti Acquisizioni su Herpesvirus e Miopatie del Cavallo, Padua, Italy, 1998 (Invited).

Coordinator Workshop for NAHMS Equine '98 Survey, Ft. Collins, Colorado, 1998 (Invited).

Seventeenth Annual Meeting of the American Society for Virology, Vancouver, British Columbia, Canada, 1998.

**Scientific Presentations at Regional, National, International Meetings (cont):**

Thirteenth International Seminar on “Issues for the Veterinary Profession As We Are Approaching the Next Century,” Perugia, Italy, 1998 (Invited).

1998 Annual Conference of the Society for Theriogenology, Baltimore, Maryland (Invited).

Seventh International Symposium on Equine Reproduction, Pretoria, S. Africa, 1998.

International Meeting on Equine Viral Arteritis, Sardinia, Italy, 1998 (Invited).

School of Veterinary Medicine, UC Davis, California, 1999 (Invited).

Epizootic Foreign Animal Diseases Training Course, Madison, Wisconsin, 1999 (Invited).

Fifth Biennial Conference, Society for Tropical Veterinary Medicine, Key West, Florida, 1999 (Invited).

Sixth World Equine Veterinary Association Congress, Paris, France, 1999 (Invited).

Fourteenth International Seminar on “Lentiviruses and Zoonotic Infections,” Matelica, Italy, 1999 (Invited).

Eightieth Annual Meeting of the Conference of Research Workers in Animal Diseases, Chicago, Illinois, 1999.

Nineteenth Annual Meeting of the American Society for Virology, Fort Collins, Colorado, 2000.

Virginia-Maryland Regional College of Veterinary Medicine, Blacksburg, Virginia, 2000 (Invited).

International Congress of Production and Animal Health, Expoaviga 2000, Barcelona, Spain, 2000 (Invited).

First National Forum on Equine Infectious Diseases, Caracas, Venezuela, 2000 (Invited).

Fourth Conference on Equine Medicine, Central University of Venezuela, Maracay, Venezuela, 2000 (Invited).

USDA Interactive Videoconference on Equine Viral Arteritis, Washington, DC, 2000 (Invited).

Seventy-Third Western Veterinary Conference, Las Vegas, Nevada, 2001 (Invited).

Governor’s Conference on Latin America, Louisville, Kentucky, 2001 (Invited).

Seminar on Foot & Mouth Disease and West Nile Encephalitis, Kentucky Horse Park, Lexington, Kentucky, 2001 (Invited).

Kentucky Thoroughbred Farm Managers’ Club, April Meeting, Lexington, Kentucky, 2001 (Invited).

Fifteenth International Seminar, “A Review of Some Infectious Diseases of Animals of Economic and/or Zoonotic Importance.” Frosinoni and Perugia, Italy, 2001 (Invited).

Seventh World Equine Veterinary Association Congress, Sorrento, Italy, 2001.

Second Biennial Foreign Animal Diseases Training Course, Madison, Wisconsin, 2001 (Invited).

Thoroughbred Owners Seminar, Hipodromo de las Americas, Mexico City, Mexico, 2001 (Invited).

First International Grass Sickness Conference, Dubai, UAE, 2001 (Invited).

**Scientific Presentations at Regional, National, International Meetings (cont):**

Forty-Seventh Annual Convention of the American Association of Equine Practitioners, San Diego, California, 2001.

Sixty-Eighth Annual Meeting of the American Mosquito Control Association, Denver, Colorado, 2002 (Keynote Speaker).

United Producers, Formulators and Distributors Association, Spring Conference, Newport Beach, California, 2002 (Invited).

Sixteenth International Seminar: Emerging Infectious Diseases of Animals Including some New and Traditional Zoonoses, Siena & Perugia, Italy, 2002 (Invited).

Twenty-Seventh World Veterinary Congress, Tunis, Tunisia (Keynote Speaker), 2002.

Department of Molecular Microbiology & Immunology and Division of Infectious Diseases, Johns Hopkins University, Baltimore, 2002 Maryland (Invited).

Maryland Veterinary Medical Association, Fall Conference: Equine Viral Respiratory Pathogens, Timonium, Maryland, 2002 (Invited).

Summer Meeting, Arkansas Veterinary Medical Association, Little Rock, Arkansas, 2003 (Invited).

Annual Meeting of the National Institute for Animal Agriculture, Equine Health Committee, Cincinnati, Ohio, 2003 (Invited).

Northeast Indiana Veterinary Medical Association, Fort Wayne, Indiana, 2003 (Invited).

Seventy-Fifth Annual Western Veterinary Conference, Las Vegas, Nevada, 2003 (Invited).

Twenty-Eighth Annual Meeting of the Mid-Atlantic Mosquito Control Association, Portsmouth, Virginia, 2003 (Invited).

Eighth World Equine Veterinary Association Congress, Buenos Aires, Argentina, 2003 (Invited).

Cold Spring Harbor Laboratory, 2004 President's Council Meeting, Long Island, New York, 2004 (Invited).

2004 Annual Convention of the American Horse Council, Washington, DC. 2004 (Invited).

ICRAV 2004, 15<sup>th</sup> International Conference of Racing Analysts & Veterinarians, Dubai, United Arab Emirates, 2004 (Invited).

Southern Animal Health Association's Annual Meeting, Chattanooga, Tennessee, 2004 (Invited).

Second International Conference on Equine Grass Sickness, Dubai, United Arab Emirates, 2004 (Invited).

"New and Emerging Diseases." NA/WPN (Dutch Warmblood Studbook in North America) Annual Meeting, Lexington, Kentucky, 2005 (Invited).

Videoconference on "Equine Viral Encephalitides in the Americas and their Impact on Human and Equine Health" with Medical School of the Central University of Venezuela, Caracas, and the Schools of Veterinary Medicine and Agricultural Engineering, Maracay, Venezuela, March 17<sup>th</sup>, 2005 (Invited).

Post-Graduate Seminar, Malattie Virali Degli Equini, Facolta di Medicina Veterinaria Aula Magna via Leonardo da Vinci, Grugliasco, Universita Degli Studi Di Torino, Turin, Italy, 2005 (Invited).

**Scientific Presentations at Regional, National, International Meetings (cont):**

American Holsteiner Horse Association Annual Meeting, Dallas-Ft. Worth, Texas, 2005 (Invited).

2005 Annual Meeting of the Southern Animal Health Association, New Orleans, Louisiana, 2005 (Invited).

Seventeenth International Seminar: Some Important Viral Diseases of Horses, Perugia, Italy, 2005 (Invited).

Technical Seminar, Criadores Fina, Sangre de Carrera, S.A. Chile, Santiago, Chile, 2005 (Invited).

Technical Seminar, Uruguay Thoroughbred Breeders & Racehorse Owners, Montevideo, Uruguay, 2005 (Invited).

Ninth World Equine Veterinary Association Congress, Marrakech, Morocco. 2006.

ADVANCE Distinguished Lecture Series, College of Veterinary Medicine, Kansas State University, Manhattan Kansas, 2006 (Invited).

Seventy-Eighth Annual Western Veterinary Conference, Las Vegas, Nevada, 2006 (Invited).

Technical Seminar, Hipodromo Argentino de Palermo & Keeneland Association, Buenos Aires, Argentina, 2006 (Invited).

Technical Seminar, Brazilian Thoroughbred Owners & Breeders Association & Keeneland Association, Sao Paulo & Rio de Janeiro, Brazil, 2006 (Invited).

American Horse Council Issues Forum, Austin, Texas, 2006 (Invited).

Special Seminar on Equine Viral Arteritis, Ruidosa Downs Racetrack, New Mexico, 2006 (Invited).

Annual Meeting of the Association Veterinaire Equine Francaise, Versailles, France, 2006 (Invited).

One Hundred and Tenth Annual Meeting of the United States Animal Health Association, Minneapolis-St. Paul, Minnesota, 2006.

Board of Trustees Meeting, Morris Animal Foundation, Denver, Colorado, Keynote Speaker, 2006 (Invited).

Irish Department of Agriculture & Food, Veterinary Research Laboratory, Backweston, Cellbridge, Co. Kildare, Ireland, 2006 (Invited).

Special Presentation on Equine Viral Arteritis, hosted by South Valley Large Animal Clinic, South Jordan, UT, 2006 (Invited).

Special Presentation on Equine Viral Arteritis, hosted by Select Breeders Southwest, Inc., Aubrey, TX, 2007 (Invited).

Twenty-Second Annual National Conference on Equine Law, Lexington, KY, 2007 (Invited).

Annual Meeting of the National Institute for Animal Agriculture, Sacramento, CA, 2007 (Invited).

Department of Veterinary Science, Equine Diagnostic & Research Seminar, 2007 (Invited).

Contagious Equine Metritis Workshop, Minitube Biotechnology International Center, Madison, WI, 2007 (Invited).



**Scientific Presentations at Regional, National, International Meetings (cont):**

Webster National Veterinary Meeting, Denver, CO, 2007 (Invited).

Joint Meeting of the 51<sup>st</sup> Livestock Insect Workers Conference and 9<sup>th</sup> International Symposium on Ectoparasites of Pets, Lexington, KY, 2007, Keynote Speaker.

Ninth Biannual Jackson Hole Veterinary Rendezvous (Idaho and Wyoming Veterinary Medical Associations), Jackson Hole, Wyoming, 2007 (Invited).

Hagyard Bluegrass Equine Symposium, Lexington, Kentucky, 2007 (Invited).

First International Conference on Contagious Equine Metritis, CIADC, Lelystad, The Netherlands, 2007 (Invited).

One Hundredth and Eleventh Annual Meeting of the United States Animal Health Association, Reno, Nevada, 2007.

Thirteenth International World Association of Veterinary Laboratory Diagnosticians Symposium, Melbourne, Australia, 2007.

Tenth Congress of the World Equine Veterinary Association, Moscow, Russia, 2008 (Invited).

Special Meeting “Alcune Malattie Del Cavallo E Problematiche Connesse Alla Loro Sorveglianza,” March 17, Rome, 2008 (Invited).

Puget Sound Equine Reproductive Center, Pilchuck Veterinary Hospital, Seattle, Washington, 2008 (Invited).

Equine Health Committee, Annual Meeting of the National Institute for Animal Agriculture, Indianapolis, Indiana, 2008 (Invited).

Twenty-Sixth Annual Meeting, American College of Veterinary Internal Medicine Forum, San Antonio, Texas, 2008 (Invited).

Ft. Dodge Animal Health Equine Health Education Seminar, Buelton and San Francisco, California, 2008 (Invited).

Twenty-Fourth Annual Alltech Symposium, Lexington, Kentucky, 2008 (Invited).

Ft. Dodge Animal Health Equine Health Education Seminar, Temecula and Sacramento, California, 2008 (Invited).

Ft. Dodge Animal Health Equine Health Education Seminar, Ft. Worth, Texas, 2008 (Invited).

Ft. Dodge Animal Health Equine Health Education Seminar, Purcellville, Virginia, 2008 (Invited).

Hagyard Bluegrass Equine Symposium, Lexington, Kentucky, 2008 (Invited).

Second International Workshop on Equine Viral Arteritis, Lexington, Kentucky, October. 13-15, 2008 (Organizer).

Ft. Dodge Animal Health Equine Health Education Seminar, Purcellville and Richmond, Virginia, 2009 (Invited).

Wyeth Animal Health Equine Health Education Seminar, Guelph, Ontario and Calgary, Alberta, 2009 (Invited).

**Scientific Presentations at Regional, National, International Meetings (cont):**

2009 Annual Meeting of the National Institute for Animal Agriculture, Equine Committee Meeting, Louisville, Kentucky (Invited).

2009 Annual Meeting of the Southern Animal Health Association, Lexington, Kentucky (Invited).

Eastern Division Veterinary Ireland, Naas, Co. Kildare, Ireland, 2009 (Invited).

International Seminar, "Protecting against Equine Diseases in a Changing International Environment." Padua, Italy, June 10 – 12, 2009.

(Conference co-organizer, presenter and workshop chair)

First Annual Central Kentucky Equine Practitioners Meeting, Lexington, Kentucky, 2009.

Ft. Dodge Animal Health Equine Health Education Seminar, Portland, Oregon, and Universal City, California, 2009 (Invited).

USDA-APHIS-VS CEM Training Course, New Bolton Center, University of Pennsylvania, PA 2009 (Invited).

USDA-APHIS-VS CEM Training Course, Honalee, PC, Portland, OR 2009 (Invited).

One Hundred and Thirteenth Annual Meeting of the United States Animal Health Association, San Diego, California, 2009 (Invited).

College of Veterinary Medicine, National University, Seoul, Korea, 2009 (Invited).

International Symposium on Equine Infectious Diseases, Korean Racing Authority, Race Park, Seoul Korea, 2009 (Invited).

Korean Racing Authority, Stud Farm and Training Centre, Jeju Island, Korea, 2009 (Invited).

USDA VS, Eastern Regional Area Epidemiologist Officer Training Conference, Frankfort, KY, 2009 (Invited).

55<sup>th</sup> Annual Convention of the American Association of Equine Practitioners, Las Vegas, NV, 2009 (Invited).

Department of Veterinary Science Equine Diagnostic and Research Seminar, Gluck Equine Research Center, Lexington, Kentucky, 2009.

**Books**

**Timoney PJ**, Guest Editor, *The Veterinary Clinics of North America: Equine Practice, Emerging Infectious Diseases*, 2000.

**Book Chapters:**

**Timoney PJ** (1989) Vacinas E Programas De Vacinacao Para Equinos. *In* Sangue E Raca - O Cavallo De Corrida Brasileiro. J.R. Taranto (ed.), Editora Index, Rio de Janeiro, 1989, pp. 101-103.

**Timoney PJ** (1990) Equine Viral Arteritis. *In* OIE Manual of Recommended Diagnostic Techniques and Requirements for Biological Products,: Vol. II, 1/9-9/9.

**Timoney PJ** (1991) Equine Herpesvirus 1 Infection. *In* The Merck Veterinary Manual, 7th Ed., C.M. Fraser (ed.), Merck & Co., Inc., Rahway, NJ, pp. 734-737.

**Book Chapters (cont):**

**Timoney PJ** (1991) Equine Influenza. *In* The Merck Veterinary Manual, 7th Ed., C.M. Fraser (ed.), Merck & Co., Inc., Rahway, NJ, pp. 737-738.

**Timoney PJ** (1991) Equine Viral Arteritis. *In* The Merck Veterinary Manual, 7th Ed., C.M. Fraser (ed.), Merck & Co., Inc., Rahway, NJ, pp. 376-377.

**Timoney PJ** (1991) Contagious Equine Metritis. *In* Current Therapy in Equine Medicine III, N.E. Robinson (ed.), W.B. Saunders, Philadelphia, pp. 757-760.

**Timoney PJ** (1992) Equine Viral Arteritis. *In* Diagnostic Veterinary Virology: A Practitioner's Guide, W.P. Heuschele and A.E. Castro (eds.), Mosby Year Book, St Louis, pp. 166-169.

**Timoney PJ** (1992) Equine Herpesviruses. *In* Diagnostic Veterinary Virology: A Practitioner's Guide, W.P. Heuschele and A.E. Castro (eds.), Mosby Year Book, St. Louis, pp. 173-177.

Blanchard TL, Kenney RM and **Timoney PJ** (1992) Venereal Disease. *In* The Veterinary Clinics of North America: Equine Practice, Stallion Management. Blanchard TL and DD Varner (eds.), W.B. Saunders, Philadelphia, pp. 191-203.

**Timoney PJ** (1992) Equine Viral Arteritis. O.I.E. Manual of Standards for Diagnostic Tests and Vaccines. 2<sup>nd</sup> Edition, Office International des Epizooties, Paris, pp. 493-500.

**Timoney PJ** (1992) Louping-III. *In* Foreign Animal Diseases. US Animal Health Association, Carter Printing Co., Richmond, pp. 254-263.

**Timoney PJ** and McCollum WH (1993) Equine Viral Arteritis. *In* The Veterinary Clinics of North America: Equine Practice on Infectious Diseases. J.L. Traub-Dargatz (ed.), W.B. Saunders, Philadelphia, pp. 295-309.

**Timoney PJ** and McCollum WH (1993) Equine Viral Arteritis. *In* Horse Industry Handbook. American Youth Horse Council, Inc., Lexington, KY, pp. 620-1 - 620-5.

**Timoney PJ** (1996) Equine Viral Arteritis. O.I.E. Manual of Standards for Diagnostic Tests and Vaccines. 3<sup>rd</sup> Edition, Office International des Epizooties, Paris, pp. 440-448.

**Timoney PJ** (1997) Equine Viral Arteritis. *In* The Merck Veterinary Manual, 8<sup>th</sup> Ed., S.E. Aiello & A. Mays, Merck & Co., Inc., Whitehouse Station, NJ, pp. 500-502.

**Timoney PJ** (1998) Louping Ill. *In* Foreign Animal Diseases, U.S. Animal Health Association, pp. 292-302.

**Timoney PJ** (2000) Factors Influencing the International Spread of Equine Diseases. *In* Timoney, P.J., Guest Editor. Veterinary Clinics of North America: Equine Practice. Philadelphia: W.B. Saunders, pp. 537-551.

**Timoney PJ** (2000) Equine Viral Arteritis. O.I.E. Manual of Standards for Diagnostic Tests and Vaccines. 4<sup>th</sup> Edition, Office International des Epizooties, Paris, pp. 582-594.

Brown CM and **Timoney PJ** (2001) Getah Virus Infection. *In* Brown CM and Bertone JJ (Ed). 5 Minute Consult – Equine. Lippincot Williams & Wilkins, Baltimore and Philadelphia, pp. 450-451

**Timoney PJ** (2002) Equine Viral Arteritis. *In* Lekeux, P. (Ed). Equine Respiratory Diseases. [[http://www.ivis.org/special\\_books/Lekeux/timoney/chapter\\_frm.asp?LA=1](http://www.ivis.org/special_books/Lekeux/timoney/chapter_frm.asp?LA=1)]

**Timoney PJ** (2004) Equine Viral Arteritis. O.I.E. Manual for Diagnostic Tests and Vaccines for Terrestrial Animals. 5<sup>th</sup> Edition, Office International des Epizooties, Paris, pp. 725-736.

**Book Chapters (cont):**

**Timoney PJ** and McCollum WH (2004) Equine Viral Arteritis. *In* Coetzer, K. (Ed). Infectious Diseases of Livestock with Special Reference to South Africa. 2<sup>nd</sup> Edition, pp. 924-932.

**Timoney PJ** (2004) Getah Virus Infection *In* Coetzer, K. (Ed). Infectious Diseases of Livestock with Special Reference to South Africa. 2<sup>nd</sup> Edition, pp. 1023-1026.

**Timoney PJ** (2005) Equine Viral Arteritis. *In* The Merck Veterinary Manual, 9th Ed., C.M. Kahn (ed.), Merck & Co., Inc., Whitehouse Station, NJ, pp.560-563.

**Timoney PJ** (2005) Hendra Virus Infection. *In* The Merck Veterinary Manual, 9th Ed., C.M. Kahn (ed.), Merck & Co., Inc., Whitehouse Station, NJ, pp. 564-566.

**Timoney PJ** (2007) Infectious Diseases and International Movement of Horses. *In* Infectious Diseases of Horses, 1<sup>st</sup> Ed., D. Sellon and M. Long (eds.), Saunders Elsevier, St. Louis, MO, pp. 549-556.

Heath P and **Timoney PJ** (2008) Contagious Equine Metritis. O.I.E. Manual for Diagnostic Tests and Vaccines for Terrestrial Animals. 6<sup>th</sup> Edition, Office International des Epizooties, Paris, pp. 838-844.

**Timoney PJ** (2008) Equine Viral Arteritis. O.I.E. Manual for Diagnostic Tests and Vaccines for Terrestrial Animals. 6<sup>th</sup> Edition, Office International des Epizooties, Paris, pp. 904-918.

**Timoney PJ** (2009) Equine Viral Arteritis. *In* Current Therapy in Equine Medicine, 6<sup>th</sup> Ed., N. Robinson & K. Sprayberry (eds.), Elsevier, St. Louis, pp. 153-157.

**Timoney PJ** (2009) Diseases Potentially Transmissible with Cooled or Frozen Semen. Equine Reproduction, 2<sup>nd</sup> Ed., McKinnon, Vaala, Squires and Varner (eds), *in press*.

**Timoney PJ** (2009) Equine Viral Arteritis. Equine Reproduction, 2<sup>nd</sup> Ed., McKinnon, Vaala, Squires and Varner (eds.), *in press*.

**Timoney PJ** (2009) Equine Herpesviruses. Equine Reproduction, 2<sup>nd</sup> Ed., McKinnon, Vaala, Squires and Varner (eds.), *in press*.

**Timoney PJ** (2009) Equine Viral Arteritis. *In* Infectious Diseases of the Horse. 1<sup>st</sup> Ed., T.S. Mair and R.E. Hutchinson (eds.), Equine Veterinary Journal, Ltd., Fordham, U.K., pp. 29-40.

Mair TS and **Timoney PJ** (2009) Getah Virus Infection. *In* Infectious Diseases of the Horse. 1<sup>st</sup> Ed., T.S. Mair and R.E. Hutchinson (eds.), Equine Veterinary Journal, Ltd., Fordham, U.K., pp. 155-158.

Mair TS and **Timoney PJ** (2009) Ross River Virus. *In* Infectious Diseases of the Horse. 1<sup>st</sup> Ed., T.S. Mair and R.E. Hutchinson (eds.), Equine Veterinary Journal, Ltd., Fordham, U.K., pp. 159-162.

**Videotapes**

EVA (Equine Viral Arteritis), a Manageable Problem. Video and instructional booklet produced by the USDA in collaboration with the University of Kentucky. Coauthored with Dr. Timothy R. Cordes and Dr. William H. McCollum. (April 2001). Video running time - 13 minutes; instructional booklet - 24 pages.

**Scientific Papers (Refereed Journals or Proceedings):**

O'Connor PJ, Murphy T and **Timoney PJ** (1967) Salmonellosis in Beef Cattle in Ireland. *Irish Vet J* **21**:203-207.

**Timoney PJ** (1971) Variations in Haemagglutinin Content of Crude Mouse Brain Antigens Containing Louping Ill Virus. *Res Vet Sci* **2**:490-491.

**Scientific Papers (Refereed Journals or Proceedings) (cont):**

**Timoney PJ** (1971) Powassan Virus Infection in the Grey Squirrel. *Acta Virol* **15**:429.

**Timoney PJ** (1971) Adenovirus Precipitating Antibodies in the Sera of Some Domestic Animal Species in Ireland. *Brit Vet J* **127**:567-571.

**Timoney PJ** (1971) Recovery of Parainfluenza 3 Virus from Acute Respiratory Infection in Calves. *Irish Vet J* **25**:121-124.

**Timoney PJ** and O'Connor PJ (1971) An Outbreak of the Conjunctival Form of Infectious Bovine Rhinotracheitis Infection. *Vet Rec* **89**:370.

Hamilton AF and **Timoney PJ** (1973) Bovine Virus Diarrhoea/Mucosal Disease Virus and Border Disease. *Res Vet Sci* **15**:265-267.

**Timoney PJ** (1974) Serologic Evidence of Louping Ill in the Horse. *Brit Vet J* **130**:29-30.

**Timoney PJ**, Donnelly WJC, Clements C and Fenlon M (1974) Louping Ill Infection in the Horse. *Vet Rec* **95**:540.

Timoney JF, Sheahan BJ and **Timoney PJ** (1974) Leptospira and Infectious Canine Hepatitis (ICH) Virus Antibodies and Nephritis in Dublin Dogs. *Vet Rec* **84**:316-319.

Weavers ED, Donnelly WJC and **Timoney PJ** (1975) A Comparison of the Effects of Challenging Pregnant Ewes with Bovine Virus Diarrhoea/Border Disease. *Irish Vet J* **29**:161-164.

**Timoney PJ**, Donnelly WJC, Clements LO and Fenlon M (1976) Encephalitis Caused by Louping Ill Virus in a Group of Horses in Ireland. *Equine Vet J* **8**:113-117.

**Timoney PJ** (1976) Louping Ill. A Serological Survey of Horses in Ireland. *Vet Rec* **98**:303.

**Timoney PJ**, Ward J and Kelly P (1977) A Contagious Genital Infection of Mares. *Vet Rec* **101**:103.

**Timoney PJ**, McArdle J, O'Reilly PJ and Ward J (1977) Contagious Equine Metritis. *Vet Rec* **101**:491.

**Timoney PJ**, McArdle J, O'Reilly PJ and Ward J (1978) *P. mirabilis* and CEM. *Vet Rec* **102**:20-21.

**Timoney PJ**, McArdle JF, O'Reilly PJ and Ward J (1978) Experimental Reproduction of Contagious Equine Metritis in Pony Mares. *Vet Rec* **102**:63.

**Timoney PJ**, Harrington A, McArdle J and O'Reilly PJ (1978) Survival Properties of the Causal Agent of Contagious Equine Metritis 1977. *Vet Rec* **102**:152.

**Timoney PJ**, O'Reilly PJ, McArdle J and Ward J (1978) Attempted Transmission of Contagious Equine Metritis 1977 to Other Domestic Animal Species. *Vet Rec* **102**:152.

**Timoney PJ**, Ward J and McArdle JF (1978) CEM and the Foaling Mare. *Vet Rec* **102**:246-247.

**Timoney PJ** (1978) Contagious Equine Metritis. *Vet Rec* **102**:428.

**Timoney PJ** (1978) Contagious Equine Metritis. *Bull Office Int Epizoot* **89**: 352-360.

**Timoney PJ**, McArdle JF, O'Reilly PJ and Ward J (1978) Infection Patterns in Pony Mares Challenged with the Agent of Contagious Equine Metritis 1977. *Equine Vet J* **10**:148-152.

**Timoney PJ**, Ward J and McArdle JF (1978) Daily Variations in the Shedding of the Agent of Contagious Equine Metritis 1977 by a Carrier Mare. *Vet Rec* **103**:210-211.

**Scientific Papers (Refereed Journals or Proceedings) (cont):**

**Timoney PJ**, Ward J and Hyde WA (1978) The Application of Bioluminescence and Gas Chromatography for the Rapid Diagnosis of Contagious Equine Metritis 1977. *Vet Rec* **103**:243-244.

**Timoney PJ**, Ward J and McArdle JF (1978) Contagious Equine Metritis. *Vet Rec* **103**:407.

Sheahan BJ, **Timoney PJ** and McHenry DF (1978) Canine Herpes Virus Infection in a Litter of Greyhound Pups. *Irish Vet J* **32**:153-156.

**Timoney PJ** (1978) CEM in Ireland. *Vet Rec* 103:475-476, also *Irish Vet J* (1979) **33**:14-15.

**Timoney PJ**, O'Reilly PJ, Harrington AM, McCormack R and McArdle JF (1978) Contagious Equine Metritis and AI. *Vet Rec* **103**:519.

McArdle JF, **Timoney PJ**, McGurk J and Hill MJ (1978) Chronic Haematuria Caused by Acinetobacter calcoaceticus. *Vet Rec* **103**:126.

**Timoney PJ**, Geraghty VP, Dillon PB and McArdle JF (1978) Susceptibility of Laboratory Animals to Infection with Haemophilus equigenitalis. *Vet Rec* **10**:563-564.

**Timoney PJ**, McArdle JF, O'Reilly PJ, Ward J and Harrington AM (1979) Successful Transmission of Contagious Equine Metritis 1977 to the Donkey. *Vet Rec* **104**:84.

**Timoney PJ**, O'Reilly PJ, McArdle JF, Ward J and Harrington AM (1979) Responses of Mares to Rechallenge with the Organism of Contagious Equine Metritis 1977. *Vet Rec* **104**:264.

**Timoney PJ**, O'Reilly PJ, Harrington AM, McCormack R and McArdle JF (1979) Survival of Haemophilus equigenitalis in Different Antibiotic-Containing Semen Extenders. *J Reprod Fert, Suppl* **27**:377-381.

**Timoney PJ**, O'Reilly PJ, McArdle JF, Ward J, Harrington AM and McCormack R (1979) Responses of Pony Mares to the Agent of Contagious Equine Metritis 1977. *J Reprod Fert, Suppl* **27**:367-375.

**Timoney PJ**, Ward J, McArdle JF and Harrington AM (1979) Thermal Death Times of the Organism of Contagious Equine Metritis 1977. *Vet Rec* **104**:530.

**Timoney PJ** (1979) Contagious Equine Metritis in Ireland. *Vet Rec* **105**:172.

**Timoney PJ** (1980) Susceptibility of the Horse to Experimental Inoculation with Louping Ill Virus. *J Comp Path* **90**:73-86.

**Timoney PJ** (1980) Evaluation of the Double Immunodiffusion Test for the Diagnosis of Louping Ill Infection. *Res Vet Sci* **28**:195-198.

Lindmark DG, Jarroll EL, **Timoney PJ** and Shin SJ (1982) Energy Metabolism of the Contagious Equine Metritis Bacterium. *Infect Immun* **36**:531-534.

**Timoney PJ**, Shin SJ and Jacobson RH (1982) An Improved Selective Medium for Isolation of the CEM Bacterium. *Vet Rec* **111**:107-108.

**Timoney PJ** and Strickland KL (1982) CEM in the Republic of Ireland: 1982. *Vet Rec* **111**:400-401.

**Timoney PJ** and Powell DG (1982) The Isolation of the Contagious Equine Metritis Organism from Colts and Fillies in the United Kingdom and Ireland. *Vet Rec* **111**:478-487.

**Timoney PJ**, McArdle JF and Byrne MJ (1983) Abortion and Meningitis in a Thoroughbred Mare Associated with Klebsiella pneumoniae, Type 1. *Equine Vet J* **15**:64-65.

**Scientific Papers (Refereed Journals or Proceedings) (cont):**

Hammond MM and **Timoney PJ** (1983) An Electron Microscopic Study of Viruses Associated with Canine Gastroenteritis. *Cornell Vet* **73**:82-97.

**Timoney PJ**, Shin SJ, Huntress C and Strickland KL (1983) Activity of Cefotaxime, a B-lactam Antibiotic, against the Contagious Equine Metritis Organism. *Vet Rec* **112**:569-570.

**Timoney PJ**, Dillon PB, Geraghty VP and McArdle JF (1983) Transmission Studies with the Contagious Equine Metritis Bacterium in Albino Swiss Mice. *Comp Immun Microbiol Infect Dis* **6**:227-234.

**Timoney PJ**, Hammond MM, Carmichael LE, Peterson BL, Jones LA and Sieber SG (1983) Fringed Virus-Like Particles in Diarrhoeic Faeces from Calves and Dogs. *Vet Rec* **113**:318-319.

**Timoney PJ**, Geraghty VP, Harrington AM and Dillon PB (1984) A Microneutralisation Test in PK(15) Cells for the Assay of Antibodies of Louping Ill Virus. *J Clin Microbiol* **20**:128-130.

Timoney JF, **Timoney PJ** and Strickland KL (1984) Lysogeny and the Immunologically Reactive Proteins of *S. equi*. *Vet Rec* **115**:148-149.

**Timoney PJ**, Shin SJ, Lein DH and Jacobson RH (1984) Transmissibility of the Contagious Equine Metritis Organism for the Cat. *Comp Immun Microbiol Infect Dis* **7**:131-140.

**Timoney PJ**, O'Reilly PJ, McArdle JF, Ward J and Harrington AM (1985) Contagious Equine Metritis: Experimental Infection in the Donkey. *Vet Microbiol* **10**:259-268.

**Timoney PJ**, Shin SJ and Jacobson RH (1985) Variable Persistence of the Contagious Metritis Organism in CBA/J, CBA/N, LAF1/J, BALB/c and Congenitally Thymus-Deficient (Nude) Mice. *J Comp Path* **95**:137-149.

Brown BS, Hyde WA, **Timoney PJ**, Ward J, Hulse JM and Patterson F (1985) The Value of Spectrofluorimetry for the Diagnosis of Contagious Equine Metritis. *Zbl Vet Med B*, **32**:77-84.

Traub-Dargatz JL, Ralston SL, Collins JK, Bennett DG and **Timoney PJ** (1985) Equine Viral Arteritis. *Compend Contin Educ Pract Vet* **7**:490-496.

**Timoney PJ** and McCollum WH (1986) The Epidemiology of Equine Viral Arteritis. *Proc Am Assoc Eq Practnr*, pp. 545-551.

**Timoney PJ** (1986) Equine Viral Arteritis: A Disease of Emerging Significance? *Eq Vet J*, **18**:166-168.

**Timoney PJ**, McCollum WH, Roberts AW and Murphy TW (1986) Demonstration of the Carrier State in Naturally Acquired Equine Arteritis Virus Infection in the Stallion. *Res Vet Sci*, **41**:279-280.

**Timoney PJ**, McCollum WH and Roberts AW (1987) Detection of the Carrier State in Stallions Persistently Infected with Equine Arteritis Virus. *Proc Am Assoc Eq Practnr*, pp. 57-65.

**Timoney PJ**, McCollum WH, Roberts AW and McDonald MJ (1987) Equine Viral Arteritis: Status of Kentucky for 1985. *JAVMA*, **191**:36-39.

**Timoney PJ**, McCollum WH, Murphy TW, Roberts AW, Willard JG and Carswell GD (1987) The Carrier State in Equine Arteritis Virus Infection in the Stallion with Specific Emphasis on the Venereal Mode of Virus Transmission. *J Reprod Fert, Suppl*, **35**:95-102.

**Timoney PJ**, McCollum WH, Roberts AW and McDonald MJ (1987) Status of Equine Viral Arteritis in Kentucky for 1986. *Vet Rec*, **120**:282.

**Scientific Papers (Refereed Journals or Proceedings) (cont):**

**Timoney PJ** and McCollum WH (1987) Equine Viral Arteritis. *Can Vet J*, **28**:693-696.

**Timoney PJ** and McCollum WH (1988) Equine Viral Arteritis - Epidemiology and Control. *J Equine Vet Sci* **8**:54-59.

**Timoney PJ** and Powell DG (1988) Contagious Equine Metritis - Epidemiology and Control. *J Equine Vet Sci* **8**:42-46.

Powell DG, **Timoney PJ**, Murphy T, Allen G, Donahue JM, Wilson J, Tudor L, Ferris K and Kawaoka Y (1988) The Application of Advanced Molecular Techniques to Investigate Epizootics of Infectious Disease in the Equine Population. *Acta Vet Scand Suppl* **84**:337-339.

McCollum WH, **Timoney PJ**, Roberts AW, Willard JG and Carswell GD (1988) Response of Vaccinated and Non-Vaccinated Mares to Insemination with Semen from Stallions Persistently Infected with Equine Arteritis Virus. 5th Int Conf Equine Infec Dis, Lexington, 1987, University Press of Kentucky, Lexington, pp 13-18.

**Timoney PJ**, Umphenour N and McCollum WH (1988) Safety Evaluation of a Commercial Modified Live Equine Arteritis Virus Vaccine for Use in Stallions. 5th Int Conf Equine Infec Dis, Lexington, 1987, University Press of Kentucky, Lexington, pp. 19-27.

Neu SM, **Timoney PJ** and McCollum WH (1988) Persistent Infection of the Reproductive Tract in Stallions Experimentally Infected with Equine Arteritis Virus. 5th Int Conf Equine Infec Dis, Lexington, 1987, University Press of Kentucky, Lexington, pp. 149-154.

Murphy TW, **Timoney PJ** and McCollum WH (1988) Analysis of Genetic Variation Among Strains of Equine Arteritis Virus. 5th Int Conf Equine Infec Dis, Lexington, 1987, University Press of Kentucky, Lexington, pp. 3-12.

**Timoney PJ** and Brown BS (1988) Contagious Equine Metritis and Fluorescence. *Vet Rec* **123**:39.

**Timoney PJ**, McCollum WH and Roberts AW (1989) Current Strategies for the Control of Equine Viral Arteritis. *Proc. U.S. Anim. Hlth Assoc.*, pp. 211-218.

Huntington PJ, Ellis PM, Forman AJ and **Timoney PJ** (1991) A Review of Equine Viral Arteritis from an Australian Perspective. *Austr Vet J* **67**:429-431.

Johnson B, Baldwin C, **Timoney P** and Ely R (1991) Arteritis in Equine Fetuses Aborted Due to Equine Arteritis Virus. *Vet Path* **28**:248-250.

Little TV, McCollum WH and **Timoney PJ** (1991) Persistent Equine Arteritis Virus Infection in the Stallion. *Proc Ann Meet Soc Theriogenology*, San Diego, pp. 151-157.

**Timoney PJ** and McCollum WH (1991) Equine Viral Arteritis: Current Clinical and Economic Significance. *Proc Am Assoc Eq Practnr*, pp. 403-409.

Neu SM, **Timoney PJ** and Lowry SR (1992) Changes in Semen Quality Following Experimental Equine Arteritis Virus Infection in the Stallion. *Theriogenology*, **37**:407-431.

**Timoney PJ**, McCollum WH and Murphy TW (1992) A Longitudinal Study of Equine Arteritis Virus Infection in Standardbred Stallions with Special Reference to Occurrence of the Carrier State. 6th Int Conf Equine Infec Dis, Cambridge, 1991, pp. 231-237.

McCollum WH and **Timoney PJ** (1992) Studies on the Seroprevalence and Frequency of Equine Rhinoviruses - I and II Infection in Normal Horse Urine. 6th Int Conf Equine Infec Dis, Cambridge, 1991, pp. 83-87.



**Scientific Papers (Refereed Journals or Proceedings) (cont):**

Little TV, Holyoak GR, McCollum WH and **Timoney PJ** (1992) Output of Equine Arteritis Virus from Persistently Infected Stallions is Testosterone-Dependent. 6th Int Conf Equine Infec Dis, Cambridge, 1991, pp. 225-229.

**Timoney PJ** (1992) Equine Viral Arteritis: How Serious is the Threat to the British Horse Population? Brit Vet J, **148**:177-180.

Murphy TW, McCollum WH, **Timoney PJ**, Klingeborn BW, Hyllseth B and Golnik W (1992) Genomic Variation Among Globally Distributed Isolates of Equine Arteritis Virus. Vet Microbiol, **32**:101-115.

Vaala WE, Hamir AN, Dubovi EJ, **Timoney PJ** and Ruiz B (1992) Fatal Congenitally Acquired Equine Arteritis Virus Infection in a Neonatal Foal. Equine Vet J, **24**:155-158.

Williams NM and **Timoney PJ** (1993) In Vitro Killing of *Ehrlichia risticii* by Activated and Immune Mouse Peritoneal Macrophages. Infect Immun, **61**:861-867.

Holyoak GR, Little TV, McCollum WH and **Timoney PJ** (1993) The Relationship Between Onset of Puberty and Establishment of Persistent Infection with Equine Arteritis Virus in the Experimentally Infected Colt. J Comp Path, **109**:29-46.

**Timoney PJ** and McCollum WH (1993) Equine Viral Arteritis in Perspective in Relation to International Trade. J Equine Vet Sci, **13**:50-52.

Holyoak GR, Giles RC, McCollum WH, Little TV and **Timoney PJ** (1993) Pathological Changes Associated with Equine Arteritis Virus Infection of the Reproductive Tract in Prepubertal and Peripubertal Colts. J Comp Path, **109**:281-293.

Williams NM and **Timoney PJ** (1994) Variation in Susceptibility to Disease among A/J, AKR/NCr1BR, BALB/cAnNhsd, C3H/HeJ, C3H/HcNHsd, C57BL/6J, C57BL/10SnJ, CBA/J, CF1, and 1CR Mouse Strains Infected with *Ehrlichia risticii*. J Comp Path, **110**:137-143..

Williams NM, Granstrom DE and **Timoney PJ** (1994) Humoral antibody and lymphocyte Blastogenesis Responses in BALB/c, C3H/HeJ and AKR/N Mice Following *Ehrlichia risticii* infection. Res Vet Sci, **56**:284-289.

Holyoak GR, Little TV, Vernon M, McCollum WH and **Timoney PJ** (1994) Correlation between Ultrasonographic Findings in the Prepubertal and Peripubertal Colt and Serum Testosterone Levels. Am J Vet Res, **55**:450-457.

Williams NM, Cross R and **Timoney PJ** (1994) Respiratory Burst Activity Associated with Phagocytosis of *Ehrlichia risticii* by Mouse Peritoneal Macrophages. Res Vet Sci, **57**:194-199.

McCollum WH, Little TV, **Timoney PJ** and Swerczek TW (1994) Resistance of Castrated Male Horses to Attempted Establishment of the Carrier State with Equine Arteritis Virus. J Comp Path, **111**:383-388.

Little TV, Deregt D, McCollum WH and **Timoney PJ** (1995). Evaluation of an Immunocytochemical Method for Rapid Detection and Identification of Equine Arteritis Virus in Natural Cases of Infection. Proc 7th Int Conf Equine Infec Dis, Tokyo, 1994, pp. 27-31.

Belak S, Ballagi-Pordany A, **Timoney PJ**, McCollum WH, Little TV, Hyllseth B and Klingeborn B (1995). Evaluation of a Nested PCR Assay for the Detection of Equine Arteritis Virus Infection. 7th Int Conf Equine Infec Dis, Tokyo, 1994, pp. 33-38.

McCollum WH, **Timoney PJ** and LA Tengelsen (1995) Clinical, Virological, and Serological Responses of Donkeys to Intranasal Inoculation with the KY-84 Strain of Equine Arteritis Virus. J Comp Path, **112**:207-211.

**Scientific Papers (Refereed Journals or Proceedings) (cont):**

Monreal L, Villatoro AJ, Hooghuis H, Ros I and **Timoney PJ** (1995) Clinical Features of the 1992 Outbreak of Equine Viral Arteritis in Spain. *Equine Vet J*, **27**:301-304.

Gilbert S, **Timoney P**, McCollum W and Deregt D (1995) Single-Step Extraction of Viral RNA from Semen for Reverse Transcription-PCR. *Focus*, **17**:18-19.

Balasuriya UBR, **Timoney PJ**, McCollum WH and MacLachlan NJ (1995) Phylogenetic Analysis of Open Reading Frame 5 of Field Isolates of Equine Arteritis Virus and Identification of Conserved and Nonconserved Regions in the G<sub>L</sub> Envelope Glycoprotein. *Virology*, **214**:690-697.

**Timoney PJ** and McCollum WH (1996) Equine Viral Arteritis. *Equine Vet. Educ*, **8**:97-100.

McDowell KJ, Little TV, **Timoney PJ** and Adams MH (1996) Characterization of Proteins in Seminal Plasma of Stallions, Geldings, and Geldings Supplemented with Testosterone., *Res Vet Sci*, **61**:33-37.

**Timoney PJ** (1996) Equine Influenza. *Comp Immun Microbiol Infect Dis*, **19**(3):205-211.

**Timoney PJ** (1996) Contagious Equine Metritis. *Comp Immun Microbiol Infect Dis*, **19**(3):199-204.

Hedges JF, Balasuriya UBR, **Timoney PJ** McCollum WH and MacLachlan NJ (1996) Genetic Variation in Open Reading Frame 2 of Field Isolates and Laboratory Strains of Equine Arteritis Virus. *Virus Research*, **42**:41-52.

**Timoney PJ**, Klingeborn B and Lucas MH (1996) Equine Viral Arteritis (Infectious Arteritis of Horses): A Brief Review. *O.I.E. Scientific and Technical Review*, **15**:1203-1208.

Balasuriya UBR, Patton JF, Rossitto PV, **Timoney PJ**, McCollum WH and MacLachlan NJ (1997) Neutralization Determinants of Laboratory Strains and Field Isolates of Equine Arteritis Virus: Identification of Four Neutralization Sites in the Amino-Terminal Ectodomain of the G<sub>L</sub> Envelope Glycoprotein. *Virology*, **232**:114-128.

Gilbert SA, **Timoney PJ**, McCollum WH and Deregt D (1997) Detection of Equine Arteritis Virus in the Semen of Carrier Stallions Using a Sensitive Nested PCR Assay. *J Clin Micro*, **35**:2181-2183.

Kheyar A, Martin S, St-Laurent S, **Timoney PJ**, McCollum WH and Archambault D (1997) Expression Cloning and Humoral Immune Response to the Nucleocapsid (N) and Membrane (M) Proteins of Equine Arteritis Virus. *Clin & Diag Lab Immun*, **4**:648-652.

MacLachlan NJ, Balasuriya UBR, Hedges JF, Schweidler TM, McCollum WH, **Timoney PJ**, Hullinger PJ and Patton JF (1998) Serologic Response of Horses to the Structural Proteins of Equine Arteritis Virus. *J Vet Diag Invest*, **10**:229-236.

Brown CM and **Timoney PJ** (1998) Getah Virus Infection of Indian Horses. *Tropical Animal Health & Production*, **30**:241-252.

Balasuriya UBR, Evermann JF, Hedges JF, McKeirnan AJ, Mitten JQ, Beyer JC, McCollum WH, **Timoney PJ** and MacLachlan NJ (1998) Serologic and Molecular Characterization of an Abortigenic Strain of Equine Arteritis Virus Isolated from Infective Frozen Semen and an Aborted Equine Fetus. *JAVMA*, **213**:1586-1589.

Hedges JF, Balasuriya UBR, Ahmad S, **Timoney PJ**, McCollum WH, Yilma T and MacLachlan NJ (1999) Detection of Antibodies to equine Arteritis Virus by Enzyme Linked Immunosorbant Assays (ELISAs) Utilizing the G<sub>L</sub>, M and N proteins Expressed in Baculovirus. *J of Virol Meth*, **76**:127-137.

**Scientific Papers (Refereed Journals or Proceedings) (cont):**

Stadejek T, Bjorklund H, Bascunana CR, Ciabatti IM, Scicluna MT, Amaddeo D, McCollum WH, Autorino GL, **Timoney PJ**, Patton DJ, Klingeborn B and Belak S (1999) Genetic Diversity of Equine Arteritis Virus. *J Gen Virol*, **80**:691-699.

Hedges JF, Balasuriya UBR, **Timoney PJ**, McCollum WH and MacLachlan NJ (1999) Genetic Divergence with Emergence of Phenotypic Variants of Equine Arteritis Virus During Persistent Infection of Stallions. *J Virol*, **73**:3672-3681.

Balasuriya UBR, Hedges JF, Nadler SA, McCollum WH, **Timoney PJ** and MacLachlan NJ (1999) Genetic Stability of Equine Arteritis Virus during Horizontal and Vertical Transmission in an Outbreak of Equine Viral Arteritis. *J Gen Virol*, **80**:1949-1958.

Belak S, Stadejek T, Bjorklund H, Bascunana CR, Ciabatti IM, Scicluna MT, Amaddeo D, McCollum WH, Paton DJ, Autorino GL, **Timoney PJ** and Klingeborn B (1999) Genetic Diversity Among Field Isolates of Equine Arteritis Virus. Proceedings of the 8<sup>th</sup> International Conference on Equine Infectious Diseases, Dubai, pp. 177-183.

Cho HJ, Entz SC, Deregt D, Jordan LT, **Timoney PJ** and McCollum WH (1999) Detection of Antibodies to Equine Arteritis Virus by a Monoclonal Antibody-Based Blocking ELISA. *Can J Vet Res*, **64**:38-43.

Friday PA, Scarratt WK, Elvinger F, **Timoney PJ** and Bonda A (2000) Ataxia and Paresis with Equine Herpesvirus Type 1 Infection in a Herd of Riding School Horses. *J Vet Int Med*, **14**:197-201.

**Timoney PJ** (2000) The Increasing Significance of International Trade in Equids and Its Influence on the Spread of Infectious Diseases. *Ann NY Acad Sci*, **916**:55-60.

Del Piero F, Wilkins PA, **Timoney PJ**, Kadushin J, Vogelbacker H, Lee JW, Berkowitz SJ and La Perle KMD (2000) Fatal Non-Neurological EHV-1 Infection in a Yearling Filly. *Vet Path*, **37**:672-676.

**Timoney PJ** and McCollum WH (2000) Equine Viral Arteritis: Further Characterization of the Carrier State in Stallions. *J Reprod Fertil Suppl*, **56**:3-11.

Jang SS, Donahue JM, Arata AB, Hansen LM, Goris J, Earley DL, Vandamme PAR, **Timoney PJ** and Hirsh DW (2001) Description of *Taylorella asinigenitalis* sp. nov., a Bacterium Isolated from the Genital Tract of Male Donkeys (*Equus asinus*). *Intl J Syst & Evol Micro.*, **51**:971-976.

Balasuriya UBR, Leutenegger CM, Topol JB, McCollum WH, **Timoney PJ** and MacLachlan, NJ (2002) Detection of Equine Arteritis Virus by Real-Time TaqMan<sup>®</sup> Reverse Transcription-PCR Assay. *J Virol Meth*, **101**:21-28.

Pavlin JA, Witt CJ, Noah DL and **Timoney PJ** (2002) Bioterrorism and Equids. *Clin Tech Eq Practice*, **1**(2):109-115.

Lara MCCSH, Fernandez WR, **Timoney PJ** and Birgel EH (2002) Prevalencia de Anticorpos Antivirus da Arterite dos Equinos en Cavalos Criados no Estado de Sao Paulo. *Arquivo-Brasileiro-de-Medicina-Veterinaria-e-Zootecnia*, **54**(3):223-227.

Moore BD, Balasuriya UBR, Nurton JP, McCollum WH, **Timoney PJ**, Guthrie AJ and MacLachlan, NJ (2002) Growth Characteristics of Strains of Equine Arteritis Virus in Primary Equine Endothelial Cells can Distinguish their Virulence to Horses. *Am J Vet Res*, **64**:779-781.

Guthrie AJ, Howell PG, Hedges, JF, Bosman A-M, Balasuriya UBR, McCollum WH, **Timoney PJ** and MacLachlan NJ (2003) Lateral Transmission of Equine Arteritis Virus Amongst Lipizzaner Stallions in South Africa. *Eq Vet J*, **35**(6):596-600.

**Scientific Papers (Refereed Journals or Proceedings) (cont):**

Balasuriya UBR, Hedges JF, Smalley VL, Navarrette A, McCollum WH, **Timoney PJ**, Snijder EJ and MacLachlan, NJ (2004) Genetic Characterization of Equine Arteritis Virus during Persistent Infection of Stallions. *J Gen Virol*, **85**:379-390.

**Timoney PJ** (2005) Equine Viral Arteritis: How Significant a Threat to the Horse? Proceedings of the 15<sup>th</sup> International Conference of Racing Analysts and Veterinarians, Dubai, United Arab Emirates, pp. 238-242.

Balasuriya UBR, Snijder E, Heidner HW, Zhang J, Zevenhoven-Dobbe JC, Boone JD, McCollum WH, **Timoney PJ** and MacLachlan NJ (2007) Development and Characterization of an Infectious cDNA Clone of the Virulent Bucyrus Strain of Equine Arteritis Virus. *J Gen Virol*, **88**:918-924.

**Timoney PJ** (2007) Guest Editorial – Equine Viral Arteritis – An Emergent Threat to the Quarter Horse Industry. *J Eq Vet Science*, **27**(1):2.

**Timoney PJ**, Creekmore L, Meade B, Fly D, Rogers E and King B (2007) 2006 Multi-State Occurrence of EVA. Proceedings of the United States Animal Health Association, pp. 354-362.

**Timoney PJ**, Fallon L, Shuck K, McCollum W, Zhang J and Williams N (2007) The Outcome of Vaccinating Five Pregnant Mares with a Commercial Equine Viral Arteritis Vaccine. *Eq Vet Education*, **19**:606-611.

Herholz X, Fussel A-E, **Timoney P**, Schwermer H, Bruckner L and Leadon D (2008) Equine Travellers to the Olympic Games in Hong Kong 2008: A Review of Worldwide Challenges to Equine Health, with Particular Reference to Vector-Borne Diseases. *Equine Vet J*, **40**:87-95.

Zhang J, Miszczak F, Pronost S, Fortier C, Balasuriya UBR, Zientara S, Fortier G and **Timoney PJ** (2007) Genetic Variation and Phylogenetic Analysis of 22 French Strains of Equine Arteritis Virus. *Arch Virology*, **152**:1977-1994.

Zhang J, Guy JS, Snijder EJ, Denniston DA, **Timoney PJ** and Balasuriya UBR (2007) Genomic Characterization of Equine Coronavirus. *Virology*, **369**:92-104.

Go YY, Wong SJ, Branscum A, Demarest VL, Shuck KM, Vickers ML, Zhang J, McCollum WH, **Timoney PJ** and Balasuriya UBR (2008) Development of a Fluorescent Microsphere Immunoassay for Detection of Antibodies Specific to Equine Arteritis Virus and Comparison with the Virus Neutralization Test. *Clin Vaccine Immunol*, **15**:76-87.

Lu Z, Branscum A, Shuck KM, Zhang J, Dubovi E, **Timoney PJ** and Balasuriya UBR (2008) Comparison of Two Real-Time Reverse Transcription Polymerase Chain Reaction Assays for the Detection of Equine Arteritis Virus Nucleic Acid in Equine Semen and Tissue Culture Fluid. *J Vet Diagn Invest*, **20**:147-155..

Allen G and **Timoney PJ** (2008) Recent Advances in Our Understanding of Equine Herpesvirus-1 (EHV-1) Myeloencephalopathy. Proceedings of the Annual Meeting of the United States Animal Health Association, pp. 373-380.

Holyoak GR, Balasuriya UB, Broaddus CC and **Timoney PJ** (2008) Equine Viral Arteritis: Current Status and Prevention. *Theriogenology*, **70**:403-414.

Zhang J, Go YY, MacLachlan NJ, Mead BJ, **Timoney PJ** and Balasuriya UBR (2008) Amino Acid Substitutions in the Structural or Non-Structural Proteins of a Vaccine Strain of Equine Arteritis Virus are Associated with its Attenuation. *Virology*, **378**:355-362.

Zhang J, **Timoney PJ**, MacLachlan NJ, McCollum WH and Balasuriya UBR (2008) Persistent Equine Arteritis Virus Infection in HeLa Cells. *Journal of Virology*, **82**:8456-8464.

**Scientific Papers (Refereed Journals or Proceedings) (cont):**

Zhang J, **Timoney PJ**, MacLachlan NJ and Balasuriya UBR (2008) Identification of an Additional Neutralization Determinant of Equine Arteritis Virus. *Virus Research*, **138**:150-153.

Lu Z, Chambers TM, Boliar S, Branscum AJ, Sturgill TL, **Timoney PJ**, Reedy SE, Tudor LR, Dubovi EJ, Vickers ML, Sells S and Balasuriya UBR (2009) Development and Evaluation of One-Step TaqMan® Real-Time Reverse Transcription-PCR Assays Targeting NP, M and HA Genes of Equine Influenza Virus. *J Clin Micro*, **47**:3907-3913.

Smith KL, Allen GP, Branscum AJ, Cook RF, Vickers ML, **Timoney PJ** and Balasuriya UBR (2010) The Increased Prevalence of Neuropathogenic Strains of EHV-1 in Equine Abortions in Central Kentucky in the Latter Twentieth Century. *Vet. Micro*. **141**:5-11.

Meade BJ, **Timoney PJ**, Donahue JM, Branscum AJ, Ford R and Rowe R (2010) 1998 Occurrence of *Taylorella asinigenitalis* Among Nurse Mares and Other Equids in Kentucky. *Prev Vet Med*, submitted for publication.

Zhang J, Stein DA, **Timoney PJ** and Balasuriya UBR (2010) Cure of Persistent Equine Arteritis Virus Infection of HeLa Cells by Treatment with a Peptide-conjugated Morpholino Oligomer. *Virus Research*, submitted for publication.

Broaddus CC, Balasuriya UBR, Richards J, **Timoney PJ**, Funk RA and Holyoak GR (2010) Safety Considerations over Vaccinating Mares Against Equine Viral Arteritis in Mid and Late Pregnancy and in the Immediate Postpartum Period. *J Am Vet Med Assoc*, submitted for publication.

Zhang J, **Timoney PJ**, Shuck KM, Seoul G, Go YY, Lu Z, Meade BJ, Powell DG and Balasuriya UBR (2010) Molecular Epidemiology and Genetic Characterization of Equine Arteritis Virus Isolates Associated with the 2006/2007 Multi-State Disease Occurrence in the USA. *J Gen Virol*, submitted for publication.

Go YY, Zhang J, **Timoney PJ**, Cook RF, Horohov DW and Balasuriya UBR (2010) Complex Interactions Between the Major and Minor Envelope Proteins of Equine Arteritis Virus Determine its Tropism for Equine CD3<sup>+</sup> T Lymphocytes and CD14<sup>+</sup> Monocytes. *J Virol*, submitted for publication.

**Published Abstracts:**

Murphy TW, McCollum WH and **Timoney PJ** (1992) Variation in the Genomic RNA of Equine Arteritis Virus during Long Term Persistence in the Stallion. 6th Intl Conf Equine Infec Dis, Cambridge, 1991, pp. 327.

Williams NM and **Timoney PJ** (1992) Variation in Susceptibility of Selected Mouse Strains to Disease Caused by *Ehrlichia Risticii*. 6th Int Conf Equine Infec Dis, Cambridge, 1991, pp. 340.

Belak S, Ballagi-Pordany A, Klingeborn B, **Timoney P** and McCollum W (1993) Detection of Equine Arteritis Virus, Using Nested Primers in the Polymerase Chain Reaction. IXth Int Congr Virol, Glasgow, pp. 245.

**Timoney PJ** (1993) Disease Risks Associated with Freer International Movement of Horses. 3rd Congr World Equine Vet Assoc. Geneva, 1993, pp. 13.

**Timoney PJ** (1994) Disease Risks and International Movement. 7th Int Conf Equine Infec Dis, Tokyo, pp. 72.

McCollum WH, Little TV, **Timoney PJ** and Swerczek TW (1994) Attempted Establishment of Persistent Equine Arteritis Virus Infection in Gelded Equids. 7th Int Conf Equine Infec Dis, Tokyo, pp. 336-337.

**Published Abstracts (cont):**

Autorino GL, Cardeti G, Rosati R, Ferrari G, Vulcano G, Amaddeo D, McCollum WH and **Timoney PJ** (1994) Pathogenic and Virological Properties of an Italian Strain of Equine Arteritis Virus in Stallions following Intranasal Challenge with Infective Raw Semen. 7th Int Conf Equine Infec Dis, Tokyo, pp. 335-336.

Monreal L, Villatoro AJ, Hooghuis H and **Timoney PJ** (1996) Outbreak of Equine Viral Arteritis in Spain. The First European Symposium on Equine Viral Arteritis, Utrecht, The Netherlands, p. 15.

Monreal L, Angles AM, Monreal M, Monasterio J and **Timoney PJ** (1996) Changes in Haemostasis in Horses Affected by EVA. The First European Symposium on Equine Viral Arteritis, Utrecht, The Netherlands, p. 28.

Balasuriya UBR, **Timoney PJ**, McCollum WH, Rossitto PV, Patton JF and MacLachlan NJ (1996) Phylogenetic Analysis of Open Reading Frame 5 and Identification of Major Neutralization Sites in the G<sub>L</sub> Envelope Glycoprotein of Equine Arteritis Virus. 15<sup>th</sup> Annual Meeting of the American Society for Virology, Ontario, p. 188.

Kheyar AK, Martin S, St.-Laurent G, McCollum WH, **Timoney PJ** and Archambault D (1996) Immunological Reactivity of the Equine Arteritis Virus Recombinant Nucleocapsid and Membrane Proteins. Seventh-seventh Annual Meeting of the Conference of Research Workers in Animal Diseases, Chicago, Illinois, p. 112.

**Timoney PJ** and McCollum WH (1997) Equine Viral Arteritis: Essential Facts About the Disease. 43<sup>rd</sup> Annual Convention of the American Associate of Equine Practitioners, Phoenix, Arizona, pp. 199-201.

Peterson SH, McCollum WH, Allen GP and **Timoney PJ** (1997) Equine Interleukin-2 Levels in Concanavalin A Stimulated Equine Peripheral Blood Mononuclear Cells. 78<sup>th</sup> Annual Meeting of the Conference of Research Workers in Animal Diseases, Chicago, Illinois, #123.

Ostlund EN, Peters JC, Stoker AM, McCollum, WH and **Timoney PJ** (1997) Enhancement of cell culture growth of two arteriviruses by carboxymethyl cellulose overlay. Annual Meeting of the American Association of Veterinary Laboratory Diagnosticians, Louisville, KY, p. 33.

Peterson SH, McCollum WH, Allen GP and **Timoney PJ** (1997) Development of Quantitative Competitive Reverse Transcription - Polymerase Chain Reaction Assays for Equine Interferon Gamma, Interleukin-2 and Interleukin-4. 78<sup>th</sup> Annual Meeting of the Conference of Research Workers in Animal Diseases, Chicago, Illinois, #124.

Hedges JF, Patton JF, Balasuriya UBR, **Timoney PJ**, McCollum WH and MacLachlan NJ (1998) Genetic Variation of Sequential Equine Arteritis Virus Isolates from Persistently Infected Stallions. 17<sup>th</sup> Annual Meeting of the American Society for Virology, Vancouver, British Columbia, Canada, #P5-2.

McCollum WH, **Timoney PJ**, Lee JW Jr, Habacker PL, Balasuriya UBR and MacLachlan NJ (1999) Features of an Outbreak of Equine viral Arteritis on a Breeding Farm Associated with Abortion and Fatal Interstitial Pneumonia in Neonatal Foals. 8<sup>th</sup> International Conference on Equine Infectious Diseases, Dubai, pp. 559-560.

McCollum WH and **Timoney PJ** (1999) Experimental Observations on the Virulence of Isolates of Equine Arteritis Virus. 8<sup>th</sup> International Conference on Equine Infectious Diseases, Dubai, pp. 558-559.

Balasuriya UBR, Hedges JF, Patton JF, **Timoney PJ**, McCollum WH, Hullinger PJ and MacLachlan NJ (1999) Genetic Variation of Equine Arteritis Virus: Role of the Carrier Stallion in Emergence of Novel Genotypes. 8<sup>th</sup> International Conference on Equine Infectious Diseases, Dubai, pp. 520-522.

**Published Abstracts (cont):**

Brown CM and **Timoney PJ** (1999) Serological Diagnosis of an Outbreak of Getah Virus Infection in a Group of Horses in India. 8<sup>th</sup> International Conference on Equine Infectious Diseases, Dubai, pp. 530-531.

**Timoney PJ** (1999) The Increasing Significance of International Trade in Equids and its Influence on the Spread of Equine Diseases. Fifth Biennial Conference for Society for Tropical Veterinary Medicine. June 12-16, Key West, Florida, p. 136.

Balasuriya UBR, Hedges JF, Nadler SA, McCollum WH, **Timoney PJ** and MacLachlan NJ (1999) Genetic Stability of Equine Arteritis Virus during Horizontal and Vertical Transmission in an Outbreak of Equine Viral Arteritis. American Society for Virology, 18<sup>th</sup> Annual Meeting. July 10-14, Amherst, Massachusetts, p. 178, #P22-6.

Katz JB, Schroeder-Tucker L, Hutto D, Donahue M, **Timoney P**, Hirsh D and Evans L (1999) Consequences of Classical and Atypical *Taylorella* Intrauterine Infections in Adult Mares. Eightieth Annual Meeting of the Conference of Research Workers in Animal Diseases, Chicago, Illinois, #23.

**Timoney P**, Donahue J, Smith B, Harrison L, Jang S, Hirsh D, Ford E and Meade B (1999) Recovery of a Bacterium Closely Resembling *Taylorella Equigenitalis* from the Reproductive Tract of Donkeys and Horses. *J Eq Vet Sci*, **19**(9):565.

Balasuriya UBR, Hedges JF, Topol JB, McCollum WH, **Timoney PJ** and MacLachlan NJ (2000) Detection of North American and European Strains of Equine Arteritis Virus by Reverse Transcription Polymerase Chain Reaction (RT-PCR). 19<sup>th</sup> Annual Meeting of the American Society for Virology, Fort Collins, Colorado, #P19-4.

**Timoney PJ**, Cook M, Donahue JM, Shin SJ and Jang SS (2001) Contagious Equine Metritis: A Continuing Threat to International Trade. Proceedings of the 7<sup>th</sup> World Congress WEVA-SIVE, Sorrento, Italy, p. 300.

**Timoney PJ**, McCollum, WH, Ford, ES and Vickers, ML (2001) How Safe is the Modified Live Virus Vaccine Against Equine Viral Arteritis (ARVAC<sup>®</sup>) for Immunization of Stallions? Proceedings of the 7<sup>th</sup> World Congress WEVA-SIVE, Sorrento, Italy, p. 301.

**Timoney PJ**, Crom RL, Ostlund EN and Schmitt BJ (2001) West Nile Virus: An Emergent Threat to Equid Populations in North America & Elsewhere. Proceedings of the 7<sup>th</sup> World Congress WEVA-SIVE, Sorrento, Italy, p. 302.

Hedges JF, Balasuriya UBR, McCollum WH, **Timoney PJ**, MacLachlan, NJ (2001) Defective Equine Arteritis Virus Genomes in the Semen of Persistently Infected Carrier Stallions. 20<sup>th</sup> Annual Meeting of the American Society for Virology, Madison, Wisconsin, #13-12.

**Timoney PJ** (2002) West Nile in the Western Hemisphere: Impact on the US Horse Industry. 27<sup>th</sup> World Veterinary Congress, Tunis, Tunisia, #260.

**Timoney PJ** (2002) The Continuing Threat that Infectious Diseases Pose to International Trade in Equids. 27<sup>th</sup> World Veterinary Congress, Tunis, Tunisia, #261.

**Timoney PJ** (2002) Significant Venereally Transmissible Pathogens of Equids. 27<sup>th</sup> World Veterinary Congress, Tunis, Tunisia, #262.

Zhang J, Balasuriya UBR, Shuck KM, McCollum WH and **Timoney PJ** (2003) Virus-Specific Cell Receptors are not the Sole Mediators of Cell Permissiveness to Equine Arteritis Virus. 22<sup>nd</sup> Annual Meeting of the American Society for Virology, Davis, California, July 12-16. #P18-9.

**Published Abstracts (cont):**

Zhang J, Balasuriya UBR, Shuck KM, McCollum WH and **Timoney PJ** (2003) Establishment and Characterization of Persistent Equine Arteritis Virus Infection in HeLa cells. Eighty-Fourth Annual Meeting of the Conference of Research Workers in Animal Diseases, Chicago, Illinois, #171.

**Timoney PJ** (2003) Update on Equine Viral Arteritis. Proceedings of the 8<sup>th</sup> World Congress WEVA, Buenos Aires, Argentina, p. 45.

**Timoney PJ** (2003) Mare Reproductive Loss Syndrome. Proceedings of the 8<sup>th</sup> World Congress WEVA, Buenos Aires, Argentina, p. 46.

**Timoney PJ** (2004) Significance of Equine Viral Arteritis as a Threat to the Racing Industry. 15<sup>th</sup> International Conference of Racing Analysts & Veterinarians, Dubai, United Arab Emirates, p. 40.

Burger D, Janett F, Imboden I, Zientara S, **Timoney P**, and R. Thun (2004) Treatment of an Equine Arteritis Virus-Shedding Stallion by Immunization Against GnRH. 15<sup>th</sup> International Congress on Animal Reproduction, Porto Seguro, Brazil.

McCollum WH, Shuck K, Zhang J and **Timoney PJ** (2004) Factors Important to the Isolation of Equine Arteritis Virus in Cell Culture. International Workshop on the Diagnosis of Equine Arteritis Virus Infection, Lexington, Kentucky, p. 20.

**Timoney PJ**, Bruser CA, McCollum WH, Holyoak GR and Little TV (2004) Comparative Sensitivity of LLC-MK<sub>2</sub>, RK-13, Vero and Equine Dermis Cell Lines for Primary Isolation and Propagation of Equine Arteritis Virus. International Workshop on the Diagnosis of Equine Arteritis Virus Infection, Lexington, Kentucky, pp. 26-27.

**Timoney PJ**, McCollum WH, Zhang J and Shuck K (2004) Diagnosis of the Carrier State in Stallions Persistently Infected with Equine Arteritis Virus. International Workshop on the Diagnosis of Equine Arteritis Virus Infection, Lexington, Kentucky, p. 28-29.

Zhang J, Shuck KM, McCollum WH and **Timoney PJ** (2004) Comparison of Virus Isolation in Cell Culture and RT-PCR Assays for Detection of Equine Arteritis Virus in Cryopreserved Semen. International Workshop on the Diagnosis of Equine Arteritis Virus Infection, Lexington, Kentucky, pp. 41-42.

Shuck KM, **Timoney PJ**, Zhang J and McCollum WH (2004) Reliability of the Virus Neutralization Test for Determining the Serologic Status of Horses to Equine Arteritis Virus. International Workshop on the Diagnosis of Equine Arteritis Virus Infection, Lexington, Kentucky, p. 55.

Bermudez V, Garcia F, DeVera M, **Timoney P**, Ortega M, Moreno J and Perez N (2006) Equine Neuromotor Syndrome in Thoroughbreds and Other Breeds in Venezuela – A Multidisciplinary Study. Proceedings of the 9<sup>th</sup> Congress of the World Equine Veterinary Association, Marrakech, Morocco, pp. 62-63.

Cordes RT, **Timoney PJ** and Ostlund EN (2006) West Nile Equine Encephalitis Epizootics – the North American Experience. Proceedings of the 9<sup>th</sup> Congress of the World Equine Veterinary Association, Marrakech, Morocco, pp. 107-108.

Carleton CL, Shunekamrai S, Ostlund EN, Hennager S, Knowles DP, Timoney JF, Artiushin S, Issel C, **Timoney PJ** and Kramer L (2006) Seroprevalence of Significant Equine Diseases in an Unvaccinated Population of Native Thai Ponies. Proceedings of the 9<sup>th</sup> Congress of the World Equine Veterinary Association, Marrakech, Morocco, pp. 192-193.

**Timoney PJ**, Fallon L, McCollum W, Shuck K, Zhang J and Williams N (2006) The Outcome of Vaccinating Pregnant Mares with a Commercial Equine Arteritis Virus Vaccine. Proceedings of the 9<sup>th</sup> Congress of the World Equine Veterinary Association, Marrakech, Morocco, pp. 235-236.



**Published Abstracts (cont):**

**Timoney PJ** (2006) Viral Infections of the Equine Respiratory System. Conference Notes 2006. 78<sup>th</sup> Annual Western Veterinary Congress, Las Vegas, Nevada.

**Timoney PJ** (2006) Viral Etiology of Equine Abortion. Conference Notes 2006. 78<sup>th</sup> Annual Western Veterinary Congress, Las Vegas, Nevada.

**Timoney PJ** (2006) Equine Viral Arteritis. Conference Notes 2006. 78<sup>th</sup> Annual Western Veterinary Congress, Las Vegas, Nevada.

**Timoney PJ** (2006) Equine Viral Diseases with Zoonotic Potential. Conference Notes 2006. 78<sup>th</sup> Annual Western Veterinary Congress, Las Vegas, Nevada.

Zhang J, Balasuriya UBR, Shuck KM, McCollum, WH, MacLachlan NJ and **Timoney PJ** (2006) Determination of the Permissiveness of Various Cell Lines to Equine Arteritis Virus Infection and Demonstration Equine Arteritis Virus Infection Restricted at the Entry Step in Non-Permissive Cell Lines. Proceedings of the 106<sup>th</sup> Annual Meeting of the American Society for Microbiology, Orlando, Florida.

Zhang J, Balasuriya UB, Snijder EJ, Shuck KM, McCollum WH, MacLachlan NJ and **Timoney PJ** (2006) Genetic Characterization of Equine Arteritis Virus During Persistent Infection of HeLa cells and Identification of a New Neutralization Determinant. Proceedings of the 25<sup>th</sup> Annual Meeting of the American Society for Virology, #W27-2, p. 142.

**Timoney PJ** (2006) Equine Viral Arteritis: International Status & Consequences for Breeding Populations. Abstracts of the 2006 Annual Meeting of the Association Veterinaire Equine Francaise, Versailles, France.

**Timoney PJ** (2006) Equine Rhinopneumonitis: Pathogenetic, Clinical & Epidemiological Features of a Multisyndromic Diseases. Abstracts of the 2006 Annual Meeting of the Association Veterinaire Equine Francaise, Versailles, France.

Zhang J, Guy JS, Snijder EJ, Denniston DA, **Timoney PJ**, and Balasuriya UB (2007) Genomic Characterization of Equine Coronavirus. The Eighth International Symposium on Positive-Strand RNA Viruses, May 26-30, 2007, Washington, DC, #P2-F15, p. 88

**Timoney, PJ** (2007) Cultural and Economic Significance of the Equine Industry in Kentucky. Joint Meeting of the 51<sup>st</sup> Livestock Insect Workers Conference and 9<sup>th</sup> International Symposium on Ectoparasites of Pets, Lexington, KY, pp. 29-32.

**Timoney PJ** (2007) Risk of Spread of Contagious Equine Metritis through International Trade. Abstracts of the First International Conference on Contagious Equine Metritis, pp. 10-11.

**Timoney PJ** (2007) Initial Isolation and Characterization of *Taylorella asinigenitalis* in the USA. Abstracts of the First International Conference on Contagious Equine Metritis, pp. 15-16.

Go YY, Wong SJ, Branscum A, Demarest VL, Shuck KM, Vickers ML, Zhang J, McCollum WH, **Timoney PJ** and Balasuriya UBR (2007) Development and Comparison of a Fluorescent Microsphere Immunoassay with the Virus Neutralization Test for the Detection of Antibodies to Equine Arteritis Virus. Proceedings of the American Association of Veterinary Laboratory Diagnosticians 50<sup>th</sup> Annual Conference, Reno, Nevada, October 18-23, 2007, p. 55.

Lu Z, Branscum A, Shuck KM, Dubovi E, **Timoney PJ** and Balasuriya UBR (2007) Comparison of 2 Real-Time RT-PCR Assays for the Detection of Equine Arteritis Virus Nucleic Acid in Equine Semen and Tissue Culture Fluid. Proceedings of the American Association of Veterinary Laboratory Diagnosticians 50<sup>th</sup> Annual Conference, Reno, Nevada, October 18-23, 2007, p. 56.

**Published Abstracts (cont):**

**Timoney PJ** (2007) Changing Dynamics in the Global Distribution of Equine Diseases. Proceedings of the 13<sup>th</sup> International Symposium of the World Association of Veterinary Laboratory Diagnosticians, Melbourne, Australia, November 11-14, 2007, p. 65.

**Timoney PJ**, Balasuriya U and McCollum WH (2008) Equine Viral Arteritis: An Emergent Threat to Equine Breeding Populations. Proceedings of the 10<sup>th</sup> Congress of the World Equine Veterinary Association, Moscow, Russia, January 28 – February 1, 2008.

**Timoney PJ** (2008) How Significant are Horses and Other Equids as a Source of Zoonotic Diseases? Proceedings of the 10<sup>th</sup> Congress of the World Equine Veterinary Association, Moscow, Russia, January 28 – February 1, 2008.

Go YY, Zhang J, **Timoney PJ**, Horohov R, Cook F, Balasuriya UB (2009) In Vitro Characterization of Equine Arteritis Virus Chimeras Derived from Infectious CDNA Clones. Proceedings of the 28<sup>th</sup> Annual Meeting of the American Society for Virology, Vancouver, BC, Canada, July 11-15, 2009.

Zhang J, Stein DA, **Timoney PJ** (2009) Elimination of Equine Arteritis Virus from Persistently Infected Cell Culture Using Peptide-Conjugated Morpholino Oligomers. Proceedings of the 28<sup>th</sup> Annual Meeting of the American Society for Virology, Vancouver, BC, Canada, July 11-15, 2009.

Zhang J, Shuck KM, Seoul G, Go YY, Lu Z, Meade BJ, Powell DG, **Timoney PJ**, Balasuriya UB (2009) Molecular Characterization of Equine Arteritis Virus Isolates Associated with the 2006/2007 Multi-state Disease Occurrence in the USA. Proceedings of the 28<sup>th</sup> Annual Meeting of the American Society for Virology, Vancouver, BC, Canada, July 11-15, 2009.

Go YY, **Timoney PJ**, Horohov DW, Cook RF, Balasuriya UB (2009) *In Vitro* Analysis of Virulent and Avirulent Strains of Equine Arteritis Virus Infection in Equine Peripheral Blood Mononuclear Cells. Proceedings of the 28<sup>th</sup> Annual Meeting of the American Society for Virology, Vancouver, BC, Canada, July 11-15, 2009.

Go YY, Zhang J, **Timoney PJ**, Cook RF, Horohov DW, Balasuriya UB (2009) Major and Minor Envelope Proteins of Equine Arteritis Virus Determine Tropism for Peripheral Blood Mononuclear Cells. Proceedings of the 90<sup>th</sup> Annual Meeting of the Conference of Research Workers in Animal Diseases, Chicago, Illinois, December 7-8, 2009.

**Non-Refereed Publications:**

**Timoney PJ** (1977) CEM 1977: The Experimental Infection in Pony Mares. Proc Special Scientific Meeting on Contagious Equine Metritis 1977. BEVA, November 19, Cambridge, UK, pp. 19-23.

**Timoney PJ** (1978) Contagious Equine Metritis in Ireland in 1978. Proc Second International Conference of Equine Authorities & Ministerial Veterinary Services, Dec 6-7, Madrid, pp. 67-68.

**Timoney PJ** (1979) Incidence of Certain Equine Venereal Diseases in Ireland for 1978-1979. International Symposium on Equine Venereal Diseases. Animal Health Trust, Sept 19-20, Newmarket, UK, pp. 18-19.

**Timoney PJ** (1979) Contagious Equine Metritis 1977. The Irish Broodmare & Breeders Annual 1979. pp. 28-29.

Kemen MJ, Lein DH and **Timoney PJ** (1981) Equine Rhinopneumonitis. Veterinary Topics, April, 1981, pp. 1-8.

**Timoney PJ** (1984) Immunity to Infectious Diseases in the Horse. Proc 8th Annual Kentucky Horseman's Short Course, University of Kentucky and Kentucky Horseman's Education Foundation, Inc., Oct 6-7, Lexington, Kentucky, pp. 34-41.

**Non-Refereed Publications (cont):**

**Timoney PJ** (1984) Clinical, Virological and Epidemiological Features of the 1984 Outbreak of Equine Viral Arteritis in the Thoroughbred Population in Kentucky, USA. Proc Grayson Foundation International Conference of Thoroughbred Breeders Organizations on Equine Viral Arteritis. Oct 31-Nov 1, Dromoland Castle, Co. Clare, Ireland, pp. 24-33.

McCollum WH and **Timoney PJ** (1984) The Pathogenic Qualities of the 1984 Strain of Equine Arteritis Virus. Ibid, pp. 34-47.

**Timoney PJ** (1985) Epidemiological Features of the 1984 Outbreak of Equine Viral Arteritis in the Thoroughbred Population in Kentucky, USA. Proc 4th Annual Meeting of the Society of Veterinary Epidemiology and Preventive Medicine. March 27-29, Reading, UK, pp. 84-89.

**Timoney PJ** (1985) Kentucky EVA Status Update: 1985. Proc 9th Annual Kentucky Horseman's Short Course, University of Kentucky and Kentucky Horseman's Education Foundation, Inc., Oct 5-6, Lexington, Kentucky, pp. 9-15.

**Timoney PJ**, McCollum WH, Roberts AW and McDonald MJ (1985) EVA Status Update. The Bloodhorse, Sept. 28, pp. 6692-6695.

**Timoney PJ** (1986) The Epidemiology of Equine Viral Arteritis. Modern Horse Breeding **3**:8-14.

**Timoney PJ**, Murphy TW, McCollum WH, Klingeborn BW, Hyllseth B and Golnik W (1989) Genomic Comparison of European and North American Isolates of Equine Arteritis Virus. Proc. 11th International Symposium of the World Association of Veterinary Microbiologists, Immunologists and Specialists in Infectious diseases, Oct. 2-6, Perugia-Mantova, Italy, p. 295.

**Timoney PJ** (1989) Equine Viral Arteritis: Current Significance in Relation to International Trade. Proc 11th Biennial World Trotting Conference, Toronto, Canada, 1989, pp. 44-48.

**Timoney PJ** (1990) Getah and Antigenically Related Virus Infections, USDA Foreign Animal Disease Report, 18-2, pp. 10-13.

**Timoney PJ** (1990) Equine Viral Arteritis: Current Perspectives on an Old Disease. Proc Annual Spring Clinic for Horse Owners, College of Veterinary Medicine, University of Minnesota, St. Paul, Minnesota, pp. 1-11.

**Timoney PJ** (1990) African Horsesickness. Proc. Ann. Cong. Finnish Vet. Assoc., Oct. 24-27, Helsinki, Finland, pp. 229-232.

**Timoney PJ** (1990) Equine Herpesvirus Infections. Proc. Ann. Cong. Finnish Vet. Assoc., Oct. 24-27, Helsinki, Finland, pp. 233-237.

**Timoney PJ** (1990) Equine Viral Arteritis at Racetracks. Proc. Ann. Cong. Finnish Vet. Assoc., Oct. 24-27, Helsinki, Finland, pp. 238-241.

**Timoney PJ** (1990) Equine Viral Arteritis on Stud Farms. Proc. Ann. Cong. Finnish Vet. Assoc., Oct. 24-27, Helsinki, Finland, pp. 242-247.

**Timoney PJ** (1992) Equine Rhinopneumonitis. Proc Int Seminar: Update on Some Infectious Diseases of Ruminants, Horses and Swine, of Economic Importance, Oct. 5-9, Mantova, Copanello and Perugia, Italy, pp. 55-61.

**Timoney PJ** (1992) Equine Encephalitides (EEE, WEE and VEE). Proc Int Seminar: Update on Some Infectious Diseases of Ruminants, Horses and Swine, of Economic Importance, Oct. 5-9, Mantova, Copanello and Perugia, Italy, pp. 47-53.

**Non-Refereed Publications (cont):**

**Timoney PJ** and McCollum WH (1993) Equine Arteritis Virus: Significance for the Stallion. *Equine Disease Quarterly*, 1(2), p. 2.

**Timoney PJ**, McCollum WH and Conboy S (1993) Successful Detection and Prevention of EVA Essential to Standardbred Population. *Standardbred Breeders of Kentucky Newsletter*, 2(1), pp. 4 and 7.

**Timoney PJ**, McCollum WH, Ford R and Vickers ML (1994) EVA in Thoroughbred Sales Yearlings. *Equine Disease Quarterly*, 2(2):4.

**Timoney PJ** and McCollum WH (1994) Equine Viral Arteritis 1993: International perspective. *Proc Special Int Mtg: Equine Infectious Diseases - Developing an Action Plan*, November 12, Lexington, Kentucky, 1993, pp. 11-12.

McCollum WH and **Timoney PJ** (1994) The diagnosis of Equine Viral Arteritis. *Proc Special Int Mtg: Equine Infectious Diseases - Developing an Action Plan*, November 12, Lexington, Kentucky, 1993, pp. 11-12.

**Timoney PJ** (1994) Update on Equine Viral Arteritis. *Proc XIIth Ann Vet Med Forum, Am Coll Int Med*, San Francisco, pp. 547-549.

**Timoney PJ** (1994) Equine Viral Arteritis: Current Perspective on an Old Disease. *Proc Thirteenth Symposium of the World Assoc of Veterinary Microbiologists, Immunologists & Specialists in Infectious Diseases*, Perugia-Mantova, Italy, 1994, pp. 283-290.

**Timoney PJ** (1995) Equine Influenza: Current Significance for the Racing Industry. 1995, Michigan Veterinary Conference Proceedings, pp. 563-568.

**Timoney PJ** (1995) Equine Viral Arteritis: A Disease of Real or Perceived Significance. 1995 Michigan Veterinary Conference Proceedings, pp. 569-575.

**Timoney PJ** (1995) Equine Herpesvirus 1 and 4 Infections: Biology, Epidemiology and Strategies for Prevention and Control. 1995 Michigan Veterinary Conference Proceedings, pp. 576-584.

**Timoney PJ** (1995) Equine Influenza. *Proc 10th International Seminar: Update on Infectious Diseases of Ruminants, Horses and Pigs*, October 2-5, Agrigento, Perugia and Camerino, Italy, pp. 43-51.

**Timoney PJ** (1995) Contagious Equine Metritis. *Proc 10th International Seminar: Update on Infectious Diseases of Ruminants, Horses and Pigs*, October 2-5, Agrigento, Perugia and Camerino, Italy, pp. 53-59.

**Timoney PJ** (1995) Client Information Series™, Contagious Equine Metritis. *Equine Practice* **17**:29-32.

**Timoney PJ** and McCollum WH (1996) Current Strategies for the Prevention and Control of Equine Viral Arteritis. In: *Vaccines & Control of Infectious Diseases: The Way Forward*. *Proc 14<sup>th</sup> International Symposium of the World Association of Veterinary Microbiologists, Immunologists and Specialists in Infectious Diseases*, Edinburgh, pp. 121-125.

**Timoney PJ** (1996) Client Information Series™, Equine Viral Arteritis. *Equine Practice*, **18**:31-34.

**Timoney PJ** (1996) Re-emergence in Mexico of Venezuelan Equine Encephalomyelitis (VEE). *Equine Disease Quarterly*, 5(1):3-4.

**Timoney PJ** and Edwards S (1996) Report of the First European Symposium on Equine Viral Arteritis. Report of the Meeting of the OIE Standards Commission, September 10-13, 1996, Paris, France, pp. 21-24.

**Non-Refereed Publications (cont):**

**Timoney PJ** (1997) Equine Infectious Anemia. Proc. 12<sup>th</sup> International Seminar: Update on Lentiviruses and Some Prominent Zoonoses. September 28 - October 2, Gioia del Colle, San Leo, Italy, pp. 19-30.

**Timoney PJ** (1997) Viral Infections of Equids that Significantly Influence International Trade. Proc. 12<sup>th</sup> International Seminar: Update on Lentiviruses and Some Prominent Zoonoses. September 28 - October 2, Gioia del Colle, San Leo, Italy, pp. 63-74.

**Timoney PJ** and McCollum WH (1997) Equine Viral Arteritis. *The American Trakehner*, **23**:40-42.

**Timoney PJ** (1997) EVA: A Disease of Real or Perceived Significance. *Aggiornamento Su Alcune Malattie Da Virus Del Cavallo*, September 15, Brescia, Italy, pp. 6-13.

**Timoney PJ** (1998) Equine Herpes Encephalomyelopathy (EHV-1) – The Virus. International Equine Neurology Conference, Cornell University, Ithaca, New York, pp. 59-62.

**Timoney PJ** (1998) Human Health and Horse Diseases. Proceedings of the 13<sup>th</sup> International Seminar: Issues for the Veterinary Profession as We Are Approaching the Next Century. November 7-8, Perugia, Italy, pp. 31-42.

**Timoney PJ** McCollum WH and Vickers ML (1998) The Rationale for Greater National Control of EVA. *Equine Disease Quarterly*, October, 1998, pp. 2-3.

**Timoney PJ** (1998) Aspects of the Occurrence, Diagnosis and Control of Selected Venereal Diseases of the Stallion. Proc Stallion Reproduction Symposium, Society for Theriogenology, Baltimore, MD, pp. 76-83.

McCollum WH, Gilbert SA, Deregt D and **Timoney PJ** (1999) Detection of Equine Arteritis Virus in Blood and Respiratory Tract Secretions of Experimentally-Infected Horses by a Nested PCR Assay. Proceedings of the 8<sup>th</sup> International Conference on Equine Infectious Diseases, Dubai, pp. 434-435.

MacLachlan NJ, Balasuriya UBR, Hedges JF, Schwidler TM, Patton JF, Hullinger PJ, McCollum WH and **Timoney PJ** (1999) The Humoral Immune Response of Horses to Equine Arteritis Virus. Proceedings of the 8<sup>th</sup> International Conference on Equine Infectious Diseases, Dubai, pp. 441.

**Timoney PJ** (1999) Equids and Equine Semen: International Trade Versus Disease Control. Proceedings of the 8<sup>th</sup> International Conference on Equine Infectious Diseases, Dubai, pp. 328-331.

**Timoney PJ** (1999) Equine Arteritis Virus and Other Differential Diagnoses for African Horsesickness in North America. Epizootic Foreign Animal Diseases Training Course. Course Notes. June 13-18, Madison, Wisconsin, pp. 1-12.

**Timoney PJ** (1999) Equine Viral Arteritis in Perspective: Fact vs. Fiction. Proceedings of the Sixth World Equine Veterinary Congress, September 30-October 3, Paris, France, pp. 167-170.

**Timoney PJ** (1999) Equine Infectious Anemia: A Continuing Threat to International Trade. Proceedings of the 14<sup>th</sup> International Seminar: Lentiviruses and Zoonotic Infections. October 28-29, Matelica, Italy, pp. 25-30.

**Timoney PJ** (1999) Equine Arboviral Diseases: How Zoonotically Important Are They? Proceedings of the 14<sup>th</sup> International Seminar: Lentiviruses and Zoonotic Infections. October 28-29, Matelica, Italy, pp. 55-60.

**Timoney PJ** (1999) Trichinosis: Significance of the Horse as a Source of Human Infection. Proceedings of the 14<sup>th</sup> International Seminar: Lentiviruses and Zoonotic Infections. October 28-29, Matelica, Italy, pp. 61-64.

**Non-Refereed Publications (cont):**

**Timoney PJ** (2000) EVA – The Silent Threat. *Equus*, **267**:26-31.

Powell DG and **Timoney PJ** (2000) An Unwelcome Visitor. *Equine Disease Quarterly*, **8**(2):3-4.

Traub-Dargatz J, **Timoney P**, Kopral CA, Garber LLP, Hillberg-Seitzinger A and Wagner BA (2000) NAHMS. 2000. Equine Viral Arteritis (EVA) and the U.S. Horse Industry. USDA:APHIS:VS, CEAH, National Animal Health Monitoring System. Fort Collins, CO. #N315.0400.

**Timoney P** (2000) The Significance of Emerging Diseases. *The Horse*, **17**(5):39-41.

**Timoney PJ**, Traub-Dargatz J, Ostlund EN, Lake KR, Kopral CA (2000) NAHMS Equine '98 Study Highlights Industry's Lack of Awareness of EVA. *Equine Disease Quarterly*, **9**(1):4.

**Timoney PJ** (2000) Equine Viral Arteritis. *AAEP Report*, March, pp. 7, 12.

**Timoney P** (2001) West Nile Virus: Present and Future. *Grayson Jockey Club Research Today*, **18**(5):1-4.

**Timoney PJ** (2001) The Emergent Significance of West Nile Virus as a Human and Animal Pathogen. Proceedings of the 15<sup>th</sup> International Seminar: A Review of Some Infectious Diseases of Animals of Economic and/or Zoonotic Importance, June 4-5, 2001, Frosinone, Italy, p. 47-50.

**Timoney PJ** (2001) Does Equine Viral Arteritis Truly Merit the International Notoriety it has Acquired? Proceedings of the 15<sup>th</sup> International Seminar of the World Association of Veterinary Microbiologists, Immunologists and Specialists in Infectious Diseases: A Review of Some Infectious Diseases of Animals of Economic and/or Zoonotic Importance, June 4-5, 2001, Frosinone, Italy, pp. 39-45.

**Timoney PJ** (2001) Equine Viral Arteritis and Other Enzootic Diseases as Differential Diagnoses for African Horse Sickness. *In* Proceedings of the Second Biennial Foreign Animal Diseases Training Course, August 5-10, 2001, Madison, Wisconsin.

**Timoney PJ** (2001) CEM – A Continuing Threat to International Trade. *Equine Disease Quarterly*, **10**(1):2-3.

Walcott K and **Timoney PJ** (2002) Shared Diseases. *The Horse*, **19**(1):57-60.

**Timoney PJ** (2002) Equine Viral Arteritis: Salient Features & Significance. *The North American Friesian Journal*, **1**:54-57.

**Timoney PJ** and McCollum WH (2002) Understanding Equine Viral Arteritis. [<http://www.aaep.org/members/ownereducation/eva2.asp>]

**Timoney PJ** (2002) Equid Herpesvirus 1 and 4 Infections. Proceedings of the 16<sup>th</sup> International Seminar of the World Association of Veterinary Microbiologists, Immunologists and Specialists in Infectious Diseases: Emerging Infectious Diseases of Animals Including Some New and Traditional Zoonoses, May 18-22, 2002, Siena, Italy, pp. 71-80.

**Timoney PJ** (2002) African Horsesickness. Proceedings of the 16<sup>th</sup> International Seminar of the World Association of Veterinary Microbiologists, Immunologists and Specialists in Infectious Diseases: Emerging Infectious Diseases of Animals Including Some New and Traditional Zoonoses, May 18-22, 2002, Siena, Italy, pp. 61-70.

**Timoney PJ** (2003) West Nile Virus: Controlling the Risk to Your Horse. Educational Brochure published by the American Association of Equine Practitioners.

**Non-Refereed Publications (cont):**

**Timoney PJ** (2003) Special Report. International Conference on Equine Grass Sickness, Dubai, UAE. The Vet J, **165**:7-10.

**Timoney PJ** (2003) Commentary. Equine Disease Quarterly, **12**(4):1.

**Timoney PJ** (2004) Equine Viral Arteritis: A Continuing Enigma of a Disease. Horse International, **4**:4-5.

**Timoney PJ** (2005) Equine Viral Arteritis: Is the Disease a Cause for Industry Concern? (Part I). Impulsion, Spring, pp. 4-7.

**Timoney PJ** (2005) Equine Viral Arteritis: Is the Disease a Cause for Industry Concern? (Part II). Impulsion, Summer, pp. 9-10.

**Timoney PJ** (2005) Equine Herpesviruses 1 & 4: Economically Significant Pathogens of the Horse. 17<sup>th</sup> International Seminar: Some Important Viral Disease of Horses, May 2, 2005, Perugia, Italy, pp. 9-15.

**Timoney PJ** (2005) Equine Viral Arteritis: Significant Features of a Frequently Misunderstood Disease. 17<sup>th</sup> International Seminar: Some Important Viral Disease of Horses, May 2, 2005, Perugia, Italy, pp. 17-24.

**Timoney PJ** (2005) West Nile Virus: The North American Experience. 17<sup>th</sup> International Seminar: Some Important Viral Disease of Horses, May 2, 2005, Perugia, Italy, pp. 25-33.

**Timoney PJ** (2005) Perspective on the Virologic, Epidemiologic and Prophylactic Aspects of Equine Influenza. 17<sup>th</sup> International Seminar: Some Important Viral Disease of Horses, May 2, 2005, Perugia, Italy, pp. 35-36.

Powell DG and **Timoney PJ** (2006) EVA Outbreak in New Mexico. Equine Disease Quarterly, **15**(4):2-3.

Timoney PJ (2007) EVA in 2006. The Horse, **24**(2):28.

**Timoney PJ** (2007) Equine Viral Arteritis: Significant Features of a Frequently Misunderstood Disease. Proceedings of the 9<sup>th</sup> Biannual Jackson Hole Veterinary Rendezvous, pp. 221-234.

**Timoney PJ** (2007) Equine Rhinopneumonitis: Pathogenetic, Clinical & Epidemiological Features of a Multisyndromic Disease. Proceedings of the 9<sup>th</sup> Biannual Jackson Hole Veterinary Rendezvous, pp. 235-242.

**Timoney PJ** (2007) Equine Viral Encephalomyelitides, Part 1: West Nile Encephalomyelitis. Proceedings of the 9<sup>th</sup> Biannual Jackson Hole Veterinary Rendezvous, pp. 243-248.

**Timoney PJ** (2007) Equine Viral Encephalomyelitides, Part 2: Eastern, Western & Venezuelan Encephalomyelitis. Proceedings of the 9<sup>th</sup> Biannual Jackson Hole Veterinary Rendezvous, pp. 249-255.

Traub-Dargatz J, Heckendorf C, Roehr K, Creekmore L and **Timoney P** (2007) Update on Equine Viral Arteritis (EVA). Proceedings of the Colorado Veterinary Medical Association 2007 Meeting.

**Timoney PJ** (2007) Equine Viral Arteritis: A Perspective on its Clinical and Economic Significance. Hagyard Bluegrass Equine Symposium, pp. 115-123.

St. Martin K and **Timoney P** (2008) Combat Your EVA Concerns. Appaloosa Journal, **62**(3):120-121.

**Timoney PJ** (2009) Equine Viral Arteritis – Compelling Reasons to Test. March/April Equine Edge Newsletter – IDEXX, pp. 4-7.

**Non-Refereed Publications (cont):**

**Timoney PJ** (2009) Report: Second OIE International Workshop on Equine Viral Arteritis, Bull OIE. 2, p. 44.

**Timoney PJ** (2010) Globalisation of Trade and the Increased Risk of Spread of Equine Diseases. Irish Veterinary Journal, submitted for publication.

Meade B and **Timoney PJ** (2010) Monitoring and Surveillance of Equine Infectious Diseases. Equine Disease Quarterly, **19**(1):4.



## SUMMARY CURRICULUM VITAE

**THOMAS TOBIN****Toxicologist/Pharmacologist/Veterinarian****www.thomastobin.com****Address:**

Rm. 128C Maxwell H. Gluck Equine Research Center  
Dept. of Vet. Sci., Univ. of KY, Lexington, KY, USA 40546-0099  
Office: (859) 257-4757 ext. 8-1092; FAX: (859) 257-8542  
Home Phone/Fax: (859) 255-0786, Personal cell 859 229 9392  
E-mail: ttobin@uky.edu; Personal e-mail: thomastob@aol.com

**Education:**

MVB (DVM) University College, Dublin, MSc, U of Guelph 1966,  
PhD, Pharmacology, University of Toronto, 1970

**Licenses  
Boards**

MRCVS – Member, Royal College of Veterinary Surgeons, 1964, Kentucky Veterinary License, NS-1053. DABT Diplomate, American Board of Toxicology, Inc. 1980-2010.

**Employment:**

Professor of Veterinary Science, The Maxwell H. Gluck Equine Research Center, U.K., Professor, the Graduate Center for Toxicology, U.K.

**Intellectual Property:**

US Patent # 4,473,640 for morphine detection, 1983. WTT, Inc., created with licenses for 50- plus ELISA tests, 1991. Sold to Neogen, Inc.

**Companies/Patents**

ELISA Technologies, 1993. metabolites /regulatory analytes/deuterated standards synthesized and licensed. US Patent # 5,583 095 for treatment of EPM, licensed, marketed as Marquis®, August 2001.

**Opinions , Licenses  
Royalty's Copyrights**

US Patent # 7,074,843 for an equine tranquilizer. Unique mathematical analysis and proposed pathogenesis of MRLS copyrighted. Publishing and IP royalties.

**Teaching**

Toxicology, Pharmacology, "Ethics in Scientific Research," "Risk Assessment," International Short Courses: "The Commission Veterinarian/Equine Medical Director" 1995 to 2001, and "Testing for Therapeutic Medications, Dietary and Environmental Substances." Six Kentucky Veterinarian's Short Courses, 2000-2001. Bain-Fallon Lectures, Australia, 1990 and 2002. Workshop on Mare Reproductive Loss Syndrome (MRLS), August 2002, Published, May 2003.

**Honors**

HBPA Man of the Year, 1995; Kentucky HBPA Man of the Year, 1999; Toxicology Student Award, 1993; Toxicology rated the only "extremely effective" graduate program in Kentucky by National Research Council, 1992-93; Bain Fallon Lectures, 1989; The "Dr. Thomas Tobin Purse," August 1, Emerald Downs, Seattle, Washington, 1999; Millennium Medal, Dubai, 2001. Honorary faculty, College of Veterinary Medicine, Cordoba, Argentina, "Thomas Tobin Purse", Cordoba, August, 2001. The Professor Thomas Tobin Trophy, Cayamanas Racetrack, Jamaica, April 20<sup>th</sup>, 2002. Bain-Fallon Lectures, Gold Coast, Australia, July 2002, Thomas Tobin Purse, Sao Paulo, Brazil, 2007, National HBPA 2008 Industrial Service Award.

**Research Support**

Approximately \$15 million through 2009.

**Publications:**

1. About 400 plus papers, 100-plus abstracts, two books, five volumes of proceedings. Numerous articles published and reprinted in lay journals, including:
2. *Drugs and the Performance Horse*, by Thomas Tobin. Foreword by HRH, The Duke of Edinburgh. 480 pp., Springfield, Illinois: Charles C. Thomas, 1981.
3. *Proceedings of the Workshop on Testing for Therapeutic Medications, Environmental and Dietary Substances in Racing Horse*. 218 pages, 1995.
4. *Proceedings of the First Workshop on the Mare Reproductive Loss Syndrome*. 134 pages, 2002.
5. *2008 National HBPA Proposed Medication Policy* 160 pages, Wind Publications. Lexington, KY

**Books****Research****Papers****Symposia****BIOGRAPHICAL SKETCH:**

Thomas Tobin (TT), Veterinarian, Dublin, 1964, Pharmacologist MSc, Guelph, 1966, PhD Toronto, 1970, Equine Pharmacology, Therapeutics and Toxicology (EPTT) program at the University of Kentucky, 1975-todate. In 1979 organized the Third Int. Symp. on Equine Medication Control, in 1981 authored and published *Drugs and the Performance Horse*, a 450 page text. In 1983 testified before Congress on the "Corrupt Horse Racing Practices Act"; activity on this bill thereafter ceased. In 1980 became a Diplomat of the America Board of Toxicology, DABT. <http://www.ca.uky.edu/gluck/index.htm>.

In 1985 TT began the research that introduced ELISA testing to horse racing. Commercialization of this technology led to the creation of WTT ELISA TESTS, later sold to Neogen Corp ([www.neogen.com](http://www.neogen.com)). Neogen Lexington now employs 100, brings in \$30M/year and the ELISA IP yields a significant UK royalty.

In 1988 TT became Director of the UK Graduate Center for Toxicology, brought in an \$800K NIEHS Training Grant and developed minority programs. By 1993 core faculty and student admissions were up three-fold, extramural funding had increased from 0 to \$800K per year, and new courses on "Ethics in Scientific Research" and "Risk Assessment" had been developed. When NRC reviewed Kentucky doctoral programs in 93, only the Graduate Center for Toxicology was rated "extremely effective."

In 1994, TT organized and published an international workshop, "Testing for Therapeutic Medications, Environmental and Dietary Substances in Racing Horses," that brought 70 international industry leaders to Lexington. In 1995, TT and colleagues organized "The Commission Veterinarian/Equine Medical Director: A Short Course". In 1995, TT and colleagues founded the Testing Integrity Program (TIP) that serves as a national drug testing Quality Assurance Program ([www.testingintegrityprogram.org/](http://www.testingintegrityprogram.org/)). TT was named "Man of the Year" in 1995 by the National Horsemen's Benevolent and Protective Association.

In 1996, TT and David Granstrom investigated new therapeutic approaches to Equine Protozoal Myelitis (EPM), rapidly establishing the therapeutic efficacy of diclazuril and toltrazuril. A patent in this area was granted (US patent #5,883,095, 1999) and licensed to Bayer Animal Health; in July 2001, Bayer Marquis® (toltrazuril sulfone <http://www.yourhorseshealth.com/epm/treat.html>) became the first FDA-approved treatment for EPM.

In 1998 the industry focused on Clenbuterol. A series of LC-MS-MS based studies led to the publication of a highly sensitive serum test for Clenbuterol, allowing much more sensitive and reliable regulatory control of therapeutic medications than previously. In 1998 TT also organized and published a Testing Integrity Program [TIP] seminar on furosemide.

In 2000, at the direction of the Kentucky Racing Commission (KRC), TT developed a series of nationally accredited continuing education short courses for veterinary practitioners and regulatory veterinarians in Kentucky and surrounding states. Six such short courses were offered.

In May of 2001, TT chaired the Toxicology Working Group investigating the 2001 Mare Reproductive Loss Syndrome (MRLS), and his group redirected to work on MRLS. Within three weeks the Eastern Tent

Caterpillar was identified as a central factor in MRLS. Work in 2002 clearly linked MRLS to the Eastern Tent Caterpillar; in August 2002, TT and David Powell organized the first workshop on the Mare Reproductive Loss Syndrome, published in May 2003. In 2002 TT proposed that MRLS followed an unusual probabilistic setal emboli model, in 2003, MRLS was shown to follow a unique probabilistic mathematical model, Accelerated Failure Time Analysis, and the biologically unique pathogenesis for MRLS ([www.jarvm.com/articles/Vol2Iss2/TOBINJARVMVol2No2.pdf](http://www.jarvm.com/articles/Vol2Iss2/TOBINJARVMVol2No2.pdf)) based on septic penetrating setal fragments was communicated.

In 2003 the program contributed to the writing of the National HBPA Proposed Policy on Drug Testing and Therapeutic Medication (<http://hbpa.org/resources/MedicationPolicy.pdf>) and focused on developing fully validated quantitative analytical methods for agents abused in racing horses. In 2003 it was decided that it would be in the best interests of the racing industry in Kentucky for the program to accredit, and the process of becoming A2LA accredited was initiated. In 2004, following the election of a Republican governor, the program redirected to address new therapeutics and toxicology, with emphasis on diagnostics, prophylaxis and therapeutics for equines.

In 2005 the program began synthesizing series of certified reference standards and stable isotope internal standards for therapeutic medications, currently in the process of being licensed. In July 2006 US Patent # 7,074,843 for a novel veterinary sedative and tranquilizer was awarded and a unique pathogenesis for oligofructan associated laminitis was proposed.

More recently work on the certified reference standards and stable isotope internal standards for use in quantitative forensic work in equine medication control continues. The program has generated research support from the Kentucky Science and Engineering Foundation [KSEF] the Racing Medication and Testing Consortium [RMTC] and National and local Horsemen's Benevolent and Protective Association organizations [HBPA's] and other equine groups in support of the creation and commercial availability of appropriate reference standards for use in racing chemistry. The research/intellectual property goal is to create and provide certified reference standards and stable isotope internal standards for the 50 or so therapeutic medications used in horses in training, and whose use is regulated by quantitative forensic chemistry. This work is being carried out in association with ChemPharma Inc. of Richmond Kentucky [[www.ChemPharma.com](http://www.ChemPharma.com)] and the Lexington division of Neogen Corporation Inc. [[www.neogen.com](http://www.neogen.com)].

Medications for which certified reference standards and stable isotope, usually deuterated, internal standards have been developed and are have been or are being brought to market include phenylbutazone, flunixin, ketoprofen, methocarbamol, guaifenesin, clenbuterol, procaine and furosemide. Additionally, a number of certified reference standards for drug metabolite fragments/regulatory analytes include unlabeled and deuterated 3-hydroxyidocaine, 3-hydroxymepivacaine, hydroxyethyl promazine sulfoxide, carboxydetomidine and Hydroxydetomidine, with approximately 5 corticosteroid therapeutic medications scheduled for stable isotope reference standard development.

In 2008 the third edition of the National Horsemen's Benevolent and Protective Association Policy on Drug Testing and Therapeutic Medication Regulation was assembled by the program in cooperation with Mr. Kent Stirling, Chairman of the National HBPA Medication Committee and Executive Director of the Florida Horsemen's Benevolent and Protective Association. In 2009 Mr. Kent Stirling and TT were jointly awarded the 2008 National Horsemen's Benevolent and Protective Association Industry Service Award.

## CURRICULUM VITAE

THOMAS TOBIN

[WWW.THOMASTOBIN.COM](http://WWW.THOMASTOBIN.COM)

**BORN** Dublin, Ireland, Naturalized United States Citizen

**BUSINESS ADDRESS** Gluck Equine Research Center E-Mail-[ttobin@uky.edu](mailto:ttobin@uky.edu)  
Room 128C, University of Kentucky Phone: (859) 257-4757 ext 8 1092  
Lexington, KY 40546 Fax: (859) 257-8542

**HOME ADDRESS** Nine Mile Farm, 5301 Bethel Rd, Lexington, KY 40511  
Phone/Fax: (859) 255 0786 E-Mail- [thomastob@aol.com](mailto:thomastob@aol.com)  
Cellular Phone: 859-229-9392

**MARITAL STATUS** Married, Vicki Wooley-Tobin; Daughter, Mary Courtney Tobin

### **EDUCATION, LICENSES, BOARDS**

MVB (DVM) University College, Dublin, 1958-1964, Bachelor of Veterinary Medicine  
MRCVS Member of the Royal College of Veterinary Surgeons, 1964  
MSc University of Guelph, 1964-1966  
PhD University of Toronto, College of Medicine, Pharmacology, 1966-69.  
DABT Diplomate, American Board of Toxicology, 1980-2010  
LICENSES Licensed Veterinarian, Kentucky, NS-1053 and MRCVS for the United Kingdom

### **FELLOWSHIPS, DISTINCTIONS, AWARDS**

Ontario Government Faculty Training Grant 1966  
Massey College Junior Fellow, Toronto, Ontario 1967  
Bain Fallon Lectures, Australia 1989  
Toxicology Student Award, Graduate Center for Toxicology, 1993.  
"Man of the Year," National Horsemen's Benevolent and Protective Association, 1995.  
Hirsch Speaker Series Lecturer, University of Arizona, 1996.  
Toxicology rated the only "extremely effective" graduate program in KY in 1992-93 by National Research Council, 1995.  
"Man of the Year," Kentucky Horsemen's Benevolent and Protective Association, 1999.  
Dr. Thomas Tobin Purse, Emerald Downs, Seattle, 1999.  
Thomas Tobin Purse, Cordoba, Argentina, 2000.  
Honorary Faculty Member, Province of Cordoba College of Veterinary Medicine, 2001.  
Dubai Millennium Medal 2001  
The Professor Thomas Tobin Trophy, Cayamanas Racetrack, Jamaica, April 20<sup>th</sup>, 2002.  
Bain-Fallon Lectures, Australia, 2002  
Thomas Tobin Purse, Jockey Club of Sao Paulo, Sao Paulo, Brazil, 2007  
National HBPA 2008 Industry Service Award

**PROFESSIONAL AND TEACHING EXPERIENCE**

1978 - Present	Professor, Department of Veterinary Science and Professor, Graduate Center for Toxicology, University of Kentucky
1988 - 1993	Director, Graduate Center for Toxicology, University of Kentucky
1975 - 1978	Associate Professor, Dept. of Vet Sci and GCT, Univ. of KY
1970 - 1975	Instructor—» Associate Professor, Dept. of Pharmacology, Michigan State University

**INTELLECTUAL PROPERTIES, PATENTS, LICENSES, ROYALTY ARRANGEMENTS**

- 1) Patent Awarded: Detection of morphine and its analogues using enzymatic hydrolysis. US Patent # 4,473, 640, September 25, 1984.
- 2) Royalty arrangements for fentanyl, carfentanil, furosemide, acepromazine, cocaine, detomidine, phenylbutazone, alfentanil, sufentanil and 20-plus others, in ELISA and PCFIA format, International Diagnostic Systems, 1987-1989.
- 3) WTT ELISA Tests. 1989. Founder with David Watt and Dan Tai of 'Spin Off' company to distribute ELISA tests for use in racing horses and greyhounds. Sold to Neogen Corp, 1991. Tests developed and brought to market include:

1 Generic Barbiturate	24 Lofentanil
2 Generic Benzodiazepine	25 Mazindol Metabolites
3 Generic Bronchodilator	26 Cotinine
4 Generic Corticosteroid	27 Meperidine
5 Generic Fentanyl	28 Mepivacaine
6 Generic Opiate 1	29 Nalbuphine
7 Generic Promazine	30 Oxymorphone/Oxycodone
8 Generic Tricyclics	31 PCP
9 Azaperone	32 Pentazocine
10 Boldenone	33 Procaine
11 Butorphanol	34 Stanozolol
12 Clenbuterol	35 Sulfamethazine
13 Cocaine Benzoylcegonine	36 Tetracaine
14 Detomidine/Medetomidine	37 Alfentanil
15 Dexamethasone	38 Bumetanide
16 Droperidol	39 Buprenorphine
17 Ethacrynic Acid	40 Carfentanil
18 Etorphine	41 Fentanyl
19 Flunixin	42 Fluphenazine
20 Glycopyrrolate	43 Furosemide (Lasix)
21 Haloperidol Metabolites	44 Haloperidol (Blood only)
22 Isoxsuprine	
23 Levallorphan	

- 45 Mazindol (Sanorex)
- 46 Methylprednisolone
- 47 Nandrolone
- 48 Phenylbutazone (Blood only)
- 49 Reserpine
- 50 Sufentanil
- 51 THC Metabolites
- 52 Trans-3-hydroxycotinine
- 53 Anileridine
- 54 Azaperone
- 55 3, 4-aminobenzoyllecgonine  
(Cocaine metabolites)
- 56 Caffeine
- 57 Clenbuterol
- 58 Cromolyn (adapted)
- 59 Diprenorphine
- 60 Droperidol
- 61 Glycopyrrolate (adapted)
- 62 Imipramine
- 63 Isoxsuprine
- 64 Ketorolac
- 65 Lidocaine
- 66 Lofentanil
- 67 Mazindol
- 68 Medetomidine
- 69 Meperidine
- 70 Mepivacaine
- 71 Methocarbamol
- 72 Phencyclidine
- 73 Prazepam
- 74 Sulfamethazine
- 75 Temazepam
- 76 Triamcinolone Acetonide

And others.

Friday, August 14, 2009

- 7) Publishing royalties: "Drugs and the Performance Horse" and "Equine Drugs and Vaccines: A Guide for Owners and Trainers."
- 8) 1999. Investigational New Animal Drugs: two fast track / no environmental risk INADs for two agents for use in EPM. US Patent #5,883,095 granted in this area; licensed to Bayer Animal Health, 1999, marketed as Marquis®, August, 2001.
- 9) 2006. US Patent Awarded: In July 2006 US Patent # 7,074,843 for a novel veterinary sedative and tranquilizer was awarded.
- 6) Equine Drug Metabolite Standards, Certified Reference Standards, Stable Isotope Reference Standards and Haptens: W. Karpiesiuk, F. Lehner, Eisenberg, R and Tobin, T have synthesized, purified and have licensed or are licensing the release as authentic equine metabolites/forensic standards or haptens:

	Parent Medication	Regulatory Analyte/ Internal Standard
1	Acepromazine (metabolite)	1-Hydroxyethyl) promazine
2	Acepromazine (deuterated metabolite)	D <sub>4</sub> 2-(1-hydroxyethyl) promazine sulfoxide
3	Acepromazine (metabolite)	Acepromazine sulfoxide
4	Amitraz (deuterated metabolite)	D <sub>6</sub> N-2,4-Dimethylphenyl-N'-methylformamidine
5	Bupivacaine (metabolite)	3-Hydroxybupivacaine
6	Chlorpromazine (metabolite)	7-Hydroxychlorpromazine
7	Clenbuterol (deuterated standard)	D <sub>9</sub> Clenbuterol
8	Clenbuterol (metabolite)	1-(4-Amino-3,5-Dichlorophenyl)ethane-1,2-diol
9	Clenbuterol (metabolite)	2-(2-(4-Amino-3,5-Dichlorophenyl)-2- hydroxyethylamino)-2-Methyl-Propan-1-ol
10	Colterol and Bitolterol (metabolite)	3-O-Methylcolterol
11	Carboxydetomidine	D <sub>4</sub> Carboxydetomidine
12	Hydroxydetomidine	D <sub>4</sub> Hydroxydetomidine
13	Fluphenazine (metabolite)	7-Hydroxyfluphenazine
14	Furosemide (deuterated standard)	D <sub>5</sub> Furosemide
15	Flunixin (deuterated standard)	D <sub>3</sub> Flunixin

Friday, August 14, 2009

16	Guafenesin (deuterated standard)	D <sub>4</sub> Guafenesin
16	Guanabenz (metabolite)	Hydroxyguanabenz
17	Ketoprofen (deuterated standard)	D <sub>4</sub> Ketoprofen
18	Lidocaine (deuterated metabolite)	D <sub>10</sub> 3-hydroxylidocaine
19	Lidocaine (metabolite)	3-Hydroxylidocaine
20	Mazindol (metabolite)	2-(2-Aminoethyl)-3-(4-chlorophenyl)-3-hydroxy-2,3-dihydro-isoindol-1-one
21	Mepivacaine (deuterated metabolite)	D <sub>3</sub> 3-Hydroxymepivacaine
22	Mepivacaine (metabolite)	3-Hydroxymepivacaine
23	Methocarbamol (deuterated metabolite)	D <sub>4</sub> Methocarbamol
24	Phenylbutazone (deuterated metabolite)	D <sub>9</sub> Phenylbutazone
25	Procaine (deuterated metabolite)	D <sub>10</sub> Procaine
26	Promazine (metabolite)	3-Hydroxypromazine
27	Promethazine (metabolite)	Promethazine sulfoxide
28	Propranolol (metabolite)	4-Hydroxypropranolol
29	Propiomazine (metabolite)	2-(1-Hydroxypropyl) promethazine sulfoxide
30	Propionylpromazine (metabolite)	2-(1-Hydroxypropyl) promazine sulfoxide
31	Pyrilamine (deuterated standard)	D <sub>4</sub> Pyrilamine
32	Pyrilamine (metabolite)	O-desmethylpyrilamine
33	Ropivacaine (metabolite)	3-Hydroxyropivacaine
34	Ropivacaine (metabolite)	4-Hydroxyropivacaine
35	Selegiline (metabolite)	Desmethylselegiline
36	Tramadol (metabolite)	Desmethyltramadol
37	Tripelennamine (metabolite)	3-OH-tripelennamine
38	Nandrolone	D <sub>3</sub> Nandrolone

## **ADVISORY BOARDS**

The Irish Equine Center, Johnstown, County Kildare, Ireland  
 Thoroughbred Owners of California  
 Equine Testing Program, University of Auckland, New Zealand



Friday, August 14, 2009

Neogen Corp., Lansing, Michigan  
 ChemPharma Inc. Richmond, Kentucky  
 The Alabama; Arizona; Arkansas; Canada; Charles Town, WV; Florida; Iowa; Indiana, Kentucky;  
 Louisiana; Michigan; Minnesota; National, Nebraska, Ohio, Oklahoma, Ontario Canada, Oregon,  
 Pennsylvania, Tampa Bay Downs, FL; Texas; Washington State; West Virginia and Canadian  
 Divisions of The Horsemen's Benevolent and Protective Association,  
 The Keeneland Association, Lexington, Kentucky  
 The Fasig-Tipton Company, Lexington, Kentucky  
 Frontier Biopharma, Richmond, Kentucky

### **SELECTED UNIVERSITY COMMITTEE ASSIGNMENTS**

Patents Committee, University of Kentucky, 1985-1988  
 Director of GCT, *ex officio* member of five plus GCT standing committees, 1988-1993  
 Safety Committee Chair, Gluck Equine Research Center, 1996  
 Self Study Committee Chair, Department of Veterinary Science, 1999  
 Building Committee, Gluck Equine Research Center, 2001  
 Toxicology Working Group on Mare Reproductive Loss Syndrome, 2001.  
 Graduate Committee, Dept. of Veterinary Science 2009  
 Faculty Evaluation Committee, Dept. of Veterinary Science 2009

### **SELECTED COMMITTEES, NATIONAL AND INTERNATIONAL**

Chairman, Executive, Social and US Organizing Committees, Third International Symposium on Equine Medication Control, Lexington, KY, 1979. Raised \$50,000 to support program and organized scientific and social programs for Third International Symposium on Equine Medication Control, June 12, 13, 14, 1979, Lexington, KY. Approximately 120 registrants, 15 countries represented, 50 papers presented; proceedings published 1980.

Chairman, Executive, Social and US Organizing Committees, Seventh International Conference of Racing Analysts and Veterinarians, Louisville, KY, 1988. Raised approximately \$85,000 to support program and organized scientific and social programs for Seventh International Conference of Racing Analysts and Veterinarians, April 10-14, 1988, Louisville, KY. Approximately 285 registrants, 23 countries represented, 70 papers presented, proceedings edited and published, 1990.

Chairman, Executive, Social and US Organizing Committees, Workshop on "Testing for Therapeutic Medications, Environmental and Dietary Substances in Racing Horses," August 18-19, 1994, Lexington, KY. In six weeks raised \$33,000, brought in 70 scientists, veterinarians and industry leaders from around the world to review the problem of limiting the sensitivity of testing for the above substances. Workshop involved 35 presentations, final report presented and workshop proceedings edited and published, April, 1995.

Chairman, Executive Committee of the International Short Course entitled "The Commission Veterinarian/Equine Medical Director: A Short Course". In association with Drs. George Mundy, Scott Stanley, and Rick Sams organized a 3 day short course for commission veterinarians, November, 1995. 85 registrants attended from 20 countries. Two days of lectures, one day field trip to Ohio State and Turfway Park. Raised approximately \$45K, short course proceedings to be published.

Friday, August 14, 2009

Chairman, Executive Committee of the International Short Course entitled "The Commission Veterinarian/Equine Medical Director: A Short Course". In association with Drs. Mitzi Fisher, Scott Stanley, and Rick Sams organized a 2 day short course for Commission Veterinarians, at Churchill Downs, April 30<sup>th</sup> and May 1<sup>st</sup> & 2<sup>nd</sup>, 2001. 65 registrants attended from 15 countries. Raised approximately \$30K. Publication of proceedings interfered by arrival on May 5<sup>th</sup> of the Mare Reproductive Loss Syndrome.

Other Committees:

Racing Commissioners International Task Forces:

Task Force on Drug Classification, 1991-present

Testing Integrity Program, Founding Member, 1995.

Veterinary Advisory Board to the Lexington Humane Society (1996)

Research Facilitator, Testing Integrity Program 1995-date

Veterinary Advisor, National HBPA Medication and Drug Testing Policy Working Group, 2001-To date.

AAEP "Norwood" Committee on Therapeutic Medications, 2001.

AAEP "Arthur" Advisory Committee to the NTRA Medication Task Force, 2002

Racing Medication and Testing Consortium [RMTC], member, Dietary and Environmental Substances Sub-Committee, 2007

## ACADEMIC ADVISING

### Thesis Advisor to:

- |                                    |  |
|------------------------------------|--|
| 1) Susapto Dirdjosudjono, MS, 1973 | 13) David DeQuick, MS, 1984                        |
| 2) Brian L. Roberts, MS, 1977      | 14) Thomas Wood, PhD, 1989                         |
| 3) Richard Miller, MS, 1978        | 15) Jyan-Ming Yang, PhD, 1992                      |
| 4) Connie G. White, MS, 1978       | 16) Sylvia Chay, MS, 1987                          |
| 5) Joan Combie, MS, 1979           | 17) Scott Stanley, PhD, 1992                       |
| 6) Steve Ballard, MS, 1980         | 18) Neil Hoglen, MS, 1990                          |
| 7) Theodore Schults, MS, 1980      | Joanne Scheurer, MS Cnd, 1993                      |
| 8) Eugenie Green, MS, 1980         | 19) Eddie Mitchell, PhD, 1996                      |
| 10) William A. Rees, PhD, 1997     | 20) Bradford Bentz, MSc, 1999                      |
| 11) Levent Dirikolu, PhD Cnd, 2000 | 21) Cedric Holtz, MS, 2000                         |
| Lisa Collett, MS Cnd, 1982         | 22) Jeffrey Bosken, PhD, 2003                      |
| 12) Joan D. Combie, PhD, 1982      | 23) Manu Mohan Sebastian, BVSc, MVSc,<br>Phd, 2004 |
|                                    | 24) Fernanda Olivier, DVM, PhD, 2007               |

### Post-Doctoral Fellows/Research Associates:

Dr. John M. Weld, Studies on Endotoxin Shock, 1980-1981.

Dr. Steve Kamerling, Studies on Equine Pain Perception, 1982-1984.

Dr. Stefan Kwiatkowski, Synthesis of Derivatives of Tranquilizers, Stimulants, and Narcotic Analgesics, 1987-1988.

Dr. Urszula Wacjen, Synthesis of Derivatives of Tranquilizers, Stimulants, and Narcotic Analgesics, 1987-1988.

Friday, August 14, 2009

- Dr. Ichiro Fuse, Synthesis of Derivatives of Non-steroidal Anti-inflammatory Drugs and Diuretic Drugs, 1987-1988.  
 Dr. Tomohiro Ichimaru, Synthesis of Derivatives of Non-steroidal Anti-inflammatory and Diuretic Drugs, 1987-1988.  
 Dr. Alwarsamy Jeganathan, Synthesis of Derivatives of Drugs of Abuse in Racing Horses, 1987-1988.  
 Dr. Daniel J. Harkins, Studies on the Pharmacological Effects of Therapeutic Agents, 1993-present.  
 Dr. Nathan Hall, Studies on Musculoskeletal Injuries in Racing Horses, 1995.  
 Dr. Wojciech Karpiesiuk: Synthesis of Drug Metabolites, 1995.  
 Dr. Fritz Lehner: Detection of High Potency Drugs, 1996.  
 Dr. Levent Dirikolu, Pharmacokinetics of Furosemide, 2002.  
 Dr. Julio Gutierrez 2009-

#### Visiting Scientists/Associates:

- Dr. David Snow, Glasgow University: Muscle biopsy work, 1978  
 Dr. Marie Agnes Popot, France; Etorphine, 1986  
 Dr. Mei-Ru Dai, China; Immunoassay for etorphine and buprenorphine, 1987  
 Dr. John Goodman, Energy Lab; Mass spectral confirmation of high potency drugs, 1988  
 Dr. Antonio Quieroz Neto, Jaboticabal, Brazil, Behavioral Responses in Horses, 1994-1995  
 Dr. In Mo Lee, Seoul, South Korea, Studies on Musculoskeletal Injuries in Racing Horses, 1996.

#### EXTRA-CURRICULAR

Guest Editor, Columnist, Contributor, Editorial Board: *EQUUS*, *Hub Rail*, *The Blood-Horse*, *Practical Horseman*, *Journal of Equine Medicine and Surgery*, *Equine Sport Medicine*, *Horsemen's Journal*, *Appaloosa World*, *Modern Horse Breeding*, *Thoroughbred Times*; about 10-plus articles/year published in lay press. University of Toronto Deep Sea Fishing Team, 1968-1973, Cave Run Sailing Association, 1988. The Thoroughbred Club of America, 1978, The Lexington Polo Club, 1992, The Lafayette Club, 1994, The Iroquois Hunt Club, 1996, Master of Ceremonies, The Bluegrass Charity Ball.

#### NATIONAL AND INTERNATIONAL ACTIVITIES

Commonwealth of Kentucky, licensed to practice veterinary medicine (1977-present NS - 1053)  
 Royal College of Veterinary Surgeons, London, licensed to practice veterinary medicine (1964-1987-present)  
 Ontario Veterinary Association, licensed to practice veterinary medicine (1964-1978)  
 Canadian Veterinary Medical Association, licensed to practice veterinary medicine (1964-1978)  
 Michigan Veterinary Medical Association (1970-1974)  
 American Veterinary Medical Association (1970-present)  
 Central Kentucky Veterinary Medical Association (1975-1980)  
 American Society for Pharmacology and Experimental Therapeutics  
 Founding Fellow and Councilor, American College of Veterinary Pharmacology  
 American College of Veterinary Toxicology  
 British Equine Veterinary Association, associate member  
 International Doping Research and Control Group  
 Association of Official Racing Chemists (1977-To date)  
 International Specialty Group of Racing Analysts and Veterinarians  
 American Association of Equine Practitioners  
 Society of Toxicology, 1978, 1988  
 Royal Dublin Society

Friday, August 14, 2009

Who's Who in the South and Southwest

Phi Zeta Society

Member and Founding Fellow, Testing Integrity Program (T.I.P)

Editorial Board: *Modern Horse Breeding*, 1988; *Journal of Equine Medicine and Surgery*, 1978

Guest Reviewer: *Science, Molecular Pharmacology, National Science Foundation, JAVMA, AJVR, J Eq Med & Surg, J Vet Pharm Ther, Eq Pract*

Friday, August 14, 2009

### **INVITED PRESENTATIONS, SEMINARS, EXPERT OPINIONS, AND RELATED EVENTS**

- 1) Ligand Binding Studies on  $\text{Na}^+ + \text{K}^+$  -ATPase, Department of Biochemistry, Michigan State University, Fall 1971.
- 2) The Cardiac Glycosides and the  $\text{Na}^+ + \text{K}^+$  -ATPase, Department of Chemistry, Michigan State University, Spring 1972.
- 3) First Int'l Symposium on the  $\text{Na}^+ + \text{K}^+$  -ATPase, New York Academy of Sciences Symposium, November 1973.
- 4) Ontario Veterinary Association Conference on Anesthesia in Lab Animal Medicine, Toronto, January 1974.
- 5) Neurochemistry Session Chairman, FASEB, Spring Meeting, Atlantic City, New Jersey, April 1974.
- 6) Cardiac Glycosides, Erythrophleum Alkaloids and the  $\text{Na}^+ + \text{K}^+$  -ATPase, Physiology Institute, University of Aarhus, Denmark, September 1974.
- 7) Erythrophleum Alkaloids and the  $\text{Na}^+ + \text{K}^+$  -ATPase, The Biochemical Society, Galway, Ireland, September 1974.
- 8) Cardiac Glycoside Inhibition of  $\text{Na}^+ + \text{K}^+$  -ATPase: Its relation to their Inotropic Actions, Department of Veterinary Science, University of Kentucky, October 1974.
- 9) Cardiac Glycosides, Erythrophleum Alkaloids and the  $\text{Na}^+ + \text{K}^+$  -ATPase, Medical College of Pennsylvania, Department of Pharmacology, December 1974.
- 10) Int'l Conference on Doping Research and Control, Paris, France, May 1975. ( First ICRAV! )
- 11) Cardiac Glycosides and the  $\text{Na}^+ + \text{K}^+$  -ATPase, Department of Pharmacology, University of Kentucky, September 1975.
- 12) The Pharmacology of Procaine in the Horse and Its Forensic Significance, School of Veterinary Medicine, University of Tennessee, Knoxville, November, 1975.
- 13) Photoaffinity Labeling of the  $\text{Na}^+ + \text{K}^+$  -ATPase, Biochemistry Department, University of Kentucky, February 1976.
- 14) Drugs, Racehorses and the Kentucky Equine Drug Research Program, National Association of State Racing Commissioners Meeting, San Diego, California, March 1976.
- 15) Interaction of Ouabain and Cassaine with  $\text{Na}^+ + \text{K}^+$  -ATPase and Its Relationship to their Inotropic Actions, presented at a symposium on Drug Action at the Molecular Level, London, England, April 1976.
- 16) The Pharmacology and Pharmacokinetics of Procaine in Thoroughbred Horses, presented at Second Int'l Conference on Research Doping and Control, Newmarket, England, May 1976.
- 17) The Pharmacology of Drugs Used in Racing, seminar, American Association of Equine Practitioners Meeting, Dallas, Texas, November 1976.
- 18) Furosemide in the Horse, National Association of State Racing Commissioners, San Juan, Puerto Rico, March 1977.
- 19) A Review of the Pharmacology of Furosemide in the Horse, presented to Third Int'l Doping Conference, Rome, Italy, March 1977.
- 20) The Pharmacology of Procaine in the Thoroughbred Horse, British Equine Veterinary Association Meeting, Dublin, Ireland, October 1977.

Friday, August 14, 2009

- 21) The Pharmacology of Furosemide in the Horse, Cornell University, Ithaca, New York, November 1977.
- 22) An In Depth Seminar on Medication and Equine Practice, AAEP Meeting, Vancouver, British Columbia, December 1977.
- 23) The Pharmacology of Furosemide in the Horse, Department of Pharmacology, University of Washington, Seattle, December 1977.
- 24) Seminars on Procaine and Lasix® in Thoroughbred Horses (Postgraduate Veterinarians Course), Michigan State University, January 1978.
- 25) Session Chairman, Pharmacokinetics Section, 1st Conference of American College of Veterinary Pharmacologists, Baton Rouge, Louisiana, March 1978.
- 26) "Pre-race Testing", presentation to National Association of State Racing Commissioners, Miami, Florida, March 1978.
- 27) Seminar, "The Pharmacology of Furosemide in the Horse," Colorado State University, Fort Collins, April 1978.
- 28) Seminar, "The Pharmacology of Furosemide in the Horse," Purdue University, Lafayette, Indiana, April 1978.
- 29) Seminar, "Plasma and Urinary Concentrations of Drugs and Pharmacological Effects," Chicago Equine Veterinarians Group, May 1978.
- 30) The Pharmacology of Narcotic Analgesics in the Horse: Studies on the Detection, Pharmacokinetics, Urinary Clearance Times and Behavioral Effects of Pentazocine and Fentanyl in the Horse, Fourth Int'l Doping Conference, The Curragh, Ireland, 1978.
- 31) White CG, Woods WE, Tobin T: The Pharmacology of Reserpine in the Horse, I. Effects of Reserpine and Imipramine on Platelet Uptake of Serotonin, presentation and publication, Seventh Int'l Congress of Pharm, Paris, France, 1978.
- 32) The Pharmacology of Narcotic Analgesics in the Horse, Purdue University, Lafayette, Indiana, November 1978.
- 33) Tobin T, Maylin GA, Fregin F et al.: Drugs and Performance Testing in Racehorses, presentation to NASRC, San Francisco, California, March 1978.
- 34) Tobin T: Medication Testing in North America, presentation to European analysts, Cologne, Germany, March 1979.
- 35) Moderator, Pharmacological Studies on Doping Drugs in Horses, Third Int'l Symposium on Equine Medication Control, Lexington, KY, June 1979.
- 36) Tobin T: Lasix® in the Horse, Jockey Club Round Table Conference, Saratoga Springs, New York, August 1979.
- 37) Race Horse Medication, Pharmacologic, Forensic and Administrative Considerations, University of Louisville, KY, September 1979.
- 38) Overview of Antibiotic Therapy in the Horse, Kentucky Equine Practitioners, November 1979.
- 39) Guest Lecturer, College of Veterinary Medicine, University of Missouri, Columbia, Medication and Medication Control in Racing Horses, November 1979.
- 40) Equine Pharmacology Workshop, Columbia, Missouri, November 1979.
- 41) Overview of Basic Antibiotic Therapy in the Horse, 25th AAEP Meeting, Miami, Florida, December 1979.
- 42) Guest Lecturer, Clinical Veterinary Pharmacology, College of Veterinary Medicine, Colorado State University, Fort Collins, January 1980.

Friday, August 14, 2009

- 43) The Pharmacology of Furosemide in the Horse, Diagnostic Laboratory, Iowa State University, Ames, February 1980.
- 44) Drugs and the Performance Horse, Department Large Animal Medicine, University of Guelph, Guelph, Ontario, March 1980.
- 45) Recent Advances in Studies on the Drug-Receptor Complexes, with Special Reference to Na<sup>+</sup> + K<sup>+</sup> - ATPase and the Opiate Receptor, Second Symposium on Veterinary Clinical Pharmacology and Therapeutics, University of Pennsylvania, June 1980.
- 46) Two invited papers on a special session on "Medication in Competing Horses," British Equine Veterinary Association:
- 47) (I) Survey of Positive Results from Racecourse Anti-doping Samples in the USA.
- 48) (II) Experiences in the Application of Pre-race Dope Testing.
- 49) Bayes' Theorem and its Significance in Equine Drug Testing, presented at AORC Conference NASRC Meeting, Lexington, KY, April 1980.
- 50) The Pharmacology of Furosemide in the Horse, presented at the 1980 AAEP Meeting, Anaheim, California.
- 51) The Pharmacology of the Corticosteroids in the Horse, presented at 1980 AAEP Meeting, Anaheim, California.
- 52) The Role of Simple Behavioral Models in Performance Studies. Seminar on Drugs in Horse Racing, Racecourse Security Services, Newmarket, England, February 1981.
- 53) Drugs and the Performance Horse, Lexington Rotary Club, March 1981.
- 54) Drugs and the Performance Horse, Student Colloquium, Louisiana State University, Baton Rouge, April 1981.
- 55) Pharmacology of Acepromazine in the Horse, Fourth Int'l Symposium on Equine Medication Control, Melbourne, Australia, May 1981.
- 56) Phenylbutazone Use Under a Controlled Medication Program, Fourth Int'l Symposium on Equine Medication Control, Melbourne, Australia, May 1981.
- 57) An Overview of Antibiotics and Anti-Inflammatory Therapy in the Horse, Quebec Veterinarians Conference, Montreal, Canada, September 1981.
- 58) An Overview of Performance Horse Medication and Its Control, Mid-American Veterinarians Conference, Louisville, KY, October 1981.
- 59) Guest Lecturer, College of Veterinary Medicine, Gainesville, Florida, September/October 1981.
- 60) Drugs and the Performance Horse, Student Chapter of AAEP, Gainesville, Florida, October 1981.
- 61) "Directions," with Carolyn Kell, thirty-minute television program on Drugs and the Performance Horse, Kentucky Educational Television, October 1981.
- 62) Drugs and the Performance Horse, College of Veterinary Medicine, Virginia Tech, Blacksburg, February 1982.
- 63) Endotoxin Shock in Horses, American Society for Veterinary Pharmacology and Experimental Therapeutics, Ohio State University, Columbus, April 1982.
- 64) Pharmaceutical Manufacturer's Association, invited presentation on "Drugs, Medications, and Racing Horses," Louisville, KY, August 1982.
- 65) Symposium on Drugs in Horse Racing and paper on Effects of Drugs on Equine Performance, Fall meeting American Society for Pharmacology and Experimental Therapeutics, University of Louisville, KY, August 1982.

Friday, August 14, 2009

- 66) Guest Lecturer, College of Veterinary Medicine, University of Florida, Gainesville, September/October 1982.
- 67) QED BBC Television Interview on Anabolic Steroids and Racing Horses, Oxford, England, September 1982.
- 68) The Effects of Drugs on Equine Performance, First Int'l Conference on Equine Exercise Physiology, Oxford, England, September 1982.
- 69) Drugs, Medications and Breeding Horses, Munster Thoroughbred Breeders Society, Cashel, Ireland, October 1982.
- 70) Problems, Perceptions and Scientific Realities in Race Horse Medications, invited presentation, Auburn University, Auburn, Alabama, October 1982.
- 71) Drugs and Performance Horses, Kentucky Horsemen's Short Course, October 1982.
- 72) Drugs and Performance Horses, University of Calgary, Canada, February 1983.
- 73) Drugs and Performance Horses, University of Saskatoon, Saskatchewan, Canada, February 1983.
- 74) Drugs and Performance Horses, Harness Horsemen's Association, Columbus, Ohio, March 1983.
- 75) Testimony before the Judiciary Committee, Subcommittee on Criminal Justice, Washington, DC, May 1983, "Phenylbutazone, Furosemide and Drug Testing."
- 76) Drugs and Racing Horses, College of Veterinary Medicine, University of Illinois, November 1983.
- 77) Phenylbutazone and Furosemide in the Racing Horse, Veterinary College of Ireland, Dublin, Ireland, January 1984.
- 78) Drugs, Equine Performance, Drugs in the Growing Horse, Horsemen's Short Course, University of Nevada, Reno, February 1984.
- 79) Plasma Levels of Phenylbutazone in Racing Horses, invited presentation American Academy of Veterinary Pharmacology and Therapeutics, College Station, Texas, April 1984.
- 80) Pain Perception and Control in Equines, Proceedings of the Fifth Int'l Symposium on Equine Medication Control, Toronto, Canada, June 1984.
- 81) The Foreign Substance Rule: Presentation to the Board of the HBPA, Cleveland, Ohio, July 1984.
- 82) Drug Detection in Racehorses, Forensic Decisions on Drug Testing in Racehorses, Antibiotics in Equine Medicine, four hours of lecture, South Florida Veterinary Medical Association, Miami, Florida, Labor Day, 1984.
- 83) Drugs, Medication Rules and Performance Horses, four hour seminar, The Caribbean Veterinary Medication Association, Trinidad, November 1984.
- 84) Medication and Testing for Drugs in Racehorses, Transylvania University, Lexington, KY, February 1985.
- 85) Drug Detection in Racehorses, Forensic Decisions Based on Drug Detection in Racehorses and Antibiotics in Equine Medicine, four hour seminar, New Jersey Veterinary Medical Association, Atlantic City, March 1985.
- 86) Drug Detection in Racing Horses and Antibiotic Use in Equine Medicine, four hour seminar, Indiana Veterinary Medical Association, Indianapolis, March 1985.
- 87) Experiences as an Expert Witness, Educating People While Under Oath, presented at the Sixth Int'l Symposium on Equine Medication Control, Hong Kong, 1985.
- 88) Drugs and Racing Horses, New Hampshire Vet Med Assoc., New Hampshire, February 1986, four hours of continuing education.



Friday, August 14, 2009

- 89) Keeping Track, California Thoroughbred Breeders Assoc., Breeders Cup Meet, Oct. 27, 1986, Pasadena, California, Use of Medication During a Horse's Racing Career: Does It Mask Inheritable Defects.
- 90) Drugs and the Performance Horse, Irish Veterinary Association Meeting, Kildare, Ireland, December 1987.
- 91) Immunoassay Testing in Equine Forensic Chemistry, Southern Group, Irish Thoroughbred Breeders, Killoran Lodge, Co. Tipperary, Ireland, September 1988.
- 92) ISA Testing for Drugs: A New Technology, Institute for Mines and Minerals, Lexington, KY, September 1988.
- 93) ELISA Testing for Drugs in Horses: A New Technology, Bologna, Italy, October 1988.
- 94) ELISA Testing for Drugs in Horses: A New Drug Testing Technology, North American Judges and Stewards Conference, Livonia, Michigan, October 1988.
- 95) ELISA Testing for Drugs in Horses, Harness Expo, Pompano Beach, Florida, November 1988.
- 96) Performance Effects of Drugs in Horses, American Association of Equine Practitioners, San Diego, California, December 1988.
- 97) ELISA Testing for Drugs in Racing Horses, U.N.I.R.E, Rome, Italy, March 1989.
- 98) Drugs, Equine Performance and ELISA Testing for Drugs, Equitana, Essen, West Germany, April 1989.
- 99) Bain Fallon Lectures, eight lectures on Equine Pharmacology and Drug Testing, Coffs Harbour, Australia, May 1989.
- 100) Invited Lecture Tour, North and South Islands, New Zealand, three locations, 18 lectures, May 1989.
- 101) Thoroughbred Racing Protective Bureau, ELISA Testing in Racing Horses, Minneapolis, Minnesota, October 1989.
- 102) Quality Assurance Program Legal Seminar, St. Louis, Missouri, Trace Levels in Equine Drug Testing, November 1989.
- 103) Drug Testing in Racing Horses, four seminars in Mexico City, December, 1989.
- 104) Invited presentations, Eighth International Symposium on Equine Medication Control, Harare, Zimbabwe, February 1990.
- 105) Southern Arizona Veterinary Medical Association, Tucson, Arizona, six seminars on medication in Racing Horses, June 1990.
- 106) ELISA Testing in Racing Horses, Central Kentucky Farm Manager's Club, June 1990.
- 107) Five lectures to veterinarians, Buenos Aires, November 1990.
- 108) Four lectures to administrators, Buenos Aires, November 1990.
- 109) Twelve lectures to Oklahoma Veterinary Medical Association, Oklahoma City, Oklahoma, January 11-12, 1991.
- 110) Drug Testing and the Graduate Center for Toxicology at the University of Kentucky, Kentucky State University, February 1991.
- 111) Drug Testing and Exotic Drugs in Racing Horses, Johnson & Wells University, Providence, Rhode Island, February 1991.
- 112) Six presentations to the South African Equine Practitioners Association, February 18-19, 1991, Caledon, Cape Province, South Africa.
- 113) Presentation to Capetown Turf Club Members on ELISA Testing and Drug Testing in Racing Horses, February 19, 1991.

Friday, August 14, 2009

- 114) Presentation to Durban Turf Club Members on ELISA Testing and Drug Testing in Racing Horses, February 20, 1991.
- 115) Presentation to Turffontein (Johannesburg) Turf Club Members on ELISA Testing and Drug Testing in Racing Horses, February 21, 1991.
- 116) Expert testimony, South Africa, Affidavit for Turffontein Turf Club on Narcotic Analgesics in Racing Horses. February 1991.
- 117) Four presentations to the Indiana Equine Veterinarians Group on Drugs, Drug Testing and ELISA Testing in Racing Horses, Andersonville, Indiana, March 13, 1991.
- 118) Drugs, Racehorses and Illegal Drug Detection, Benedict College, Columbia, South Carolina, April 1991.
- 119) Trace Levels of Medications in Racing Horses, invited presentation to the floor, Racing Commissioners International Meeting, Cincinnati, Ohio, May 1991.
- 120) American Association of Clinical Chemistry, Southeast Ohio Valley Group, ELISA Based Analytical Procedures: A Revolution in Equine Drug Testing, Lexington, Kentucky, October 12, 1991.
- 121) Expert Testimony on Testosterone in Racing Horses on behalf of Iowa Racing Commission Hearing, December, 1991.
- 122) Expert testimony, Cook County Courthouse, State vs Wilkie, June, 1991, on behalf of prosecutor.
- 123) Two phone depositions, Hearing on Glycopyrrolate, California Horse Racing Board, January & February, 1992, commission witness.
- 124) Deposition/Affidavit on behalf of the Colorado State Racing Commission on Pharmacology of Isoxuprine, August, 1992.
- 125) Immunology and the Betting Window, presentation to the Clinical Ligand Assay Society, St. Louis, Missouri, November, 1992.
- 126) Immunology and the Betting Window. Presentation to Sigma Diagnostics Group, Sigma Chemical Company, St. Louis, Missouri, November, 1992.
- 127) Review of videotape for the Suretie of the Province of Quebec, Quebec, Canada.
- 128) Use of Analgesics in Racing Horses and Their Regulatory Control, invited presentation, British Equine Veterinary Association, September, 1993.
- 129) Four lectures on Control of Medications in Racing Horses, Royal Western India Turf Club, Bombay, India, January 3, 1994.
- 130) Presentation on Control of Therapeutic Medications in Racing Horses, Kunigal Stud, Bangalore, January 5, 1994.
- 131) Presentation on Control of Medication in Racing Horses to HRH Prince Miteb, HH Prince Sultan, the Executive Director of the Riyadh Equestrian Club and the club's veterinarians, Riyadh, Saudi Arabia, January 11, 1994.
- 132) Invited presentation on Thresholds and Clearance Times for Therapeutic Agents in Racing Horses, Winter meeting of HBPA, Hot Springs, Arkansas, February 21, 1994.
- 133) Invited presentation on Thresholds and Clearance Times for Therapeutic Agents in Racing Horses, ARCI meeting, Los Vegas, Nevada, May 23, 1994.
- 134) Invited presentation on No Effect Thresholds for Local Anesthetics in Racing Horses, 10th International Conference of Racing Analysts and Veterinarians, Stockholm, Sweden, July 7, 1994.
- 135) Presentation on Workshop on Testing for Therapeutic Medications, Environmental and Dietary Substances in Racing Horses to National Summer HBPA Meeting, Chicago, Illinois, July 25, 1994.
- 136) Workshop on Testing for Therapeutic Medications, Environmental and Dietary Substances in Racing Horses, Lexington, Kentucky, August 18-19, 1994.

Friday, August 14, 2009

- 137) Invited presentation on the outcome of the Workshop on Testing for Therapeutic Medications, Environmental and Dietary Substances in Racing Horses, AAEP Annual Meeting, Vancouver, British Columbia, Saturday, December 3, 1994.
- 138) Invited presentation, panel discussion "Are You Positive You Are Negative", University of Arizona Conference on Racing, Tucson, Arizona, December 8, 1994.
- 139) Report on "Thresholds for Therapeutic Medications in Racing Horses", Spring meeting of the National Horsemen's Benevolent and Protective Association, Houston, Texas, April 13, 1995.
- 140) The Need for Thresholds for Therapeutic Medications in Racing Horses, Farm Manager's Club, Lexington, Kentucky, April 4, 1995.
- 141) Thresholds for Therapeutic Medications in Racing Horses: A Television/Live Presentation at the ARCI Meeting in Oklahoma City, Oklahoma, April 23, 1995. Arranged for TV clips by Wayne Lukas, Dick Mandella and John Forsythe, structured program in association with Scott Stanley and Rick Sams.
- 142) Television clips: a) Amantadine and Rimantadine Prophylaxis of Equine Influenza, b) Thresholds for Therapeutic Medications in Racing Horses. Clips made April 18, 1995, for Derby release.
- 143) University of Kentucky Equine Law Seminar, invited presentation on Thresholds in Equine Medication Control, Thursday, May 4, 1995.
- 144) Kentucky Equine Research Short Course "Recent Advances in Equine Nutrition", "Drugs and Drug Testing: What Should the Feed Manufacturer Know," May 11, 1995, Lexington, Kentucky.
- 145) Presentation, Irish Turf Club Analytical Laboratory Review Committee, June 21, 1995.
- 146) Invited presentation: "Update on Equine Medication Research," Salishan Lodge, Oregon, July 25, 1995. Voted Man of the Year by the National HBPA.
- 147) Calgary Exhibition and Stampede: Opinion letter to defuse Chuck Wagon Racing Crisis, August, 1995.
- 148) Expert opinion on Clanobutin, The Southern Africa Jockey Club, Nov. 1995.
- 149) Invited Review, Irish Turf Club, September 1995, Kildangan Stud, Co Kildare
- 150) Invited Presentations on Equine Medication. Indiana Veterinary Medical Association. February, 1996.
- 151) Invited Presentation, "Doping or Therapeutic Medication" The Dutch Association of Equine practitioners, Amersfoort, Holland, March 6, 1996.
- 152) "Medication and Medication Control in Racing Horses," Hirsch Series Speaker Lectures, the University of Tucson, Tucson, Arizona, March 29, 1996.
- 153) Expert opinion on Sodium Bicarbonate: For the Oregon State Racing Commission, March, 1996.
- 154) Invited Presentation, International Conference of Racing Analysts and Veterinarians, Report on Workshop on "Testing for Therapeutic Medications, Environmental and Dietary Substances in Racing Horses, May 1966, Brisbane, Australia.
- 155) Invited Presentation, "Therapeutic Medications, "No Effect Thresholds" and the Performance Horse" The Members Room, Kalgoorlie Turf Club, Kalgoorlie, Western Australia, May 27, 1996.
- 156) Invited Presentation, "Therapeutic Medications, "No Effect Thresholds" and the Performance Horse" The Southern Districts Thoroughbred Association Supported by The Breeders, Owners, Trainers, and Reinsmen Association Trotting Association, Golden Nugget Room, Gloucester Park, Perth, Western Australia, May 30, 1996.
- 157) Invited Presentation, "Therapeutic Medications, "No Effect Thresholds" and the Performance Horse" A Presentation at Eilerslie Racecourse, Auckland, New Zealand, June 1, 1996.
- 158) "Therapeutic Medications, "No Effect Thresholds" and the Performance Horse" A Presentation to Equine Practitioners and Regulators, Auckland University Medical Center, New Zealand, June 2, 1996.
- 159) "The Detection, Actions, Uses and Effects of Drugs and Medications in Performance Horses". A series of seminars to BHP staff, Limerick, Ireland, July 1-5, 1996.

Friday, August 14, 2009

- 160) "The Philosophical Basis For "No Effect Thresholds" or "NETs." Annual Conference of the American Veterinary Medical Association, Louisville, Kentucky July 21, 1996.
- 161) South American Anti-Doping Technology and Medication Testing Conference - The Jockey Club of Brasileiro. August 8<sup>th</sup> and 9<sup>th</sup>, 1996, The Rio De Janeiro JCB Central Offices.
- 162) "Performance Affecting Agents and Medications in Racing Horse: An Overview of Their Uses and Effects in Racing Horses"
- 163) "Testing for Performance Affecting Agents and Medications in Racing Horses"
- 164) "Testing for Therapeutic Medications, Environmental and Dietary Substances: The Need for Limited Sensitivity Testing".
- 165) "The North American Approach to Medication Control; The ARCI Foreign Substances Classification System and the American Association of Equine Practitioners Therapeutic Medication List".
- 166) "No Effect Thresholds": One North American Approach to Limiting the Sensitivity of Testing for Approved Therapeutic Agents.
- 167) The Jockey Club of Sao Paulo, Sao Paulo, Brazil, August 12<sup>th</sup>, 1996. Two hour seminar on "Equine Medication Control in North America and "No Effect Thresholds" or NETS.
- 168) UNESP at Jaboticabal, Jaboticabal Veterinary School, August 13<sup>th</sup>, 1996. One hour seminar on "Equine Medication Control in North America and "No Effect Thresholds" or NETS.
- 169) Presentations to the "Confederacion Hipica De Puerto Rico, Inc." Second Technical Convention. El Conquistador Beach Resort, Puerto Rico, Sept. 15<sup>th</sup>, 1996.
- 170) Trinidad and Tobago Racing Authority, Santa Rosa Racing Facility, Churchill Roosevelt Highway, O'Meara, Arima, Trinidad. September 27<sup>th</sup>, 1996.
- 171) "Performance Affecting Agents and Medications in Racing Horse: An Overview of Their Detection, Actions, Effects and Uses."
- 172) "Limited Sensitivity Testing for Therapeutic Medications, the ARCI Foreign Substances Classification System, the American Association of Equine Practitioners Therapeutic Medication List and Developing "No Effect Thresholds" or NETs.
- 173) Environmental and Dietary Contaminants and "Positives". AAEP Denver, Sunday, December 8, 1996.
- 174) Quantification of Pharmacological Response in the Horse." U of Arizona RTIP, Tucson, Dec 11<sup>th</sup>, 1996.
- 175) "Thresholds Research Progress." Two presentations to HBPA December 15<sup>th</sup> and 16<sup>th</sup>, Phoenix, AZ, Dec. 1996.
- 176) Video Teleconference; "Overview of Medication Control" distance seminar format for Maryland practitioners, presented, March 1997.
- 177) Presentations on "Drug Detection and Control in Racing Animals" at the Scientific Centre for Racing Camels, Al Ain, Abu Dhabi, United Arab Emirates, April 7-8<sup>th</sup> 1997.
- 178) "Regulators, Regulations and the Marketing of Therapeutic Medications" April 16-17<sup>th</sup> 1997, Merck Inc., Rahaway, New Jersey.
- 179) Presentation on Equine Protozoal Myelitis, Equine Dressage Clinic, New Jersey. April 19<sup>th</sup> 1997.
- 180) Presentation on analytical/pharmacological relationships for Lidocaine, Association of Racing Commissioners International meeting. Boston, Sunday April 20<sup>th</sup>, 1997.
- 181) Review of analytical/pharmacological relationships for therapeutic and performance altering drugs, seminar presentation, BHP, Limerick, Ireland, July 3, 1997.
- 182) Presentation on "Developing and Marketing ELISA Tests in an Evolving Regulatory Environment". Washington, DC. July 17-18<sup>th</sup>, 1997.

Friday, August 14, 2009

- 183) "Analytical/Pharmacological Relationships for Therapeutic Medications". Summer HBPA conference, Las Vegas, Nevada, 1997.
- 184) "Analytical Pharmacological Relationships: An Overview of Progress". Testing Integrity Program, New Bolton Center, Philadelphia, PA., September, 1998.
- 185) Presentation on "Lasix and EIPH" on behalf of the Thoroughbred Owners & Breeders Association. The Breeder's Cup, Hollywood Park, California, 1997.
- 186) "Analytical Pharmacological Relationships" update on progress in this field. Presented to the National HBPA, Ft. Lauderdale, Florida, January, 1998.
- 187) Television clip – Superscience "Diclazuril and EPM," Monday, February 9<sup>th</sup>, Channel 36.
- 188) Presentation on "Diclazuril and Equine Protozoal Myelitis" Eighth International Conference on Infectious Diseases. Dubai, United Arab Emirates, March 1998.
- 189) Presentations on "Analytical-Pharmacological Relationships," Reviews and specific cases, the 12<sup>th</sup> International Conference of Racing Analysts and Veterinarians, Vancouver, British Columbia, April, 1998.
- 190) "Hay, Oats & Water – Then (?) and Now," Presentation to the Thoroughbred Owners of California, July 23, Del Mar, California, 1998.
- 191) "Hay, Oats & Water – Then (?) and Now" Presentation to the Medication Committee and the Board of the National HBPA, Des Moines, Iowa, July 26<sup>th</sup> and 27<sup>th</sup>, 1998.
- 192) "EPM and the Performance Horse: New Treatments and Management Options" Presented at the Kentucky Horse Council Seminar, Red Mile Place, Lexington, November 25<sup>th</sup>, 1998.
- 193) "Limits on the Sensitivity of Testing" Conference on Applied Biotechniques in the Equine, Brazilian Horse Breeders. Belo Horizonte, Brazil, November 25<sup>th</sup>, 1998.
- 194) "Limits on the Sensitivity of Testing" Sao Paulo Veterinarians and Regulators Group, Sao Paulo, Brazil, November 26<sup>th</sup>, 1998.
- 195) "Limits on the Sensitivity of Testing" College of Veterinary Medicine, Jaboticabal, Brazil, November 27<sup>th</sup>, 1998.
- 196) Representing Testing Integrity Program (TIP) at the RaceTrack Industry Testing Program, Tucson, Arizona, December 10<sup>th</sup>, 1998.
- 197) "Analytical Techniques in Racing Chemistry" BHP Laboratories, Limerick, Ireland. January 8<sup>th</sup>, 1999.
- 198) "Limitations of the Sensitivity of Testing". Presentation to Harness Racing Stewards, Perth, WA, January 11<sup>th</sup>, 1999.
- 199) Clenbuterol: Review of current research in this area. Presentation to the Medication Committee, National Horsemen's Benevolent & Protective Association, January 16<sup>th</sup>, Ft. Lauderdale, FL.
- 200) Seminar for Merial on introduction of Omeprazole in Equine Market. Boston, MA, February 26, 1999.
- 201) "Panel of Experts on Medication" March 6<sup>th</sup>, 1999, Orlando Florida. Thomas Tobin, Richard Sams, George Maylin, and Thomas Lomangino. Hosted by Stan Bergstein of Harness Tracks of America.
- 202) Six plus presentations to the Association of Official Racing Chemists on Drug Testing in Racing Horses, March 10<sup>th</sup> - March 16<sup>th</sup>, 1999, New Orleans, Louisiana
- 203) Presentation on Drug Testing and medication control, March 26<sup>th</sup>, 1999, Dover, Delaware, Seminar @ Delaware Harness Commission Offices.
- 204) Seminar on Medication Control, June 24, 25<sup>th</sup>, 26<sup>th</sup>, 1999, Boston, MA for The Controlled Release Society.

Friday, August 14, 2009

- 205) Attendance at the National Council of Legislators from Gaming States (NCLGS) Seminar, July 11<sup>th</sup>, 1999, Louisville, KY
- 206) Presentation on Clenbuterol, July 16<sup>th</sup> - 17<sup>th</sup>, 1999, Chicago, Illinois. A ssociation of Racing Commissioners International (ARCI) Workshop.
- 207) Attendance at Summer Meeting of The Horsemen's Benevolent and Protective Association Meeting, August 2<sup>nd</sup> - 6<sup>th</sup>, 1999, Seattle, Washington.
- 208) Presentation to Thoroughbred Owners of California, Del Mar Racetrack, August 7<sup>th</sup>, 1999, San Diego, California.
- 209) "Seminar on Clenbuterol"; August 21<sup>st</sup>, 1999; Association of Racing Commissioners International, Del Mar Hilton; San Diego, CA
- 210) Presentation on Clenbuterol Regulation. October 9<sup>th</sup> - 11<sup>th</sup>, 1999, Palm Beach, FL. Presentation on Clenbuterol Regulation. National Association of Parimutual Regulators.
- 211) Presentation on "Equine Medication Control: Clenbuterol and Cocaine." National HBPA Meeting, New Orleans, LA, January 30 - February 1, 2000.
- 212) "SuperTesting": Seminar at the Gluck Equine Research Center with Mr. James Gallagher of the NTRA February 7<sup>th</sup>, 2000.
- 213) Organization of Racing Investigators, Keeneland, Lexington, KY. "Past, Present and Future of Horse Drug Testing". Wednesday, March 22<sup>nd</sup>, 2000.
- 214) Testing Integrity Program, Davis, California. M arch 30<sup>th</sup> - April 1, 2000. Presentations on Clenbuterol, Cocaine and Pyrilamine.
- 215) "Therapeutic Medication of Racing Horses: A Short Course"; Kentucky Racing Commission/Kentucky Racing Commission/Kentucky Equine Drug Council. Short Course, Three Hours. Keeneland, April 21<sup>st</sup>, 2000.
- 216) New Directions in Equine Drug and Medication Testing. Equine Law Section of the Kentucky Bar Association. Marriott Griffin Gate, May 3, 2000.
- 217) "Therapeutic Medication of Racing Horses: A Short Course": K entucky Racing Commission/Kentucky Racing Commission/Kentucky Equine Drug Council. Short Course, Three Hours. Churchill Downs, June 8, 2000.
- 218) Invited presentation and discussion group on Product Entry into the Equine Market, Boehringer/3M at the 3M Corporate Retreat, Wonewok, Wisconsin, Juhe 9-12, 2000.
- 219) Representing the Department and the College of Agriculture at the "Memoire" of Mr. Cedric Holtz, Dijon, France, July 26, 2000.
- 220) Review of Equine Research. N ational Horsemen's Benevolent and Protective Association, Minneapolis, Minnesota, August 4, 2000. Charles Hughes and Thomas Tobin
- 221) Clenbuterol in the Horse: An Overview. T he 3M Corporation, Minneapolis, Minnesota, August 5, 2000. Charles Hughes and Thomas Tobin.
- 222) Invited presentation to 13<sup>th</sup> International Conference of Racing Analysts and Veterinarians. " No Effect Levels – an Overview and a Pharmacological Approach." Cambridge, England, August 9, 2000.
- 223) "Therapeutic Medication of Racing Horses: A Short Course": K entucky Racing Commission/Kentucky Racing Commission/Kentucky Equine Drug Council. Short Course, Three Hours. Ellis Park, June 8, 2000.
- 224) Eighth Testing Integrity Workshop. "High Sensitivity and High Throughput ELISA and Mass Spectral Analysis." Lexington, Kentucky. October 6,7, and 8, 2000.

Friday, August 14, 2009

- 225) "Therapeutic Medication and Racing Horses: A Short Course." Extended program with three guests faculty and 50+ registrants. Churchill Downs, Louisville, KY. October 31, 2000.
- 226) "Medication: Then and Now." Stewards Accreditation Short Course. University of Louisville, November 13, 2000.
- 227) Invited panelist, "Therapeutic Medication and the Racing Horse." The American Association of Equine Practitioners Meeting, San Antonio, Texas. November, 2000.
- 228) Invited speaker, Testing Integrity Program, Race Track Industry Program. Tucson, Arizona. December, 2000.
- 229) Therapeutic Medication & Racing Horses: A Short Course: Turfway Park, LLC, Florence, Kentucky. March 20, 2001. Guest Faculty: Dr. Mitzi Fisher, Dr. Thomas Wood; 40 registrants.
- 230) Therapeutic Medication & Racing Horses: A Short Course: Turfway Park, LLC, Florence, Kentucky. March 20, 2001. Guest Faculty: Dr. Mitzi Fisher, Dr. Thomas Wood; 40 registrants.
- 231) The Commission Veterinarian/Equine Medical Director 2001: A Short Course: Kentucky Derby Museum, Louisville, Kentucky. May 1-2, 2001. Extensive guest faculty; 80+ registrants/participants, extensive international list of attendees.
- 232) Presentation on the Mare Reproductive Loss Syndrome (MRLS), Keeneland, May 28<sup>th</sup>, 2001.
- 233) Board Meeting, Thoroughbred Owners of California, Del Mar, California, Saturday, July 21<sup>st</sup>, 2001.
- 234) With Dr. Levent Dirikolu, presentation on Formulation Strategies for Clazuril Anti-Protozoals, Bayer Animal Health, Kansas City, Kansas, August 10<sup>th</sup>, 2001.
- 235) "Zero Tolerance – A Myth" presentation to the Board of the National Horsemen's Benevolent and Protective Association, Copley Plaza, Boston, MA, Monday, August 13<sup>th</sup>, 2001.
- 236) College of Veterinary Medicine, Cordoba, Argentina, August 16<sup>th</sup>, 17<sup>th</sup> and 18<sup>th</sup> – 14 lectures in Continuing Education Short Course, Honorary Faculty Member, College of Veterinary Medicine of the Province of Cordoba.
- 237) Cordoba: History of Equine Medication Control: Medication Control from the early Eighteen-hundreds to today.
- 238) Cordoba: Equine Drugs and Medications: Their absorption, distribution, metabolism and elimination in the horse. Equine Drug Metabolism: an overview of why chemists test horse urine. Equine Drug Testing: an overview.
- 239) Cordoba: An overview of the Pharmacological Actions of Performance altering Drugs effects, including how drugs and medications are used to influence racing performance.
- 240) Cordoba: The "NO Effect Threshold" concept and how "No effect Thresholds" are developed.
- 241) Cordoba: The Narcotic Analgesics and their actions and detection in the Horse.
- 242) Cordoba: Central Stimulant Drugs and their actions and effects.
- 243) Cordoba: Selected Tranquilizers and their actions and effects (class 2 agents).
- 244) Cordoba: Selected Tranquilizers and their actions and effects (class 3 agents).
- 245) Cordoba: Selected Broncodilators and their actions and effects.

Friday, August 14, 2009

- 246) Cordoba: Selected Non-steroidal Anti-inflammatory Medications and their actions and effects.
- 247) Cordoba: Furosemide and other agents used in the control of Exercise Induced Pulmonary Hemorrhage...
- 248) Cordoba: Anabolics and their actions and effects.
- 249) Cordoba: The rules of the Therapeutic Road.
- 250) Cordoba: Equine Protozoal Myelitis: A New Therapeutic Approach.
- 251) Dubail Grass Sickness Research Group, Dubai, UAR. Presentation on "Toxicokinetics of Cyanide in the Horse", September 22<sup>nd</sup>, 2001. Dubai Millenium Medal.
- 252) Chicago Hilton, Boshringer Ingelheim Working Group on Torpex. Presentation on Detection Times for Albuterol after Administration by Torpex. October 16<sup>th</sup>, 2001.
- 253) Keeneland Racecourse. Presentation and Press Conference on "Proposed Policy on Drug and Medication Testing" by the National Horsemen's Benevolent and Protective Association., October 18<sup>th</sup>, 2001.
- 254) Attendance and Presentations at TIP Meeting and AAEP Medication Summit, Tucson, Arizona, December 2001.
- 255) "Overview of the Proposed Policy on Drug Testing and Medication Control," Las Vegas, Nevada, Tuesday, January 22<sup>nd</sup>, 2002.
- 256) "An Overview of MRLS", Karakata Sales Complex, Karakata, New Zealand. Sponsored by the University of Auckland, January 26<sup>th</sup>, 2002.
- 257) "An Overview of Equine Medication Research". Presented to the Board of the Florida HBPA, Gulfstream Park, February 14<sup>th</sup>, 2002.
- 258) Equine Medication Control Thresholds: An Overview. The Conference Center, Bank of Nova Scotia, Kingston, Jamaica, April 18<sup>th</sup>, 2002.
- 259) Furosemide and EIPH: An Overview. The Conference Center, Bank of Nova Scotia, Kingston, Jamaica, April 18<sup>th</sup>, 2002.
- 260) Highest No-Effect Dose for Pharmacological Responses to Acepromazine in the Horse: A Preliminary Communication. Presented to the Research Committee of the Testing Integrity Program, May 1<sup>st</sup>, 2002.
- 261) "ELISA Testing of Racing Horses: A Regulatory Revolution". Presented for the California Association of Toxicologists, Tempe, Arizona, May 18<sup>th</sup>, 2002.
- 262) "Town and Gown: Academic 'Spin-offs' in the Bluegrass". Presented to the Lexington Kiwanis Club, Kentucky Inn, Lexington, Kentucky, July 9<sup>th</sup>, 2002.
- 263) Intellectual Property Presentation with Videotape in Support of a Patent Application on a New Equine Sedative, Analgesic and Tranquilizer. The Patent Office, Washington, D.C., July 11<sup>th</sup>, 2002.
- 264) Presentation to Medication Committee of the National Horsemen's Benevolent and Protective Association, Vancouver, Canada, July 19<sup>th</sup>, 2002.
- 265) An overview of current drug issues in racing and comparison of medication rules around the world. Australian Equine Veterinary Association invited lecture, Bain-Fallon Lectures, The Gold Coast, Australia, July 2002.



Friday, August 14, 2009

- 266) Practical experiences with drug testing in the pre-purchase in the USA and other places. Australian Equine Veterinary Association invited lecture, Bain-Fallon Lectures, The Gold Coast, Australia, July 2002.
- 267) Factors affecting the excretion time and detection limits for NSAIDs-PBZ, finadyne, ketoprofen, medofenamic acid, meloxicam, etc. Australian Equine Veterinary Association invited lecture, Bain-Fallon Lectures, The Gold Coast, Australia, July 2002.
- 268) Sensitivity of testing, threshold levels and minimum pharmacologic activity. Australian Equine Veterinary Association invited lecture, Bain-Fallon Lectures, The Gold Coast, Australia, July 2002.
- 269) Excretion and detection of corticosteroids – triamcinolone, Depomedrol, Voren depot, dexamethasone, betamethasone, etc. Australian Equine Veterinary Association invited lecture, Bain-Fallon Lectures, The Gold Coast, Australia, July 2002.
- 270) Anabolic steroids – excretion and detection of oil and water based, injectable and oral. Australian Equine Veterinary Association invited lecture, Bain-Fallon Lectures, The Gold Coast, Australia, July 2002.
- 271) Sedatives – excretion and detection. Australian Equine Veterinary Association invited lecture, Bain-Fallon Lectures, The Gold Coast, Australia, July 2002.
- 272) Excretion and detection of medications used to treat respiratory tract disease e.g. clenbutorol, dembrexine, lasix, etc., nebulised drugs vs systemic. Australian Equine Veterinary Association invited lecture, Bain-Fallon Lectures, The Gold Coast, Australia, July 2002.
- 273) Look to the future new drugs, new tests and an overview of MRLS research. Australian Equine Veterinary Association invited lecture, Bain-Fallon Lectures, The Gold Coast, Australia, July 2002.
- 274) Drug and Medication Testing and Its Regulatory Control. Stewards Short Course, Retama Park, San Antonio, Texas, September 17, 2002.
- 275) Erythropoietin in Racing Horses: Detection and Regulatory Control. Stewards Short Course, Retama Park, San Antonio, Texas, September 17, 2002.
- 276) Shock Wave Therapy in Racing Horses: Detection and Regulatory Control. Stewards Short Course, Retama Park, San Antonio, Texas, September 17, 2002.
- 277) Presentation on new Kentucky Medication Rule. Kentucky Racing Commission Meeting, The Red Mile, September 24, 2002.
- 278) “Drug and Medication Detection in Racing Horses.” Kentucky Equine Management Internships, Gluck Equine Research Center, Lexington, Kentucky, October 9, 2002.
- 279) Drug and Medication Testing and Regulatory Control in Racing Horses. Stewards Short Course, Louisville, Kentucky, November 12, 2002.
- 280) Town and Gown: Academic “Spin-offs” in the Bluegrass, with a minor in caterpillars. Presented to the Lexington Sunrise Rotary Club, The Lafayette Club, Lexington, Kentucky, November 26, 2002.
- 281) Phoenix Arizona, National Horsemen’s Benevolent and Protective Association, Winter Meeting. Presentation on National HBPA Proposed Policy on Drug Testing and Therapeutic Medication. January 26, 2003.
- 282) New Orleans, Louisiana. National Horsemen’s Benevolent and Protective Association Winter Convention. January 31, 2004.

Friday, August 14, 2009

- 283) Atlanta, Georgia. Clayton State University Biology Seminar. March 9, 2004.
- 284) Dubai, UAE: 15th International Conference of Racing Analysts and Veterinarians, March 19-26, 2004.
- 285) Portland Oregon: National Horsemen's Benevolent and Protective Association Summer Meeting, July 21st-24<sup>th</sup>, 2004
- 286) Louisville KY. American Association of Equine Practitioners workshop, Brown Hotel, Louisville, July 25th, 2004.
- 287) Istanbul Turkey, Invited Presentation, International Racehorse Owners Association, August 21st- 24th, 2004.
- 288) Rio Jockey Club, Nov 1st, 2004
- 289) Congreso Mundial Equino Confepaso, November 19-21, 2004.
- 290) January 15-18 2005 , National Horsemen's Benevolent and Protective Association Winter
- 291) Meeting, San Antonio, Texas, Presentation on the matter of trace level morphine identifications and regulatory approaches to the same
- 292) Attended Equine Guelph Research Meeting as representative of Ontario Horsemen's Benevolent and Protective Association and as Equine Guelph Grant Reviewer. Feb 15th- 16th, 2005
- 293) Visit to Oklahoma City to present to the Oklahoma Horse Racing Commission concerning medication rules. June 16th, 2005
- 294) November 21-23, 2005, Congreso Mundial Equino Confepaso, Fedequinas Congress San Juan, Puerto Rico, Review of Equine Drug Testing, Performance Affecting Substances and Regulation of Therapeutic Medications in Paso Fino Horses
- 295) National Horsemen's Benevolent and Protective Association, Summer Meeting, Toronto, Ontario, Canada, July 20-24th 2005. Presentation on the matter of trace level identifications of dexamethasone in racing horses
- 296) Proc 51st Annual Convention American Association of Equine Practitioners Seattle, Washington, Dec 3-6th, 2005. Camargo FC, Tobin T: "A Review of Environmental Morphine Identifications (EMIs): Worldwide Occurrences and Responses of Authorities". Proc 51st Annual Convention American Association of Equine Practitioners pp 58-64, 2005.
- 297) Presentation at 52nd Annual Convention American Association of Equine Practitioners, December 2006, San Antonio, Texas; presentation, Camargo FC, Hughes C, Lehner AF, Stirling K, Tobin T: "Trace" Benzoylcegonine (BZE) Identifications In Post-Race Urines: Probable Sources And Regulatory Significance Of Such Identifications. In Press, Proc 52nd Annual Convention American Association of Equine Practitioners, December 2006, San Antonio, Texas
- 298) Congreso Mundial Equino Confepaso, Fedequinas Congress, Bogota, Colombia, October 2006 .28th and 29th, two platform presentations, "Avoiding Inconsequential "Positives": The Rules of the Regulatory Road for Regulators" T. Tobin and K.H. Stirling and "Horsemen Avoiding Positives: The Rules of the Therapeutic Road" T. Tobin and K.H. Stirling.
- 299) 16th International Conference of Racing Analysts and Veterinarians, Tokyo, Japan, October 21-27th, 2006, platform presentation "Synthesis of deuterated analytical standards: Ketoprofen-d3 and

Friday, August 14, 2009

- Flunixin-d3. Proceedings of the 16th International Conference of Racing Analysts and Veterinarians, Tokyo, Japan.
- 300) August 15th 2006, Thoroughbred Owners of California (TOC), Annual Medication Meeting, invited presentation, donation in support of Gluck research program, presentation on deriving thresholds for therapeutic medications and visit with UC Davis faculty and CHRB and TOC staff.
  - 301) National Horsemen's Benevolent and Protective Association, Summer Meeting, Minneapolis, July 13th-14th 2006, Invited presentation on the "Brass Hat" matter and the need for concentrations thresholds for therapeutic medications
  - 302) American Endurance Riders Annual Conference (AERC), San Antonio Texas, February 24-25, 2006. Crowne Plaza Riverwalk, San Antonio "Thomas Tobin, University of Kentucky's Gluck Equine Research C
  - 303) Visit to Abu Dhabi, personal guest of HH Sheik Sultan, of the Abu Dhabi Royal Family; January 16-19th 2006. Review of Endurance Racing and discussions and presentations concerning same and invitation to support UK research Program
  - 304) National Horsemen's Benevolent and Protective Association Winter Meeting, Tampa Florida, January, 13th-14th 2006. Presentation on the matter of trace level benzoylcegonine detections, with particular reference to recent matters in Indiana and West Virginia.
  - 305) Orlando Florida, December 1-4, 2007. Attendance at Orlando AAEP meeting and presentation of paper on regulatory thresholds for caffeine and related substances.
  - 306) Buenos Aires, Montevideo, Sao Paulo, November 2-13th 2007. Presentations in Buenos Aires, lecture series the Uruguayan Veterinary Medical Association November 8-9th, 10 lectures covering various aspects of equine drug testing and therapeutic medication
  - 307) Sao Paulo, Nov 10-12th 2007. Guest of Sao Paulo, Jockey Club, review of Sao Paulo, equine drug testing laboratory, race named in honor and visit with Senior Sao Paulo Jockey club member Baroness Margarida Polak Lara
  - 308) Tokyo Japan 16th October 21-26TH 2007. Attended the International Conference of Racing Analysts and Veterinarians, and gave a platform presentation on Certified Reference Standards
  - 309) Bogotá Colombia, October 28-29th 2007. Attended Fedequinas Association Biannual International Congress and gave two Invited platform presentations on therapeutic medication regulation
  - 310) Williamsburg, Virginia July 17-20 2007. Attended the summer National Horsemen's Benevolent and Protective Association meeting and gave a platform presentation to the meeting
  - 311) San Diego, California, December 4-6, 2008. Attendance at AAEP at San Diego and presentation of paper on regulatory thresholds for therapeutic medications
  - 312) Antalya, Turkey, October 11- 17, 2008. Attended 17th international conference of Racing Analysts and Veterinarians, one platform presentation on tramadol in horses, and three Coauthored presentations
  - 313) Toronto Ontario, September 23-24, 2008. Presentation to Ontario to racing commission group on thresholds for morphine in post-race samples, supported by the Ontario HBPA.
  - 314) West Chester, Pennsylvania, August 4-5, 2008. Visit with Pennsylvania Equine Drug Testing and Research laboratory and the University of Pennsylvania at Kennett Square as part of a certified reference standards Project

Friday, August 14, 2009

- 315) Hershey, Pennsylvania, July 18-20, 2008. Attendance at summer meeting of the National Horsemen's Benevolent and Protective Association, presentation on the 2008 iteration of the National HBPA Proposed Policy for Drug Testing and Therapeutic Medication Regulation
- 316) Davis, California, April 27-30, 2008. Attendance at Racing & Medication Testing Consortium workshop on Anabolic Steroid Analysis, on behalf of the National Horsemen's Benevolent and Protective Association
- 317) Lexington, Kentucky, April 17, 2008. Attendance at fourth Kentucky Innovation and Enterprise Conference
- 318) New Orleans, Louisiana, January 24-27, 2008. Attendance and presentation on anabolic steroid testing at the National Horsemen's Benevolent and Protective Association winter conference .

**PUBLICATIONS:**

- 1) Post RL, Kume S, Tobin T, Orcutt B, Sen AK: Flexibility of an active centre in (Na<sup>+</sup> + K<sup>+</sup>)-dependent ATPase. *J Gen Physiol* 54(1)Part 2:306-326, 1969.
- 2) Sen AK, Tobin T, Post RL: A cycle for ouabain inhibition of the (Na<sup>+</sup> + K<sup>+</sup>)-ATPase. *J Biol Chem* 244:6596-6604, 1969.
- 3) Tobin T, Banerjee SP, Sen AK: Allosteric interactions in the (Na<sup>+</sup> + K<sup>+</sup>)-ATPase. *Nature* 225:745, 1970.
- 4) Tobin T, Sen AK: Stability and ligand sensitivity of [<sup>3</sup>H]-ouabain binding to the (Na<sup>+</sup> + K<sup>+</sup>)-ATPase. *Biochem Biophys Acta* 198:120-131, 1970.
- 5) Akera T, Hook JB, Tobin T, Brody TM: Cardiac glycoside sensitivity of (Na<sup>+</sup> + K<sup>+</sup>)-activated ATPase in newborn rats. *Res Commun Chem Pathol Pharmacol* 4:599-706, 1972.
- 6) Tobin T, Baskin SI, Akera T, Brody TM: Nucleotide specificity of the (Na<sup>+</sup> + K<sup>+</sup>)-dependent adenosine triphosphatase. *Molec Pharmacol* 8:256-263, 1972.
- 7) Tobin T, Brody TM: Rates of dissociation of enzyme-ouabain complexes and K<sub>0.5</sub> values in (Na<sup>+</sup> + K<sup>+</sup>)-adenosine triphosphatase from different species. *Biochem Pharmacol* 21:1553-1560, 1972.
- 8) Tobin T, Henderson R, Sen AK: Species and tissue differences in the rate of dissociation of ouabain from the (Na<sup>+</sup> + K<sup>+</sup>)-ATPase. *Biochem Biophys Acta* 274:551-555, 1972.
- 9) Akera T, Baskin SI, Tobin T, Brody TM: Ouabain: Temporal relationship between the inotropic effect and the in vitro binding to and dissociation from (Na<sup>+</sup> + K<sup>+</sup>)-activated ATPase. *Naunyn-Schmiedeberg's Archiv fur Pharmacol* 277:151-162, 1973.
- 10) Akera T, Rech RH, Marquis WJ, Tobin T, Brody TM: Lack of relationship between brain (Na<sup>+</sup> + K<sup>+</sup>)-activated adenosine triphosphatase and the development of tolerance to ethanol in rats. *J Pharmacol Exp Ther* 185:594-601, 1973.
- 11) Tobin T, Akera T, Baskin SI, Brody TM: Calcium and sodium and potassium dependent adenosine triphosphatase: Its mechanism of inhibition and identification of the EI-P intermediate. *Mol Pharmacol* 9:336-349, 1973.
- 12) Tobin T, Akera T, Hogg RE, Brody TM: Ouabain binding to sodium- and potassium-dependent triphosphatase: Inhibition by the β-y-methylene analogue of adenosine triphosphatase. *Mol Pharmacol* 9:278-281, 1973.
- 13) Tobin T, Akera T, Ku D, LU MC: Reversibility of the interaction of strophanthidin bromacetate with the cardiotonic steroid binding site of sodium- and potassium-dependent adenosine triphosphatase. *Mol Pharmacol* 9:676-685, 1973.
- 14) Tobin T, Dirdjosudiono S, Baskin SI: Pharmacokinetics and distribution of diphenylhydantoin in kittens. *Am J Vet Res* 34:951-954, 1973.
- 15) Akera T, Baskin SI, Tobin T, Brody TM: Cardiac glycosides: Temporal relationship between the inotropic action and binding to and dissociation from Na<sup>+</sup> + K<sup>+</sup>-activated ATPase in vitro. Recent Advances in Studies on Cardiac Structure and Metabolism, Vol 4, Myocardial Biology (ed NS Dhalla), University Park Press, Baltimore, pp 139-147, 1974.
- 16) Akera T, Baskin SI, Tobin T, Brody TM, Manian AA: 7-8-Dihydroxychlorpromazine: (Na<sup>+</sup> + K<sup>+</sup>)-ATPase inhibition and positive inotropic effect. *Advances in Biochem Psychopharmacol* 9:633-640, 1974.

Friday, August 14, 2009

- 17) Akera T, Brody TM, So RH-M, Tobin T, Baskin SI: Factors and agents that influence cardiac glycoside  $\text{Na}^+ + \text{K}^+$ -ATPase interaction. *Ann NY Acad Sci* 242:617-634, 1974.
- 18) Akera T, Tobin T, Gatti A, Shieh I-S, Brody TM: Effect of potassium on the conformational state of the complex of ouabain with sodium- and potassium-dependent adenosine triphosphatase. *Mol Pharmacol* 10:509-518, 1974.
- 19) Ku D, Akera T, Tobin T, Brody TM: Effects of rubidium on cardiac tissue, Inhibition of  $\text{Na}^+ + \text{K}^+$ -ATPase and stimulation of contractile force. *Res Commun Chem Pathol Pharmacol* 9: 431-440, 1974.
- 20) Tobin T, Akera T, Baskin SI, Brody TM: The mechanism of the  $\text{Ca}^{++}$  ion inhibition of sodium-potassium ATPase. Recent Advances in Studies on Cardiac Structure and Metabolism. Vol. 4, *Myocardial Biology* (ed NS Dhallia), University Park Press, Baltimore, pp 139-147, 1974.
- 21) Tobin T, Akera T, Brody TM: Studies on the two phosphoenzyme conformations of  $\text{Na}^+ + \text{K}^+$ -ATPase. *Ann NY Acad Sci* 242: 120-132, 1974.
- 22) Tobin T, Akera T, Dworin JZ, Brody TM: Fluoride nephropathy: Lack of direct involvement of renal ATPase. *Canad J Physiol Pharmacol* 52:489-495, 1974.
- 23) Tobin T, Akera T, Han CS, Brody TM: Lithium and rubidium interactions with sodium- and potassium-dependent adenosine triphosphatase: A molecular basis for the pharmacological actions of these ions. *Mol Pharmacol* 10:501-508, 1974.
- 24) Tobin T, Akera T, Lee CY, Brody TM: Ouabain binding to  $(\text{Na}^+ + \text{K}^+)$ ATPase: Effects of nucleotide analogues and ethacrynic acid. *Biochem Biophys Acta* 354:102-117, 1974.
- 25) Tobin T, Tai Cy, Arnett S: Recovery of procaine from biological fluids. *Res Commun Chem Pathol Pharmacol*, 11(2):187-194, 1975.
- 26) Abramson HN, Huang CL, Wu TF, Tobin T: Thiocardenolides. I. Synthesis and biological actions of 3- -thiocyanato-14 -hydroxy-5- -card-20(22)-endide. *J Pharm Sci* 65:765-768, 1975.
- 27) Ku D, Akera T, Tobin T, Brody TM: Effects of monovalent cations of cardiac  $\text{Na}^+ + \text{K}^+$ -ATPase activity and on contractile form. *Naunyn-Schmiedeberg's Archiv fur Pharmacol* 20: 113-131, 1975.
- 28) Tobin T, Abramson H: Irreversible inhibition of  $[^3\text{H}]$ -ouabain binding to  $\text{Na}^+ + \text{K}^+$ -ATPase by digoxigenin-3-12 di-bromacetate, an alkylating derivative of digoxigenin. *Eur J Pharmacol* 32: 243-250, 1975.
- 29) Tobin T, Akera T: Shadowmycin, a nucleotide site directed inhibitor of  $\text{Na}^+ + \text{K}^+$ -ATPase. *Biochem Biophys Acta* 389: 126-136, 1975.
- 30) Tobin T, Akera T, Brody SI, Brody TM: The mechanism of interaction of cassaine with  $\text{Na}^+ + \text{K}^+$ -ATPase. *Biochemical Soc Transactions* 2:1375-1378, 1975.
- 31) Tobin T, Akera T, Brody TM: Gel electrophoretic identity of the  $\text{Na}^+$ ,  $\text{Mg}^{++}$ , and  $\text{Na}^+ \text{Ca}^{++}$ -stimulated phosphorylations of  $\text{Na}^+ \text{K}^+$ -ATPase. *Biochem Biophys Acta* 393, 117-125, 1975.
- 32) Tobin T, Akera T, Brody TM, Tanaja HA: Irreversible inhibition of  $\text{Na}^+ + \text{K}^+$ -ATPase: Strophanthidin 3,5-bisparabenzoylbenzoate, a photo-chemical analog of strophanthidin. *Res Commun Chem Pathol Pharmacol* 10: 605-617, 1975.
- 33) Akera T, Ku D, Tobin T, Brody TM: The complexes of ouabain with sodium- and potassium-activated adenosine triphosphatase formed with various ligands: The relationship to the complex formed in the beating heart. *Mol Pharmacol* 12:101-114, 1976.
- 34) Tobin T, Blake JW, Tai Cy, Arnett S: The pharmacology of procaine in the horse. I. A preliminary report. *Am J Vet Res*, 37:1107-1110, 1976.
- 35) Blake JW, Tobin T: The gas-liquid chromatograph and the electron capture detector in equine drug testing. *Brit J Sports Med*, 10:129-132, 1976.

Friday, August 14, 2009

- 36) Han CS, Tobin T, Brody TM: Effects of monovalent cations on E-P32 and [3H]-ouabain binding of  $\text{Na}^+ + \text{K}^+$ -ATPase. *Biochem Biophys Acta* 429:993-1005, 1976.
- 37) Ku D, Akera T, Tobin T, Brody TM: Comparative species studies on the effects of monovalent cations and ouabain on cardiac  $\text{Na}^+ + \text{K}^+$ -ATPase and contractile force. *J Pharm Exp Therap* 197(2):458-469, 1976.
- 38) Miller JR, Blake JW, Tobin T: Electron capture detection of an apomorphine-heptafluorobutyrate derivative at low picogram levels. *Res Commun Chem Path Pharmacol*, 15(3):447-455, 1976.
- 39) Roberts BL, Blake JW, Tobin T: Drug interactions in the horse: Effect of furosemide on plasma and urinary levels of phenylbutazone. *Res Commun Chem Path Pharmacol*, 15:257-265, 1976.
- 40) Tobin T: Drugs, Horses and the Kentucky Equine Drug Research Program. Proc 2nd Conv Natn'l Assoc. State Racing Commissioners, San Diego, CA, 1976, pp 89-99.
- 41) Tobin T: Drugs, Racehorses and the Kentucky Drug Research Program. *The Blood-Horse*, Vol CII(14):1453-1455, April 1976.
- 42) Tobin T, Akera T, Brody SI, Ku D, Brody TM: Cassaine: Mechanism of inhibition of  $\text{Na}^+ + \text{K}^+$ -ATPase and relationships of this inhibition to cardiotonic actions. *Eur J Pharmacol* 32: 133-145, 1976.
- 43) Tobin T, Akera T, Han CS, Brody TM: Studies on the stable inhibition of  $\text{Na}^+ + \text{K}^+$ -ATPase by cassaine. *Eur J Pharmacol* 35: 59-68, 1976.
- 44) Tobin T, Akera T, Taneja HA, Brody TM: Cardiotonic site directed irreversible inhibition of  $\text{Na}^+ + \text{K}^+$ -ATPase by 3-azidoacetyl-strophanthidin, a photochemical analogue of strophanthidin. *Eur J Pharmacol* 35:68-76, 1976.
- 45) Tobin T, Blake JW: A review of the pharmacology, pharmacokinetics and behavioral effects of procaine in the Thoroughbred Horse. *Brit J Sports Med*, 10:109-116, 1976.
- 46) Tobin T, Swerczek TW, Blake JW: Pine-oil toxicity in the horse: Drug detection, residues and pathological changes. *Res Commun Chem Path Pharmacol* 15:291-301, 1976.
- 47) Tobin T, Blake JW, Tai Cy, Sturma L, Arnett S: The pharmacology of procaine in the horse II. The procaine esterase properties of equine plasma and
- 48) fluid. *Am J Vet Res*, 37:1165-1170, 1976.
- 49) Tobin T, Tai Cy, O'Leary J, Sturma L, Arnett S: The pharmacology of procaine in the horse. III. Evidence against the existence of a procaine-penicillin complex. *Am J Vet Res*, 38:437-442, 1977.
- 50) Gabel AA, Tobin T, Ray RS, Maylin GA: Furosemide (Lasix®) in horses: A review. *J Eq Med Surg*, 1:215-218, 1977.
- 51) Gabel AA, Tobin T, Ray RS, Maylin GA: Phenylbutazone (ButazolidinR) in horses: A review. *J Eq Med Surg*, 1:221-225, 1977.
- 52) Miller MR, Roberts BL, Blake JW, Valentine RW, Tobin T: Drug interactions in the horse. III. Effects of furosemide on urinary concentrations of glucuronide metabolites of pentazocine. *Res Commun Chem Path Pharmacol*, 17:447-456, 1977.
- 53) Tobin T: Furosemide (Lasix®) in the horse: An overview. Proc 23rd Annual Conv AAEP, Vancouver, 1977, pp 419-421.
- 54) Tobin T, Akera T: Interaction of ouabain and cassaine with  $\text{Na}^+ + \text{K}^+$ -ATPase and its relationship to their inotropic actions. In: Drug Action at the Molecular Level, MacMillan Pub Co, London, 1977, pp 213-133.
- 55) Tobin T, Blake JW: The pharmacology of procaine in the horse V. Relationships between plasma and urinary concentrations of procaine. *J Eq Med Surg*, 1:188-194, 1977.
- 56) Tobin T, Blake JW, Maylin G: Use of bumetanide in horses. *Am J Vet Res*, 38:413, 1977.

Friday, August 14, 2009

- 57) Tobin T, Blake JW, Sturma L, Arnett S, Truelove J: The pharmacology of procaine in the horse: Pharmacokinetics and behavioral effects. *Am J Vet Res*, 38:637-647, 1977.
- 58) Tobin T, Blake JW, Valentine R: Drug interactions in the horse. I. Effects of chloramphenicol, quinidine and oxyphenbutazone on phenylbutazone metabolism. *Am J Vet Res*, 38:123-127, 1977.
- 59) Ballard S, White CB, Woods WE, Voos J, Tobin T: Biochemical and behavioral effects of reserpine in the horse. Presented at the 2nd Equine Pharmacology Symposium, Ohio State University, Columbus, OH, 1978.
- 60) Blake JW, Tobin T, Roberts BL: A modified Folin-Denis over-spray for the detection of phenolic alkaloidal drugs. *Irish Vet J*, pp 209-213, December 1978.
- 61) Combie J, Dougherty J, Shults T, Tobin T: Quantitation and selective blockade of response to narcotic analgesics in the horse. 2nd Equine Pharmacology Symposium, The Ohio State University, Columbus pp 183-188, 1978.
- 62) Roberts BL, Blake JW, Tobin T: The pharmacology of furosemide in the horse. II. Its detection, pharmacokinetics and clearance from urine. *J Eq Med Surg*, 2:185-194, 1978.
- 63) Shults T, Roberts BL, Blake JW, Tobin T: The detection, identification and basic pharmacology of furosemide in the horse. 2nd Equine Pharmacology Symposium, the Ohio State University, Columbus, pp 43-57, 1978.
- 64) Tobin T: A review of the pharmacology of furosemide in the horse. Proc 3rd Int'l Equine Doping Conference, Rome, March 1977. *Atti Della Conferenza Int'l Sul Doping*, pp 323-352, 1978.
- 65) Tobin T: A review of the pharmacology of procaine in the horse. *J Eq Med Surg*, 2:209, 213-214, 1978.
- 66) Tobin T: A review of the pharmacology of reserpine in the horse. *J Eq Med Surg*, 2(10):433-438, 1978.
- 67) Tobin T: Chemotherapy in the horse: The penicillins. *J Eq Med Surg*, 2(11):475-479, 1978.
- 68) Tobin T: Narcotic analgesics and the opiate receptor in the horse. *J Eq Med Surg*, 2:397-399, 1978.
- 69) Tobin T: Pharmacology Review: A review of recent research on furosemide in the horse. *J Eq Med Surg*, 2:314, 320-321, 1978.
- 70) Tobin T: Pharmacology Review: Testing for drugs in horses. *J Eq Med Surg*, 2(12):518-524, 1978.
- 71) Tobin T: Plasma and urinary drug concentrations, drug "clearance times", and pharmacological effects. *J Eq Med Surg*, 2(6):262-267, 1978.
- 72) Tobin T: The anabolic steroid androgen group of drugs. *J Eq Med Surg*, 2:163-165, 1978.
- 73) Tobin T, Roberts BL, Miller RW: The pharmacology of furosemide in the horse. I. Effects on the disposition of procaine, methylphenidate, phenylbutazone and pentazocine. *J Eq Med Surg*, 1:402-409, 1978.
- 74) Tobin T, Roberts BL, Swerczek TW, Crisman M: The pharmacology of furosemide in the horse. III, Dose and time response relationships, effects of repeated dosing, and performance effects. *J Eq Med Surg*, 2:216-226, 1978.
- 75) Akera T, Gubitza RH, Brody TM, Tobin T: Effects of monovalent cations on Na<sup>+</sup> + K<sup>+</sup> -ATPase in rat brain slices. *Europ J Pharmacol*, 55:281-292, 1979.
- 75) Combie J, Dougherty J, Nugent E, Tobin T: The pharmacology of narcotic analgesics in the horse. IV. Dose and time response relationships for behavioral responses to morphine, meperidine, pentazocine, anileridine, methadone, and hydromorphone. *J Eq Med Surg*, 3:377-385, 1979.



Friday, August 14, 2009

- 76) Combie J, Shults T, Tobin T: The pharmacokinetics and behavioral effects of fentanyl and other narcotic analgesics in the horse. Proc 3rd Int'l Symposium on Equine Medication Control, Lexington, June 1979, pp 311-321.
- 77) Maylin, Fregin, Tobin et al.: Drugs and performance testing in racing horses. Report of NASRC Veterinary Chemists Advisory Committee, March 27, 1979. NASRC Proceedings, San Francisco, 85-106, 1979.
- 78) Shults T, Combie J, Dougherty J, Tobin T: Variable interval conditioning in the horse: A sensitive measure of behavior. Proc 3rd Int'l Symposium on Equine Medication Control, Lexington, June 1979, pp 367-379.
- 79) Tobin T: Pharmacology Review: Streptomycin, gentamicin, and the amino-glycoside antibiotics. *J Eq Med Surg*, 2:206-212, 1979.
- 80) Tobin T: Pharmacology Review: The corticosteroids. *J Eq Med Surg*, 3:10-15, 1979.
- 81) Tobin T: Pharmacology Review: The non-steroidal anti-inflammatory drugs. I. Phenylbutazone. *J Eq Med Surg*, 3:253-258, 1979.
- 82) Tobin T: Pharmacology Review: The non-steroidal anti-inflammatory drugs. II. Equiproxin, meclofenamic acid, flunixin and others. *J Eq Med Surg*, 3(7):298-392, 1979.
- 83) Tobin T, Ballard S: Pharmacology Review: The phenothiazine "tranquilizers." *J Eq Med Surg*, 3:460-466, 1979.
- 84) Tobin T, Blake JW, Woods WE (eds): Proceedings of the 3rd Int'l Symposium on Equine Medication Control, Lexington, KY 1979.
- 85) Tobin T, Combie J, Miller JR, Crisman MW, Blake JW: The pharmacology of narcotic analgesics in the horse. II. Studies on the detection, pharmacokinetics, urinary clearance times and behavioral effects of pentazocine and fentanyl in the horse. *Irish Vet J*, 33:169-176, 1979.
- 86) Tobin T, Combie J, Shults T: Pharmacology Review: Actions of central stimulant drugs in the horse. II. *J Eq Med Surg*, 3(3):102-109, 1979.
- 87) Tobin T, Combie J, Shults T, Dougherty J: The pharmacology of narcotic analgesics in the horse. III. Characteristics of the locomotor effects of fentanyl and apomorphine. *J Eq Med Surg*, 3(6):284-288, 1979.
- 88) Tobin T, Maylin GA, Henion J, Woodward C, Ray RS, Johnston J, Blake JW: An evaluation of pre- and post-race testing and blood and urine drug testing in horses. *J Eq Med Surg*, 3(2):85-90, 1979.
- 89) Tobin T, Miller JR: The pharmacology of narcotic analgesics in the horse. I. The detection, pharmacokinetics and urinary "clearance times" of pentazocine. *J Eq Med Surg*, 3(4):191-198, 1979.
- 90) Tobin T, White CB, Woods WE: The pharmacology of reserpine in the horse. II. Effects of reserpine on platelet serotonin uptake and behavior. *J Eq Med Surg*, 3:446-451, 1979.
- 91) Tobin T, Woods WE: Pharmacology review: Actions of central stimulant drugs in the horse. I. *J Eq Med Surg*, 3(2):60-66, 1979.
- 92) Tobin T, Woods WE: Pharmacology Review: Drug metabolism and elimination in the horse. *J Eq Med Surg*, 3(3):150-156, 1979.
- 93) White CB, Woods WE, Tobin T: The pharmacology of reserpine in the horse. I. Effects of reserpine and imipramine on platelet uptake of serotonin, in vitro and in vivo. *J Eq Med Surg* 3(7):325-330, 1979.
- 94) Tobin T: An overview of the major antibiotics in equine medicine. Proc 26th Annual Conf AAEP, Anaheim, CA, December 1980, pp 491-502.

Friday, August 14, 2009

- 95) Tobin T, Combie J: The pharmacology and therapeutics of exercise-induced pulmonary hemorrhage (EIPH). Proc 26th Annual Conf AAEP, Anaheim, CA, December 1980, pp 435-440.
- 96) Tobin T, Combie JD, Akera T: Current status of drug receptor theory with specific reference to Na<sup>+</sup> + K<sup>+</sup> -ATPase and opiate receptors. Proc 2nd Symposium on Veterinary Pharmacology and Therapeutics, Philadelphia, June 1980, pp 123-165.
- 97) Tobin T, Nugent T: Pharmacology of corticosteroid therapy in the horse. Proc 26th Annual Conf AAEP, Anaheim, CA, December 1980, pp 411-415.
- 98) Ballard S, Tobin T: A typical conditions for qualitative recovery of acepromazine and chlorpromazine from plasma. *J Toxic & Environmntl Hlth*, 7:745-751, 1981.
- 99) Ballard S, Tobin T: Pharmacology, pharmacokinetics, and behavioral effects of acepromazine in the horse. Proc 4th Int'l Conf Control Drugs in Racehorses, Melbourne, Australia, May 1981, pp 81-86.
- 100) Ballard S, Tobin T: Recovery of acepromazine from equine plasma and its pharmacology in the horse. Proc 4th Int'l Symposium on Equine Medication Control, 1981.
- 101) Combie J, Blake JW, Ramey BE, Tobin T: The pharmacology of narcotic analgesics in the horse: Quantitative detection of morphine in equine blood and urine and logit-log transformations of this data. *Am J Vet Res* 42(9):1523-1530, 1981.
- 102) Combie J, Blake JW, Tobin T: Phenylbutazone and other drugs in horses racing under a controlled medication program. Proc 4th Int'l Symposium on Equine Medication Control, Melbourne, Australia, May 1981, pp 68-73.
- 103) Combie J, Nugent T, Tobin T: Inability of goldenseal to interfere with the detection of morphine in urine. *J Equine Vet Sci*, 2(1):16-19, 1981.
- 104) Combie J, Nugent T, Tobin T: The pharmacology of furosemide in the horse. IV. The duration of reduction of urinary concentration of drugs. *J Equine Vet Sci*, 1:203-207, 1981.
- 105) Combie J, Shults T, Nugent E, Dougherty J, Tobin T: Pharmacology of narcotic analgesics in the horse. Selective blockade of narcotic-induced locomotor activity. *Am J Vet Res* 42:716-721, 1981.
- 106) Shults T, Kownacki AP, Woods WE, Valentine RW, Dougherty J, Tobin T: Pharmacokinetics and behavioral effects of methylphenidate in Thoroughbred horses. *Am J Vet Res*, 42: 722-726, 1981.
- 107) Tobin T: Drugs and the Performance Horse. Charles C. Thomas, Springfield, IL, 1981.
- 108) Ballard S, Shults, T, Kownacki AA, Blake JW, Tobin T: The pharmacokinetics, pharmacological responses, and behavioral effects of acepromazine in the horse. *J Vet Pharmacol Therap*, 5:21-31, 1982.
- 109) Chay S, Woods WE, Nugent TE, Blake JW, Tobin T: The pharmacology of non-steroidal anti-inflammatory drugs in the horse. III. Flunixin meglumine (Banamine®). *Equine Practice*, 4(10):16-23, 1982.
- 110) Combie J, Blake JW, Nugent T, Tobin T: Furosemide, *Patella vulgata*  $\beta$ -glucuronidase and drug analysis: Conditions for enhancement of the TLC detection of apomorphine, butorphanol, hydromorphone, nalbuphine, oxymorphone and pentazocine in equine urine. *Res Comm in Chem Pathol Pharmacol* 35(1):27-41, 1982.
- 111) Combie J, Blake JW, Nugent T, Tobin T: Morphine-glucuronide hydrolysis: Superiority of glucuronidase from *Patella vulgata*. *Clin Chem*, 28(1):83-86, 1982.
- 112) Nugent TE, Combie J, Weld JM, Burns P, Tobin T: Effects of enkephalins versus opiates on locomotor activity of the horse. *Res Commun Chem Path Pharmacol*, 35(3):405-419, 1982.
- 113) Shults T, Combie J, Dougherty J, Tobin T: Variable-interval responding in the horse: A sensitive method of quantitating effects of centrally acting drugs. *Am J Vet Res*, 43(7):1143-1146, 1982.

Friday, August 14, 2009

- 114) Tobin T: Medication of performance horses. In: Equine Medicine and Surgery, Am Vet Pub, Inc, Santa Barbara, CA, 1982, pp 158-172.
- 115) Tobin T, Combie J: Performance testing in the horse: A review of the role of simple behavioral models in the design of performance experiments. *J Vet Pharmacol Therap*, 5:105-118, 1982.
- 116) Tobin T, Combie J, Nugent T: Drug "clearance times" and "detection times" in horses: A reappraisal. *J Vet Pharmacol Therap*, 5:195-197, 1982.
- 117) Tobin T, Kamerling S, Nugent TE: Drugs and equine performance: A review. In Snow DH, Persson SGB, Rose RJ (eds): Equine Exercise Physiology, Proc 1st Int'l Conf, Oxford, UK, 1982, pp 510-520.
- 118) Chay S, Woods WE, Rowse K, Nugent T, Blake JW, Tobin T: The pharmacology of furosemide in the horse. V. Pharmacokinetics and blood levels of furosemide after intravenous administration. *J Drug Metab Disp*, 11(3):226-231, 1983.
- 119) Chay S, Woods WE, Tobin T: The pharmacokinetics and blood levels of furosemide after intravenous administration. Proc 5th Int'l Conf, Cont use of drugs in race horses, Toronto, Canada, June 1983, pp 41-49.
- 120) Collett L, Kamerling S, Woods WE, Weckman T, Nugent T, DeQuick D, Tobin T: Clearance times and behavioral effects of clenbuterol in the horse. Proc 5th Int'l Conf, Cont use of drugs in race horses, Toronto, Canada, June 1983, pp 265-271.
- 121) Combie J, Nugent T, Tobin T: Pharmacokinetics and protein binding of morphine in horses. *Am J Vet Res*, 44(5):870-874, 1983.
- 122) DeQuick D, Chay S, Kamerling S, Tobin T: Pain perception in the horse and its control by medication: An overview. Proc 5th Int'l Conf, Cont use of drugs in race horses, Toronto, Canada, June 1983, pp 50-51.
- 123) Greene EW, Woods WE, Tobin T: Pharmacology, pharmacokinetics, and behavioral effects of caffeine in horse. *Am J Vet Res*, 44(1):57-63, 1983.
- 124) Houston T, Tobin T, Blake JW: Effect of urine pH on urine levels of oxyphenbutazone in racing horses. *J Drug Metab Dist*, 11(6):617-619, 1983.
- 125) Houston T, Tobin T, Blake JW: Effect of urine pH on urine levels of phenylbutazone, oxyphenbutazone and  $\gamma$ -hydroxyphenylbutazone in racing horses. Proc 5th Int'l Conf, Cont use of drugs in race horses, Toronto, Canada, June 1983, pp 26-33.
- 126) Kamerling S, DeQuick D, Crisman M, Weckman T, Nugent T, Tobin T: Phenylbutazone: Lack of effect on normal cutaneous pain perception in the horse. Proc 5th Int'l Conf, Cont use of drugs in race horses, Toronto, Canada, June 1983, pp 85-89.
- 127) Kamerling S, Tobin T: Pain: Neurophysiology and experimental equine models. Proc 5th Int'l Conf, Cont use of drugs in race horses, Toronto, Canada, June 1983, pp 52-55.
- 128) Oehme FW, Tobin T (eds): Toxicology. Chapter 13 in Robinson NE (ed), Current Therapy in Equine Medicine. Sanders, Philadelphia, 1983, pp 573-615.
- 129) Tobin T: Phenylbutazone: Its actions, effects, and role in equine medicine. *Modern Equine Practice*, Jan/Feb 1983, p 25.
- 130) Tobin T: Pre-race testing and its role in equine medication control. *Equine Vet J*, 15(1):54-55, 1983.
- 131) Tobin T: Testimony on phenylbutazone and furosemide testing before the house subcommittee on criminal justice. *The Horsemen's Journal*, 34(7):142-149, 1983.

Friday, August 14, 2009

- 132) Chay S, Woods WE, Nugent T, Weckman T, Houston T, Sprinkle F, Blake JW, Tobin T, Soma L, Yocum J, Smith JD: Population distributions of phenylbutazone and oxyphenbutazone after oral and IV dosing in horses. *J Vet Phar Therap*, 7:265-276, 1984.
- 133) Houston T, Chay S, Woods WE, Blake JW, Tobin T: Phenylbutazone levels in post-race samples from horses racing in Kentucky: A review. Proc 4th Symposium on Veterinary Pharmacology and Therapeutics, College Station TX, April 1984, pp 96-115.
- 134) Tobin T, Combie J: Some reflections on positive results from medication control tests in the USA. *Eq Vet J*, 16:43-46, 1984.
- 135) Weld JM, Kamerling S, Combie J, Nugent TE, Woods WE, Oeltgen P, Tobin T: The effects of naloxone on endotoxic and hemorrhagic shock in horses. *Res Commun Chem Path Pharmacol*, 44(2):227-238, 1984.
- 136) Blake JW, Tobin T, Chang S-L: TLC detection of etorphine in equine urines. Crone DL (ed) Proc 6th Int'l Conf Racing Analysts and Vets, Hong Kong, 1985, pp 205-208.
- 137) Houston T, Chay S, Woods WE, Combs G, Kamerling S, Blake JW, Edmunson AG, Vessiney R, Tobin T: Phenylbutazone and its metabolites in plasma and urine of Thoroughbred horses racing in California and Kentucky: Population distributions and the effects of urinary pH. *J Vet Pharm Therap*, 8:136-149, 1985.
- 138) Kamerling SG, DeQuick DJ, Weckman TJ, Sprinkle FP, Tobin T: Differential effects of phenylbutazone and local anesthetics on nociception in the equine. *Eur J Pharm*, 107:35-41, 1985.
- 139) Kamerling S, DeQuick DJ, Weckman TJ, Tobin T: Dose-related effects of fentanyl on autonomic and behavioral responses in performance horses. *Gen Pharmacol*, 16(3):253-258, 1985.
- 140) Kamerling S, Weckman TJ, DeQuick D, Tobin T: A method for studying cutaneous pain perception and analgesia in horses. *J Pharm Meth*, 13(3):267-274, 1985.
- 141) Kamerling SG, Weckman TJ, Donahoe J, Tobin T: The effects of kappa-opioid receptor narcotics in the horse: A new class of equine analgesics. Crone DL (ed) Proc 6th Int'l Conf Racing Analysts Vets. Hong Kong, 1985, pp 37-45.
- 142) Karns PA, Kamerling SG, Bagwell CA, Tobin T: Quantification of equine hoof lameness using an electronic hoof tester. Crone DL (ed) Proc 6th Int'l Conf Racing Analysts Vets. Hong Kong, 1985, pp 325-329.
- 143) Soma LR, Sams R, Duer W, Tobin T, Woodward C, McDonald J: Plasma and serum concentrations of phenylbutazone and oxyphenbutazone in racing Thoroughbreds 24 hours after various dosage regimens. *Am J Vet Res*, 46(4):932-938, 1985.
- 144) Tobin T, Kamerling SG, Anderson RL: Drugs and race-horse performance. *Trends in Pharm Sci*, 6(3):129-132, 1985.
- 145) Tobin T, Woods WE, Anderson RC, Houston T, Blake JW: Influence of urinary pH on concentrations of phenylbutazone and its metabolites in post-race urine samples. Crone DL (ed) Proc 6th Int'l Conf Racing Analysts and Vets. Hong Kong, 1985, pp 59-68.
- 146) Tobin T, Woods WE, Blake JW: Efficacy and cost of testing for illegal medications in horses. Crone DL (ed) Proc 6th Int'l Conf Racing Analysts and Vets. Hong Kong, 1985, pp 113-121.
- 147) Tobin T, Woods WE, Weckman TJ, Wood TW, Chang S-L, Blake JW: Radioimmunoassay screening for etorphine in racing horses. Crone DL (ed) Proc 6th Int'l Conf Racing Analysts Vets., Hong Kong, 1985, pp 199-203.
- 148) Woods WE, Blake JW, Tobin T: Effects of phenylbutazone and oxyphenbutazone on basic drug detection in high performance thin layer chromatographic systems. Crone DL (ed) Proc 6th Int'l Conf Racing Analysts and Vets. Hong Kong, 1985, pp 83-88.

Friday, August 14, 2009

- 149) Woods WE, Chay S, Houston T, Blake JW, Tobin T: Effects of phenylbutazone and oxyphenbutazone on basic drug detection in high performance thin layer chromatographic systems. *J Vet Pharm Therap*, 8:181-189, 1985.
- 150) Woods WE, Chay S, Houston T, Blake JW, Tobin T: Efficacy of testing for illegal medication in horses: A survey. *JAVMA*, 187:927-930, 1985.
- 151) Woods WE, Weckman TJ, Blake JW, Tobin T: Effects of phenylbutazone and oxyphenbutazone on acidic drug detection in high performance thin layer chromatographic systems. Crone DL (ed) Proc 6th Int'l Conf Racing Analysts and Vets. Hong Kong, 1985, pp 69-82.
- 152) Blake JW and Tobin T: Testing for drugs in horses. *J Eq Vet Sci*, 6(2):93-97, 1986.
- 153) Kamerling SG, DeQuick DJ, Weckman TJ, Tobin T: Dose-related effects of ethylketazocine on nociception, behavior, and autonomic responses in the horse. *J Pharm Pharmacol*, 38(1):40-45, 1986.
- 154) Tobin T: Experiences as an expert witness: Educating people while under oath. *J Eq Vet Sci*, 6(3):129-133, 1986.
- 155) Tobin T: Medication Control: Rules. *J Eq Vet Sci* 6(4):191-195, 1986.
- 156) Tobin T: Medication Control: The efficacy and cost of drug testing. *J Eq Vet Sci* 6(6):333-336, 1986.
- 157) Tobin T: Medication Control: Uncertainty in the "Detection Times" for drugs in horses. *J Eq Vet Sci* 6(3):124-128, 1986.
- 158) Tobin T, Blake JW: Pre-purchase testing for drugs in horses: A review. *J Eq Vet Sci*, 6(1):35-39, 1986.
- 159) Tobin T, Chay S, Kamerling S, Woods WE, Weckman TJ, Blake JW, Lees P: Phenylbutazone in the horse: A review. *J Vet Pharmacol Therap*, 9:1-25, 1986.
- 160) Tobin T, Woods WE, Tai H-H, Tai C, Weckman TJ, Wood TW, Blake JW: Radioimmunoassay screening for fentanyl in equine and human urine samples with an iodinated fentanyl analog. Proc 40<sup>th</sup> Meeting Assoc of Racing Chem, Lexington, KY, 141-150, 1986.
- 161) Woods WE, Chay S, Blake JW, Tobin T: Effects of phenylbutazone on acidic drug detection on high performance thin layer chromatographic systems. *J Pharmacol Meth*, 16(4):297-313, 1986.
- 162) Woods WE, Tai HH, Tai C, Weckman TJ, Wood TW, Barrios H, Blake JW, Tobin T: High-sensitivity radioimmunoassay screening method for fentanyl. *Am J Vet Res* 47(10):2180-2183, 1986.
- 163) Woods WE, Weckman TJ, Wood TW, Chang S-L, Blake JW, Tobin T: Radioimmunoassay screening for etorphine in racing horses. *Res Commun Chem Path Pharmacol*, 52(2):237-249, 1986.
- 164) McDonald J, Gall R, Wiedenback P, Bass VD, DeLeon B, Brockus C, Stobert D, Wie S, Prange CA, Yang JM, Tai CL, Weckman TJ, Woods WE, Tai H-H, Blake JW, Tobin T: Immunoassay detection of drugs in horses. I. Particle concentration fluoroimmunoassay detection of fentanyl and its congeners. *Res Commun Chem Path Pharmacol*, 57(3):389-407, 1987.
- 165) Weckman TJ, Tai C, Woods WE, Tai H-H, Blake JW, Tobin T: A review of the pharmacology and detection of fentanyl and its congeners in the horse. Proc 41st Meeting Assoc of Racing Chem., 1987, Los Angeles, CA, pp287-313.
- 166) Yang J-M, Tai CL, Weckman TJ, Tai H-H, Blake JW, Tobin T, McDonald J, Gall R, Wiedenback P, Bass VD, Brockus C, Stobert D, Wie S, Prange CA: Immunoassay detection of drugs in horses. II. Detection of carfentanil in equine urine by RIA, PCFIA and ELISA. *Res Commun Subst Abuse*, 8(2):59-75, 1987.

Friday, August 14, 2009

- 167) Kamerling S, Weckman TJ, Tobin T: Dose related effects of kappa agonist U-50,488H on behavior, nociception and autonomic response in the horse. *Eq Vet J*, 20(2):114-118, 1988.
- 168) Kwiatkowski S, Sturma L, Dai MR, Tai H-H, Watt DS, Tai CL, Woods WE, Weckman TJ, Yang J-M, Wood TW, Chang S-L, Blake JW, Tobin T, Prange C, Brockus C, Stobert D, Wie S, Chung RA, McDonald J, Bass VD, Merchant S, Artemenko M: Immunoassay detection of drugs in racing horses. VII. Detection of acepromazine in equine blood and urine by ELISA and PCFIA. *Res Comm Chem Path Pharmacol*, 61(3):391-412, 1988.
- 169) McDonald J, Gall R, Wiedenbach P, Bass VD, DeLeon B, Brockus C, Stobert D, Wie S, Prange CA, Ozog FJ, Green MT, Woods WE, Tai CL, Dai MR, Weckman TJ, Tai H-H, Yang J-M, Chang S-L, Blake JW, Tobin T: Immunoassay detection of drugs in horses. III. Detection of morphine in equine blood by a one step ELISA assay. *Res Commun Chem Path Pharmacol*, 59(2):259-278, 1988.
- 170) McDonald J, Watt DS, Kwiatkowski S, Tai H-H, Wie S, Prange CA, Wood T, Tobin T: Immunoassay based pre-race testing: An effective pre-race testing system. In: Breccia A (ed), Il Controllo Antidoping dei Cavalli da Corsa (Proc Int'l Seminar Tech Pharmacol Legal Aspects Antidoping Control Racehorses). Bologna, Italy, October, 1988, pp 43-52 (145-157).
- 171) Prange CA, Brockus C, Stobert D, Wie S, McDonald J, Gall R, Wiedenbach P, Bass VD, DeLeon B, Ozog FJ, Green MT, Woods WE, Tai CL, Dai MR, Weckman TJ, Tai H-H, Yang J-M, Chang S-L, Blake JW, Tobin T: Immunoassay detection of drugs in racing horses. V. Detection of mazindol in equine blood and urine by a one step ELISA assay. *Res Comm Subst Abuse*, 9(1):13-30, 1988.
- 172) Prange CA, Wie S, Brockus CL, Dahl, PA, Lewis EL, Brecht JM, Conner JC, Chung RA, McDonald J, Bass VD, Merchant S, Kwiatkowski S, Woods WE, Watt DS, Tai H-H, Blake JW, Chang S-L, Tobin T: Screening for human drugs of abuse by particle concentration fluorescence immunoassay (PCFIA). *Res Comm Subst Abuse*, 9(3,4):129-155, 1988.
- 173) Sturma L, Tai H-H, Tai CL, Tobin T, McDonald J, Wie S, Prange CA, Ozog FJ: ELISA detection of morphine in the horse. Proc 7th Int'l Confer Racing Analysts Vets, Louisville, KY, April 1988, 145-153.
- 174) Tai CL, Wang C-J, Weckman TJ, Popot MA, Woods WE, Yang J-M, Blake JW, Tai H-H, Tobin T: Radioimmunoassay for etorphine in horses with a <sup>125</sup>I analog of etorphine. *Am J Vet Res*, 49(5):622-628, 1988.
- 175) Tobin T, Galley RH: Drugs and performance. Chapter 11 in Jones WE (ed), Equine Sports Medicine. Lea and Febiger, Philadelphia, 1988, pp 189-204.
- 176) Tobin T, McDonald J, Ozog FJ, Prange CA: Enzyme linked immunosorbent assay (ELISA): A revolution in equine drug testing. *Equine Veterinary Data*, 9(2):19-31, 1988.
- 177) Tobin T, Stanley SD, Kwiatkowski S, Watt DS, Tai H-H, McDonald J, Prange CA: ELISA based immunoassay tests in post-race testing. In: Breccia A (ed), Il Controllo Antidoping dei Cavalli da Corsa (Proc Int'l Seminar Tech Pharmacol Legal Aspects Antidoping Control Racehorses). Bologna, Italy, October, 1988, pp 85-104 (163-184).
- 178) Tobin T, Tai H-H, Tai CL, Houtz PK, Dai MR, Woods WE, Weckman TJ, Yang J-M, Chang S-L, Blake JW, McDonald J, Gall R, Wiedenbach P, Bass VD, DeLeon B, Ozog FJ, Green MT, Brockus C, Stobert D, Wie S, Prange CA: Immunoassay detection of drugs in horses. IV. Detection of fentanyl in equine blood and urine by a one step ELISA assay. *Res Comm Chem Path Pharmacol*, 60(1):97-115, 1988.

Friday, August 14, 2009

- 179) Tobin T, Watt DS, Kwiatkowski S, Tai H-H, Blake JW, McDonald J, Kalita S, Prange CA, Wie S: Non-isotopic immunoassay drug tests in racing horses: A review of their application to pre-and post-race testing, drug quantitation, and human drug testing. *Res Comm Chem Path Pharm*, 62(3):371-395, 1988.
- 180) Tobin T, Wood T: The effects of drugs on race horse performance. Proc 34th Convent Am Assoc. Equine Pract, San Diego, CA, Dec, 1988, pp 639-650.
- 181) Weckman TJ, Tobin T, Tai H-H, Yang J-M, Wie S, Prange CA, Ozog FJ: ELISA and RIA detection of fentanyl in the horse. Proc 7th Int'l Confer Racing Analysts Vets, Louisville, KY, April 1988, 123-133.
- 182) Wood T, Tai CL, Henry P, Woods WE, Tobin T, Wie S, Prange CA, McDonald J, Ozog FJ, Green MT: The detection of furosemide in equine blood by fluorescence and enzyme-linked immunoassays. Proc 7th Int'l Confer Racing Analysts Vets, Louisville, KY, April 1988, 113-122.
- 183) Wood TW, Weckman TJ, Woods WE, Tobin T, Dougherty J: Detomidine: A preliminary analysis of its duration of action in the horse by variable interval responding. *Eq Vet J*, 20(5):320-322, 1988.
- 184) Wood T, Weckman TJ, Henry P, Chang S-L, Blake JW, Tobin T: Parameters of equine urine pH and methods of acidification. Proc 7th Int'l Confer Racing Analysts Vets, Louisville, KY, April 1988, 259-265.
- 185) Woods WE, Wang C-J, Houtz PK, Tai H-H, Wood TW, Weckman TJ, Yang J-M, Chang S-L, Blake JW, Tobin T, McDonald J, Kalita S, Bass VD, Weege P, DeLeon B, Brockus C, Wie S, Chung RA, Brecht J, Conner J, Dahl P, Lewis E, Prange CA, Ozog FJ, Green M: Immunoassay detection of drugs in racing horses. VI. Detection of furosemide (Lasix®) equine blood by a one step ELISA and PCFIA. *Res Comm Chem Path Pharmacol*, 61(1): 111-128, 1988.
- 186) Yang J-M, Tobin T, Dai M-R, Watt D, Kwiatkowski S, Tai H-H, Sturma L, Wie S, Prange CA, McDonald J, Ozog FJ: ELISA detection of acepromazine in the horse. Proc 7th Int'l Confer Racing Analysts Vets, Louisville, KY, April 1988, 155-160.
- 187) Yang J-M, Woods WE, Weckman TJ, Wood TW, Chang S-L, Blake JW, Tobin T: The pharmacology, pharmacokinetics, and behavioral effects of diisopropylamine dichloroacetate (DADA) in the horse: A preliminary report. *Gen Pharmacol*, 19(5):683-688, 1988.
- 188) Blake JW, Woods WE, Goodman JP, Tobin T: Pre- and post-race testing for drugs in racing horses. Equine Pharmacology and Therapy: Proc Eleventh Bain/Fallon Memorial Lectures, presented by Australian Equine Vet Assoc., Coffs Harbor, Australia, pp. 115-124, 1989.
- 189) Kamerling S, Wood TW, DeQuick D, Weckman TJ, Tai C, Blake JW, Tobin T: Narcotic analgesics, their detection and pain measurement in the horse: A review. *Eq Vet J*, 21(1):4-12, 1989.
- 190) Kwiatkowski S, Goodman JP, Stanley SD, Yang J-M, Wood T, Sturma L, Woods WE, Tian Z-G, Bertram S, Tai H-H, Weckman TJ, Chang S-L, Blake JW, Watt DS, Tobin T, McDonald J, Wie S, Chung RA, Brecht JM, Conner JC, Dahl PA, Lewis EL, Prange CA: Immunoassay detection of drugs in racing horses. X. Detection of phenylbutazone in equine blood and urine by particle concentration fluoroimmunoassay. *Res Comm Subst Abuse*, 10(2):123-139, 1989.
- 191) Kwiatkowski S, Tobin T, Watt DS: A synthesis of N-substituted  $\alpha$ -alanines: Michael addition of amines to trimethylsilylacrylate. *Synthesis*, 946-949, 1989.

Friday, August 14, 2009

- 192) Prange CA, Brockus C, Wie S, Chung RA, Brecht JM, Conner JC, Dahl PA, Lewis EL, McDonald J, Kalita S, Kwiatkowski S, Goodman JP, Sturma L, Stanley SD, Yang J-M, Wood T, Henry P, Weckman TJ, Woods WE, Watt DS, Tai H-H, Chang S-L, Blake JW, Tobin T: Immunoassay detection of drugs in racing horses. VIII. Detection of cocaine in equine blood and urine by particle concentration fluorescence immunoassay. *Res Comm Subst Abuse*, 10(1):1-14, 1989.
- 193) Stanley S, Tobin T, Wood T: The effects of steroids in racing horses. *Pacemaker Update International*, 2: 48, 1989.
- 194) Tobin T: Non-steroidal anti-inflammatory drugs: Phenylbutazone and others. Equine Pharmacology and Therapy: Proc Eleventh Bain/Fallon Memorial Lectures, presented by Australian Equine Vet Assoc., Coffs Harbor, Australia, , pp. 13-21, 1989.
- 195) Tobin T: The effects of drugs on equine performance and the use of ELISA tests in equine medication control. [Presented at Cong Wrlld Equine Vet Assoc. (Equitana), Essen, West Germany, 1989.] *JEq Vet Sci*, 9 (3): 160-168, 1989.
- 196) Tobin T: Tranquilizers, analgesics and local anesthetics. Equine Pharmacology and Therapy: Proc Eleventh Bain/Fallon Memorial Lectures, presented by Australian Equine Vet Assoc., Coffs Harbor, Australia, pp. 179-187, 1989.
- 197) Tobin T, Kwiatkowski S, Watt DS, Tai H-H, Tai CL, Woods WE, Goodman JP, Taylor DG, Weckman TJ, Yang J-M, Tai JD, Stanley SD, Wood T, Chang S-L, Blake JW, McDonald J, Wie S, Prange CA, Uboh CE: Immunoassay detection of drugs in biological samples: XI. ELISA and RIA detection of fentanyl, alfentanil, sufentanil and carfentanil in equine blood and urine. *Res Comm Chem Pathol Pharmacol*, 63(1):129-152, 1989.
- 198) Tobin T, Stanley SD: Anabolic steroids: use and excretion data. Equine Pharmacology and Therapy: Proc Eleventh Bain/Fallon Memorial Lectures, presented by Australian Equine Vet Assoc., Coffs Harbor, Australia, pp. 150-157, 1989.
- 199) Tobin T, Wood T: Passing the test: Immunoassay tests proving fast, reliable in detecting equine drugging. *Horseman and Fair World*, 9, 52-54, 1989.
- 200) Tobin T, Woods WE: Detection times and clearance times for drugs in racing horses. Equine Pharmacology and Therapy: Proc Eleventh Bain/Fallon Memorial Lectures, presented by Australian Equine Vet Assoc., Coffs Harbor, Australia, pp. 105-113, 1989.
- 201) Tobin T, Woods WE: Medication for exercise-induced pulmonary hemorrhage and its effects on other medications. Equine Pharmacology and Therapy: Proc Eleventh Bain/Fallon Memorial Lectures, presented by Australian Equine Vet Assoc., Coffs Harbor, Australia, pp. 134-141, 1989.
- 202) Tobin T, Woods WE: Narcotics and stimulants: how they affect horses. Equine Pharmacology and Therapy: Proc Eleventh Bain/Fallon Memorial Lectures, presented by Australian Equine Vet Assoc., Coffs Harbor, Australia, pp. 49-59, 1989.
- 203) Tobin T, Woods WE: Steroidal anti-inflammatory agents and adrenocorticotrophic hormone. Equine Pharmacology and Therapy: Proc Eleventh Bain/Fallon Memorial Lectures, presented by Australian Equine Vet Assoc., Coffs Harbor, Australia, pp. 23-30, 1989.
- 204) Weckman TJ, Woods WE, Wood TW, Tai C, Tai H-H, Blake JW, Tobin T: Pharmacologic effects and detection methods of methylated analogs of fentanyl in horses. *Am J Vet Res*, 50(4):502-507, 1989.
- 205) Wood T, Stanley SD, Tobin T: Operant conditioning and its applications in equine pharmacology. *JEquine Vet Sci*, 9(3): 124-130, 1989.



Friday, August 14, 2009

- 206) Wood T, Tai CL, Taylor DG, Woods WE, Wang C-J, Houtz PK, Tai H-H, Weckman TJ, Yang J-M, Sturma L, Chang S-L, Goodman JP, Stanley SD, Blake JW, Watt DS, Tobin T, McDonald J, Wie S, Chung RA, Brecht JM, Conner JC, Dahl PA, Lewis EL, Prange CA: Immunoassay detection of drugs in racing horses. IX. Detection of detomidine in equine blood and urine by radioimmunoassay. *Res Comm Chem Path Pharm*, 63(2):263-279, 1989.
- 207) Frank M, Weckman TJ, Wood TW, Woods WE, Tai C, Chang S-L, Ewing A, Blake JW, Tobin T: Hordenine: Pharmacology, pharmacokinetics and behavioural effects in the horse. *Eq Vet J*, 22(6):437-441, 1990.
- 208) Jeganathan A, Park S, Kwiatowski S, Yang J, Stanley S, Woods WE, Tobin T, Tai H-H, Blake JW, Watt D: The development of a generic fentanyl ELISA test. Proc 43rd Meeting Assoc. Official Racing Chem, 87, 1990.
- 209) Stanley S, Tai C, Goodman J, Taylor D, Wood T, Woods WE, Yang JM, Kwiatowski S, Tai H-H, Blake JW, Henry P, Chang S-L, Tobin T: Immunoassay detection of drugs in racing horses. Detection of reserpine in equine blood and urine by a one step ELISA. Submitted to *Fun App Tox*, 1990.
- 210) Tobin T, Blake JW, Potter M, Wood TW (eds): Proc 7th Int'l Conf Racing Analysts Vets, Lexington, KY, 516 pages, 1990.
- 211) Tobin T, Wood T: ELISA testing in race horses. Proc. Unione Nazionale L'Incremento Delle Razze Equine. Rome Italy, 1990.
- 212) Wood TW, Weckman TJ, Henry PA, Chang S-L, Blake JW, Tobin T: Equine urine pH: Normal population distribution and methods of acidification. *Eq Vet J*, 22(2):118-121, 1990.
- 213) Stanley SD, Jeganathan A, Wood TW, Henry PA, Turner S, Woods WE, Green MT, Tai H-H, Watt DS, Blake JW, Tobin T: Morphine and etorphine: Detection by ELISA in equine urine. *J Analytical Tox*, 15(6):305-310, 1991.
- 214) Stanley SD, Woods WE, Elliott D, Chen P-L, Ravard A, Tai H-H, Watt DS, Gerken DF, Sams RA, Tobin T: Immunoassay detection of drugs in racing horses. X IX. Detection of benzoylecgonine/cocaine in equine urine by ELISA. Proc 44th Meeting Assoc. Official Racing Chem, Cincinnati, OH, pp. 218-228, 1991.
- 215) Tobin T: Detection times and clearance times for drugs in racing horses. (Lecture Presentation, Paper from Bain Fallon Lectures) Proceedings of the 76th Annual Convention of the Oklahoma Veterinary Medical Association, pp. 31-37, 1991.
- 216) Tobin T: Medication for exercised-induced pulmonary haemorrhage and its effects on other medications. (Lecture Presentation, Paper from Bain Fallon Lectures) Proceedings of the 76th Annual Convention of the Oklahoma Veterinary Medical Association, pp. 43-47, 1991.
- 217) Tobin T: Narcotics and stimulants: How they affect horses. (Lecture Presentation, Paper from Bain Fallon Lectures) Proceedings of the 76th Annual Convention of the Oklahoma Veterinary Medical Association, pp. 25-31, 1991.
- 218) Tobin T: Non-steroidal anti-inflammatory drugs: Phenylbutazone and others. (Lecture Presentation, Paper from Bain Fallon Lectures) Proceedings of the 76th Annual Convention of the Oklahoma Veterinary Medical Association, pp. 13-19, 1991.
- 219) Tobin T: Pre- and post-race testing for drugs in racing horses. (Lecture Presentation, Paper from Bain Fallon Lectures) Proceedings of the 76th Annual Convention of the Oklahoma Veterinary Medical Association, pp. 37-43, 1991.
- 220) Tobin T: Steroidal anti-inflammatory agents and adrenocorticotrophic hormone. (Lecture Presentation, Paper from Bain Fallon Lectures) Proceedings of the 76th Annual Convention of the Oklahoma Veterinary Medical Association, pp. 19-25, 1991.

Friday, August 14, 2009

- 221) Tobin T: Tranquilizers, analgesics and local anaesthetics. (Lecture Presentation, Paper from Bain Fallon Lectures) Proceedings of the 76th Annual Convention of the Oklahoma Veterinary Medical Association, pp. 47-59, 1991.
- 222) Wood T, Terhune T, Dunigan C, Goodman JP, Turner S, Blake JW, Stanley SD, Tobin T: Clearance times and the forensic significance of the dietary anthelmintic pyrantel tartrate in performance horses. *J Eq Vet Sci.*, 11(4):220-224, 1991.
- 223) Roth L, Harbison RD, James RC, Tobin T, Roberts SM. Cocaine hepatotoxicity: influence of hepatic enzyme inducing and inhibiting agents on the site of necrosis. *Hepatology*. 15(5):934-40, 1992.
- 224) Smith JD, Arthur R, Barton J, Bowen E, Byars D, Derksen F, Erickson H, Gowen B, Hinchcliff KW, Manohar M, O'Callaghan M, Pascoe J, Robinson E, Sams RA, Soma LR, Sweeney C, Tobin T: Exercise-induced pulmonary hemorrhage findings, Proc of Workshop, Part I. *Equine Pract*, 14(1):19-25, 1992.
- 225) Smith JD, Arthur R, Barton J, Bowen E, Byars D, Derksen F, Erickson H, Gowen B, Hinchcliff KW, Manohar M, O'Callaghan M, Pascoe J, Robinson E, Sams RA, Soma LR, Sweeney C, Tobin T: Exercise-induced pulmonary hemorrhage findings, Proc of Workshop, Part II. *Equine Pract*, 14(2):9-15, 1992.
- 226) Smith JD, Arthur R, Barton J, Bowen E, Byars D, Derksen F, Erickson H, Gowen B, Hinchcliff KW, Manohar M, O'Callaghan M, Pascoe J, Robinson E, Sams RA, Soma LR, Sweeney C, Tobin T: Exercise-induced pulmonary hemorrhage findings, Proc of Workshop, Part III. *Equine Pract*, 14(3):28-31, 1992.
- 227) Stanley SD, Dressler R, Woods WE, Langemeier J, Goodman JP, Pyrek J, Wood TW, Tobin T: The dietary anthelmintic pyrantel tartrate: An analysis of its detection times in geldings, mares and stallions. Short CR (ed) Proc 9th Int'l Conf Racing Analysts Vets, New Orleans, LA, 1992, pp 321-326.
- 228) Stanley SD, Yang J-M, Wood TW, Selonen JS, Watt DS, Tai H-H, Tobin T: Detomidine clearance in the horse as determined by ELISA. Short CR (ed) Proc 9th Int'l Conf Racing Analysts Vets, New Orleans, LA, 1992, pp 193-201.
- 229) Stanley S, Yang J, Wood T, Yusufji A, Watt D, Tai H-H, Tobin T: ELISA testing: Backgrounds in equine urine, test sensitivity, sample pooling and significance of number of tests. Proc 45<sup>th</sup> Meeting Assoc Official Racing Chem 308-326, 1992.
- 230) Stoilov I, Watt S, Cynkowska G, Goodman JP, (Tobin T), St Pyrek J: Development of a mass spectral confirmation scheme for the carboxylic acid metabolites of detomidine and medetomidine in horse urine. Submitted to *Analytical Toxicology*, 1992.
- 231) Tobin T: Kentucky Laboratory takes lead against horse dopers. *Clin Chem News*, 18, pages 1-11, 1992.
- 232) Wood TW, Stanley SD, Woods WE, Henry PA, Watt DS, Tobin T: Evaluation of threshold doses of drug action in the horse using hematocrit values as an indicator. *Res. Comm. Chem. Path. Pharmacol*, 75(2):231-241, 1992.
- 233) Woods WE, Stanley DS, Yang J-M, Cook D, Gerkin DF, Detra RL, Sams RA, Jeganathan A, Watt DS, Tai H-H, Tobin T: ELISA detection of azaperone in the racehorse. Short CR (ed) Proc 9th Int'l Conf Racing Analysts Vets, New Orleans, LA, 1992, pp 187-192.
- 234) Yang J-M, Stanley DS, Woods WE, Cook D, Hirsch R, Wood TW, Sams RA, Tai H-H, Watt DS, Tobin T: Development of an ELISA for procaine in racing horses and dogs. Short CR (ed) Proc 9th Int'l Conf Racing Analysts Vets, New Orleans, LA, 1992, pp 377-384.

Friday, August 14, 2009

- 235) Harkins JD, Carney JM, Tobin T: Clinical use and characteristics of the corticosteroids. Hinchcliff KW, Sams RA (eds), Vet Clin N Amer: Equine Practice, Drug Use in Performance Horses, Vol 9, Saunders, Philadelphia, 1993, pp 543-562.
- 236) Stanley SD, Gairola CG, Diana JN, Huffman M, Sadove RC, Woods WE, Kwiatkowski S, Tai H-H, Tobin T: Development and characterization of an ELISA for cotinine in biological fluids. *Inhalation Toxicology*, 5(4): 403-413, 1993.
- 237) Harkins JD, Mundy GD, Woods WE, Rees WA, Thompson KN, Tobin T: Determination of the local anesthetic efficacy of procaine, cocaine, bupivacaine and benzocaine. Proc 10th Int'l Conf Racing Analysts Vets, Stockholm, Sweden, p. 303-306, 1994.
- 238) Queiroz-Neto A, Tobin T: Interpretação resultados positivos para cocaína e cafeína em amostras de cavalos de corrida. *Revista Brasileira de Toxicologia*, 7(1/2) p. 5-10, 1994. [KY Ag Exp Sta #95-14-056]
- 239) Kellon EM, (in consultation with) Tobin T: Equine Drugs and Vaccines: A Guide for Owners and Trainers. Breakthrough Press, Ossining, NY, 1994, 336 pp.
- 240) Stanley S, Wood T, Goodman JP, Henry PA, Woods, WE, Chang S-L, Tai H-H, Watt D, Kwiatkowski S, Blake JW, Tobin T: Immunoassay detection of drugs in racing horses: Detection of ethacrynic acid and bumetanide in equine urine by ELISA. *J Analytical Tox*, 18: 95-100, 1994.
- 241) Tobin T: Interim report on the workshop: Testing for Therapeutic Medications, Environmental and Dietary Substances in Racing Horses, Univ of Kentucky, Lexington, KY, 1994.
- 242) Hall NC, Yang J-M, Stanley SD, Mundy GD, Kryscio R, Tai H-H, Blake JW, Woods WE, Tobin T: Number of negative tests required to exclude specific levels of agent abuse in equine forensic chemistry. Submitted to *Equine Practice*, 1995.
- 243) Harkins JD, Stanley SD, Mundy GD, Carney JM, Sams RA, Woods WE, Tobin T: A review of the Pharmacology, pharmacokinetics, and regulatory control in the US of local anesthetics in the horse. *J Vet Pharmacol Therap*, 18: pp 397-406, 1995.
- 244) Harkins JD, Tobin T: A review of the methodologies used to determine the highest no-effect doses (HNEDs) for medications in horses. Proc Testing Therap Med Environ Diet Subst Racing Horses, Lexington, KY, 1995, pp 169-174.
- 245) Harkins JD, Tobin T: Racing horses, nitroglycerin and exercise-induced pulmonary hemorrhage. *Equine Vet J*, 27(4):240-241, 1995.
- 246) Sendlein LVA, Birge WJ, Blomquist GC, Dinger JS, Huffsey RR, Horstman SW, Kercher MD, McGinley P, Short DC, Struttman T, Taylor L, Tobin T, Dunn D, Naugle BI: Final summary report: Identification of appropriate standards for corrective action for a release from petroleum underground storage tanks. Submitted to Petroleum Underground Storage Tank Environmental Assurance Fund Commission, 1995.
- 247) Rees WA, Chambers TM, Fenger CK, Harkins JD, Blouin RA, Holland RE, Tobin T: Pharmacokinetics and bioavailability of amantadine in the horse. Proc 41<sup>st</sup> Convent Am Assoc. Equine Pract, Lexington, KY, 1995, pp270-271.
- 248) Harkins JD, Mundy GD, Stanley SD, Woods We, Rees WA, Thompson KN, Tobin T: Determination of highest no-effect doses (HNEDs) for local anesthetic responses to procaine, cocaine, bupivacaine, and benzocaine in Thoroughbred mares. Proc 41<sup>st</sup> Convent Am Assoc. Equine Pract, Lexington, KY 1995, pp163-165.
- 249) Stanley SD, Sams RA, Harkins JD, Mundy GD, Boyles J, Woods WE, Tobin T: Frequency distribution of post-race urine pH from thoroughbreds and standardbreds: Research and regulatory significance. *Equine Vet J*, 27:471-473, 1995.

Friday, August 14, 2009

- 250) Tobin T: Fifties rules, nineties testing: The need for thresholds for therapeutic medications. Racing Update, 18 (10):89-92, 1995.
- 251) Tobin T, Harkins JD: Thresholds for high potency drugs: Plasma or urinary thresholds? Proc Testing Therap Med Environ Diet Subst Racing Horses, Lexington, KY, 1995, pp 185-189.
- 252) Tobin T, Harkins JD, Woods WE, Hall NC, Queiroz-Neto A, Stanley SD, Mundy GD: Testing for drugs, medications and other substances in racing horses. Proc for the Short Course: Recent Advances in Equine Nutrition, Kentucky Equine Research, Inc., Versailles, KY, 1995, pp 1-26. [KY Ag Exp Sta #95-14-057]
- 253) Harkins JD, Stanley S, Mundy GD, Sams RA, Woods WE, Rees WA, Thompson K, and Tobin T: Determination of Highest No-Effect Doses (HNEDs) for local anesthetics. Proc 41<sup>st</sup> Convent Am Assoc. Equine Pract, pp 163-165, 1995.
- 254) Harkins JD, Stanley S, Mundy GD, Sams RA, Woods WE, Arthur R, Boyles J, and Tobin T: Significance of Procaine residues in post race urine samples. Proc 41<sup>st</sup> Convent Am Assoc. Equine Pract, pp 168-169, 1995.
- 255) Harkins JD, Stanley S, Mundy GD, Sams RA, Woods WE, Richardson DR, and Tobin T: Character and duration of pharmacological effect of isoxsuprine. Proc 41<sup>st</sup> Convent Am Assoc. Equine Pract, pp 166-167, 1995.
- 256) Tobin T, Mundy GD, Stanley SD, Sams RA, Crone D (eds): Testing for Therapeutic Medications, Environmental and Dietary Substances in Racing Horses, Proceedings of Workshop, Lexington, KY, 220 pages, 1995. [KY Ag Exp Sta #95-14-058]
- 257) Sams RA, Gerkin, DF, Detra RL, Wood WE, Stanley SD, Tobin T, Yang J-M, Tai H-H, Jegananthan A, Watt DS: Identification of metabolites of azaperone in horse urine, J Pharm Sci. 85 pp 79-84, 1996.
- 258) Stanley DS, Mundy GD, Woods WE, Harkins JD, Rees WA, Boyles J, Sams RA, Tobin T: ELISA detection of cocaine and cocaine metabolites in equine urine, saliva and serum. Manuscript in progress, 1996.
- 259) Harkins JD, Mundy GD, Stanley SD, Woods WE, Rees WA, Thompson KN, Tobin T: Determination of highest no-effect doses (HNEDs) for the local anesthetic responses to procaine, cocaine, bupivacaine and benzocaine. Equine Vet J, 28:30-37, 1996.
- 260) Harkins JD, Mundy GD, Stanley SD, Woods WE, Sams RA, Richardson DR, Tobin T: Character and duration of pharmacologic effects of intravenous isoxsuprine. Equine Vet J, 28(4):320-326, 1996.
- 261) Harkins JD, Mundy GD, Stanley SD, Woods WE, Boyles J, Arthur RA, Sams RA, and Tobin T: Regulatory significance of procaine residue in plasma and urine samples: Preliminary communication, Equine Vet J, 28(2), 121-125, 1996.
- 262) Edgar T, Tobin T, Watt D, Tai H-H, Schroedter D, Ice JT, Bass S: ELISA assay for caffeine. Proc 11th Intl'n Conf Racing Analysts Vets, Brisbane, Australia, 1996, pp 478-480.
- 263) Harkins JD, Queiroz-Neto A, West D, Mundy GD, Tobin T: Quantitation of the locomotor effect of therapeutic medication in a behavior chamber. Proc 11th Intl'n Conf Racing Analysts Vets, Brisbane, Australia, 1996, pp 117-120.
- 264) Edgar T, Tobin T, Tai H-H, Bass S, Ice JT, Schroedter D: ELISA assay for flunixin. Proc 11th Int'l Conf Racing Analysts Vets, Brisbane, Australia, 1996, pp 466-469.
- 265) Edgar T, Tobin T, Tai H-H, Bass S, Ice JT, Schroedter D: ELISA assay for methocarbamol. Proc 11th Int'l Conf Racing Analysts Vets, Brisbane, Australia, 1996, pp.459-462.

Friday, August 14, 2009

- 266) Stanley SD, Troppmann A, Carter W, Sams RA, Harkins JD, Mundy GD, Boyles J, Woods WE, Tobin T: Frequency distributions of pH values in post-race urine samples from Standardbred and Thoroughbred horses. Proc 11th Int'l Conf Racing Analysts Vets, Brisbane, Australia, 1996, pp 442-444.
- 267) Foster CN, Boyles J, Crone DL, Mundy GD, Sams RA, Stanley SD, Tobin T: Response to a survey among international racing authorities on therapeutic medications, environmental and dietary substances in racehorses. Proc 11<sup>th</sup> Int'l Conf Racing Analysts Vets, Brisbane, Australia, 1996, pp 46-55.
- 268) Rees WA, Harkins JD, Woods WE, Blouin RA, Lu M, Fenger C, Holland RE, Tobin T, Chambers TM: Chemotherapy for equine influenza: Overview of the pharmacology and side effects of amantadine and rimantadine in the horse. Proc 11th Int'l Conf Racing Analysts Vets, Brisbane, Australia, 1996, pp 355-357.
- 269) Rees WA, Kwiatkowski S, Stanley SD, Granstrom DE, Yang J-M, Gairola CG, Drake D, Glowczyk J, Woods WE, Tobin T: The development and characterization of an ELISA for *trans*-3'-hydroxycotinine, a biomarker for mainstream and sidestream smoke exposure. Bengston DA, Henshel DS (eds), Environmental Toxicology and Risk Assessment: Biomarkers and Risk Assessment (5th Vol), Am Soc Testing Materials, Philadelphia, 1996, pp 149-162. [KY Ag Exp Sta #92-4-167]
- 270) Woods WE, Mundy GD, Stanley SD, Sams RA, Harkins JD, Carter W, Boyles J, Rees WA, Bass S, Tobin T: Detection and quantification of cocaine and its metabolites in equine body fluids after administration by different routes. Proc 11<sup>th</sup> Int'l Conf Racing Analysts Vets, Brisbane, Australia, 1996, pp 503-507. [KY Ag Exp Sta # 96-14-080]
- 271) Harkins JD, and Tobin T: The pharmacologic effects of isoxsuprine. *Pferdeheilkunde*, 12: 428-430, 1996.
- 272) Harkins JD, Smith RA, Tobin T: Poisonous plants and feed related poisoning in horses. *The Veterinarian's Practical Reference to Equine Nutrition*, 135-165, 1997.
- 273) Harkins JD, Tobin T, Mundy GD, Harrison L, Poonacha KB: Exercise-induced pulmonary hemorrhage: A Review of the etiology and pathogenesis. *Equine Pract.*, 19 (1): 22-28, 1997. [KY Ag Exp Sta #95-14-182]
- 274) Rees WA, Harkins JD, Woods WE, Blouin RA, Chambers T, Carter WG, Holland R, Fenger C, Tobin T: Amantadine and equine influenza: Pharmacology, pharmacokinetics and neurological effects in the horse. *Equine Vet J*, 29(2): 104-110, 1997. [KY Ag Exp Sta #95-14-134]
- 275) Harkins JD, Mundy GD, Stanley SD, Sams RA, Tobin T: Lack of local anesthetic efficacy of Sarapin in an abaxial sesamoid block model. *J Vet Pharmacol Therap* 20, 229-232, 1997.
- 276) Sleeman JM, Carter WG, Tobin T, Ramsay EC; Immobilization of domestic goats (*Capra hircus*) using orally administered carfentanil citrate and detomidine HCL. *J Zoo Wildlife Med*, 28 ( 2): 158-165, 1997.
- 277) Harkins JD, Mundy GD, Stanley S, Woods WE, Lehner A. Rees WA, Dirikolu L, Bass S, Karpiesiuk W, Carter WG, Boyles J, Tobin T: Lidocaine in the horse: Its pharmacological effects and their relationship to analytical findings. *J Vet Pharmacol Therap* 21:462-476, 1998.
- 278) Tobin T, Mundy GD, Stanley SD, Sams R, Jack RA: The Commission Veterinarian Equine Medical Director: A Short Course, Nov. 28- Dec. 1, 1995. In Preparation for Publ. 1997.
- 279) Harkins JD, Carney JM, Meier M, Laek SC, Tobin T: Effect of  $\alpha$ -phenyl-*tert*-butylNitron on endotoxin toxemia in horses. *Vet Human Toxicol* 39 (5) October 1997: pp 268 -271. [KY Ag Exp Sta #95-14-077]

Friday, August 14, 2009

- 280) Queiroz-Neto A, Zamur G, Goncalves SC, Carregaro AB, Mataqueiro MI, Harkins JD, Tobin T: Characterization of the antinociceptive and sedative effect of amitraz in horses. *J Vet Pharmacol Therap*, 21(5):400-405, 1997. [KY Ag Exp Sta #97-14-137].
- 281) Tobin T, Mundy GD, Rees WA, Harkins JD, Woods WE, Lehner A, Karpiesiuk W, Dirikolu, Boyles J, Carter W: Review of a consequence of highly sensitive drug testing: The need for data on analytical-pharmacological relationships for therapeutic medication. Proc 43<sup>rd</sup> Convent Am Assoc. Equine Pract, Phoenix, AZ, 1997, pp 215-219.
- 282) Granstrom DE, McCrillis S, Wulff-Strobel C, Baker CB, Carter W, Harkins JD, Tobin T, Saville WJ: Diclazuril and equine protozoal myeloencephalitis. Proc 43<sup>rd</sup> Convent Am Assoc. Equine Pract, Phoenix, AZ, 1997, pp13-14.
- 283) Tobin T, Dirikolu L, Harkins JD, Granstrom DE, Carter W, Lehner A, Rees WA: Preliminary pharmacokinetics of diclazuril and toltrazuril in the horse. Proc 43<sup>rd</sup> Convent Am Assoc. Equine Pract, Phoenix, AZ, 1997, pp15-16.
- 284) Harkins JD, Tobin T, Queiroz-Neto A: Development of an equine behavior chamber and effects of amitraz, detomidine and acepromazine on spontaneous locomotor activity. Proc 43<sup>rd</sup> Convent Am Assoc. Equine Pract, Phoenix, AZ, 1997, pp227-228.
- 285) Queiroz-Neto A, Zamur G, Carregaro AB, Mataqueiro MI, Salvadori MC, Azevedo CP, Harkins JD, Tobin T: Effects of caffeine on locomotor activity of horses: Determination of the no-effect threshold. *J Applied Toxicol*, 21:229-234, 2001.
- 286) Rees WA, Holland RE, Dirikolu L, Tobin T, Chambers TM: Therapeutic efficacy of rimantadine HCl in experimentally induced influenza: An illness in horses. Proc 43<sup>rd</sup> Convent Am Assoc. Equine Pract, Phoenix, AZ, 1997, pp390-391.
- 287) Harkins JD, Mundy GD, Karpiesiuk W, Woods WE, Dirikolu L, Carter WG, Boyles J, Tobin T: Bupivacaine: Pharmacological effects, analytical detection, and regulatory significance in performance horses. In press, 1999.
- 288) Woods WE, Lehner A, Karpiesiuk W, Harkins JD, Tobin T: Detection and quantitation of 3-hydroxymepivacaine in horse urine. Proc 12<sup>th</sup> Intl'n Conf Racing Analysts Vets, Vancouver, Canada, 1998, pp324-328. [KY Ag Exp Sta #98-14-35].
- 289) Harkins JD, Mundy GD, Stanley SD, Woods WE, Sams RA, Richardson DR, Grambow SC, Tobin T: Absence of detectable pharmacological effects after oral administration of isoxsuprine. *Equine Vet J*30(4):294-299, 1998. [KY Ag Exp Sta #96-14-142].
- 290) Lehner A, Woods WE, Harkins JD, Karpiesiuk W, Boyles J, Carter WG, Dirikolu L, Tobin T: Detection and quantitation of 3-hydroxybupivacaine in horse urine. Proc 12<sup>th</sup> Intl'n Conf Racing Analysts Vets, Vancouver, Canada, 1998, pp287-291. [KY Ag Exp Sta #98-14-48]
- 291) Harkins JD, Karpiesiuk W, Woods WE, Lehner A, Mundy GD, Rees WA, Dirikolu L, Bass S, Carter WG, Boyles J, Tobin T: Mepivacaine: Its pharmacological effects and their relationship to analytical finding in the horse. *J. Vet. Pharmacol. Therap*, 22:107-121, 1999. [KY Ag Exp Sta #98-14-148].
- 292) Tobin T: Medication control from 1900 to the Present. HBPA Medication Booklet, 1998, pp. 23-29. [KY Ag Exp Sta #97-14-138].
- 293) Rees WA, Harkins JD, Lu M, Blouin RA, Holland RE, Lehner F, Chambers TM, Tobin T: Rimantadine and equine influenza: Pharmacology, pharmacokinetics, and therapeutic efficacy in the horse. *Equine Vet J*, 29(2):104-110, 1996. [KY Ag Exp Sta #95-14-134].
- 294) Harkins JD, Mundy GD, Stanley SD, Rees WA, Tobin T: An overview of the methylxanthines and their regulation in the horse. *Equine Practice*, 20(1):10-16, 1998. [KY Ag Exp Sta #96-14-084].

Friday, August 14, 2009

- 295) Karpiesiuk W, Lehner A, Woods WE, Tobin T: Equine drug metabolites and standards. Distributed, 1998. Booklet published by Gluck Equine Research Center, Lexington, KY, 1998.
- 296) Tobin T, Lehner A, Woods WE, Karpiesiuk W, Harkins JD: Detection and quantitation of 3-hydroxyliclozine in horse urine. In press, Proc 12<sup>th</sup> Int'l Conf Racing Analysts Vets, Vancouver, Canada, 1998.
- 297) Dirikolu L, Lehner A, Woods WE, Bentz B, Harkins JD, Carter W, Granstrom DE, Tobin T: Detection, quantification and preliminary pharmacokinetics of diclazuril in the horse. Proc 12<sup>th</sup> Int'l Conf Racing Analysts Vets, Vancouver, Canada, 1998, pp240-244. [KY Ag Exp Sta #98-14-39].
- 298) Tobin T, Saville W, Carter W, Cohen N, Divers T: The interim report on workshop on equine protozoal myeloencephalitis: Testing and treatment. Manuscript distributed to workshop participants, 1998. [KY Ag Exp Sta #98-14-42].
- 299) Dirikolu L, Lehner AF, Natrass C, Bentz B, Woods WE, Carter W, Karpiesiuk W, Boyles J, Harkins JW, Granstrom DE, Tobin T: Diclazuril in the horse: Its identification, detection and preliminary pharmacokinetics. *J Vet Pharm Therap*, 22:374-379, 1999. [KY Ag Exp. Sta #98-14-70].
- 300) Tobin T, Harkins JD, Sams RA: Testing for therapeutic medications: Analytical/pharmacological relationships and the need for "limitations" on the sensitivity of testing for certain agents. *J Vet Pharm Therap*, 22:220-233. 1999. [KY Ag Exp Sta #98-14-134].
- 301) Harkins JD, Tobin T: Lack of local efficacy of fentanyl in the abaxial sesamoid block model. *J Vet Pharm Therap*, 22:52-55, 1999 [KY Ag Exp Sta #98-14-85].
- 302) Heller TA, Tobin T, Karpiesiuk W, Tai H-H, Harkins JD, Magsig SE, Schroedter DE: ELISA assay for fluoxetine. In press, Proc 12<sup>th</sup> Int'l Conf Racing Analysts Vets, Vancouver, Canada, 1998.
- 303) Bentz BG, Dirikolu L, Carter WG, Saville W, Bernard WV, Wulff-Strobel C, McCrillis S, Reed S, Granstrom DE, Tobin T: Clinical report on diclazuril and equine protozoal myeloencephalitis (EPM). *Equine Vet. Education*, 2:258-263, 2000 [KY Ag Exp Sta #98-14-159].
- 304) Bentz BG, Carter WG, Tobin T: Equine protozoal myeloencephalitis (EPM): Review of a diagnostic approach. *Compendium on Continuing Education for Practicing Veterinarians*, 21:975-981, 1999. [KY Ag Exp Sta #98-14-158].
- 305) Harkins JD, Karpiesiuk W, Tobin T, Dirikolu L, Lehner AF: Identification of hydroxypropivacaine glucuronide in equine urine by ESI+ /MS/MS. *Can J Vet Res*, 64(3):178-183. [KY Ag. Exp. Sta#98-14-151].
- 306) Short CR, Sams RA, Soma LR, Tobin T: The regulation of drugs and medicines in horse racing in the United States. The Association of Racing Commissioners International Uniform Classification of Foreign Substances Guide. *J Vet Pharm Therap*. 21, 144-153, 1998.
- 307) Harkins JD, Karpiesiuk W, Woods WE, Lehner A, Dirikolu L, Carter W, Boyles J, Tobin T: Propivacaine in the horse: Its pharmacological responses, urinary detection and mass spectral confirmation. *J Vet Pharm Therap*, 24:89-98, 2001. [KY Ag. Exp. Sta #98-14-153].
- 308) Tobin T: Equine Drug Testing: How it works, HBPA Medication Booklet, pp. 42-51, 1998 [KY Ag. Exp. Sta. #9814-26].
- 309) Tobin T: Dietary, environmental, and endogenous substances in horses. In Medication Reference Guide, National Horsemen's Benevolent & Protective Association, pp 52-58, 1998.
- 310) Tobin T, Harkins JD, Carter W, Sams R Stanley S: An interim report on the Testing Integrity Program seminar "Furosemide in the Horse: Its Actions, Effects and Regulatory Control". The New Orleans Hilton, Riverside, CA, March, 1998.

Friday, August 14, 2009

- 311) Bosken JM, Lehner AF, Hunsucker A, Harkins JD, Woods WE, Karpiesiuk W, Carter WG, Boyles J, Fisher M, Tobin T: Direct MS-MS identification of isoxsuprine-glucuronide in post-administration equine urine. *Can J Vet Res*, 64:112-116, 2000. [KY Ag. Exp. Sta #99-14-3]
- 312) Dirikolu L, Lehner AF, Karpiesiuk W, Harkins JD, Woods WE, Carter WG, Boyles J, Fisher M, Tobin T: Identification of lidocaine and its metabolites in post-administration equine urine by ELISA and MS-MS. *J Vet Pharm Therap*, 23:215-222, 2000. [KY Ag. Exp. Sta #00-14-91]
- 313) Tobin T: Equine Forensic Science: An Overview of the Scientific Methods. Booklet Published by Gluck Equine Research Center, Lexington, KY, 1998. [KY Ag. Exp. Sta #98-14-192]
- 314) Boyles J, Woods WE, Harkins JD, Fisher M, Uboh C, Tobin T: Procedures and quality assurance aspects of the Testing Integrity Program. Submitted to Proceedings of the 52<sup>nd</sup> Meeting of the Association of Official Racing Chemists, New Orleans, LA, 1999. [KY Ag. Exp. Sta #99-14-27]
- 315) Harkins JD, et al: Clenbuterol in the horse: A Preliminary analytical report. Submitted to Proceedings of the 52<sup>nd</sup> Meeting of the Association of Official Racing Chemists, New Orleans, LA, 1999.
- 316) Lehner AF, Hunsucker A, Bosken JM, Harkins JD, Woods WE, Karpiesiuk W, Almeida P, Dirikolu L, Carter WG, Boyles J, Holtz C, Fisher M, Tobin T: Further characterization of equine isoxsuprine metabolites by electrospray ionization tandem mass spectrometry. Manuscript in preparation, 2003.
- 317) Carregaro AB, Woods WE, Queiroz-Neto A, Tobin T: Comparison of the quantification of caffeine in human plasma by gas chromatography and ELISA. *Braz J Med Biol Res*, 34:821-824, 2001. [KY Ag Exp Sta #01-14-116]
- 318) Harkins JD, Robinson NE, Woods WE, Lehner AF, Smith MD, Gates RS, Fisher M, Tobin T: Intratracheal clenbuterol in the horse: Its pharmacological efficacy and analytical detection. *J Vet Pharmacol Therap*, 23:251-260, 2000. [KY Ag. Exp. Sta #99-14-167]
- 319) Lehner AF, Jacobs J, Almeida P, Harkins JD, Karpiesiuk W, Woods WE, Carter W, Boyles J, Dirikolu L, Bosken J, Holtz C, Tobin T: Qualitative identification of celecoxib in equine samples. Manuscript in preparation, 2003.
- 320) Lehner AF, Almeida P, Jacobs J, Harkins JD, Karpiesiuk W, Woods WE, Dirikolu L, Bosken JM, Carter WG, Boyles J, Holtz C, Heller T, Natrass C, Fisher M, Tobin T: Remifentanyl in the horse: Identification and detection of its major urinary metabolite. *J Analytical Toxicol*, 24:309-315, 2000. [KY Ag. Exp. Sta #99-07-145]
- 321) Ramsey EC, Carter W, Geiser D, Tobin T: Serum concentrations and effects of detomidine delivered orally to horses in three different mediums. *Vet Anaesthesia and Analgesia*, 29:219-222, 2002. [KY Ag Exp Sta #02-14-018]
- 322) Harkins JD, Woods WE, Lehner AF, Karpiesiuk W, Hughes C, Gates RS, Fisher M, Tobin T: Pyrilamine in the horse: II. Detection and pharmacokinetics of pyrilamine and its major urinary metabolite. Manuscript in preparation, 2001.
- 323) Xie H, Ott EA, Harkins JD, Tobin T, Colahan PT: Influence of electro-acupuncture on pain threshold in horses and its mode of action. Submitted to *J Am Vet Med Assoc*, 1999. [KY Ag. Exp. Sta # 99-14-170]
- 324) Harkins JD, Woods WE, Lehner AF, Fisher M, Tobin T: Clenbuterol in the horse: Urinary concentrations determined by ELISA and GC/MS after clinical doses. *J Vet Pharmacol Therap*, 24:7-14, 2001. [KY Ag. Exp. Sta #00-14-49]
- 325) Harkins JD, Karpiesiuk W, Woods WE, Lehner A, Rees WA, Dirikolu L, Bass S, Carter WG, Boyles J, Tobin T: Ropivacaine in the horse: its pharmacological responses, urinary detection and mass spectral confirmation. *J Vet Pharmacol Therap*, 24:89-98, 2001.



Friday, August 14, 2009

- 326) Lehner AF, Harkins JD, Karpiesiuk W, Woods WE, Robinson NE, Dirikolu L, Fisher M, Tobin T: Clenbuterol in the horse: Confirmation and quantitation of serum clenbuterol by LC-MS-MS after oral and intratracheal administration. *J Analyt Toxicol*, 25:280-287, 2001. [KY Ag. Exp. Sta #00-14-122]
- 327) Woods WE, Harkins JD, Lehner AF, Dirikolu L, Karpiesiuk W, Boyles J, Carter WG, Fisher M, Heller T, Tobin T: Detection and disposition of pyrrolamine and its metabolite O-desmethylpyrrolamine in equine blood and urine: A preliminary report. Proc 13<sup>th</sup> Int'l Conf Racing Analysts Vets, Cambridge, UK, 2000, pp472-477. [KY Ag. Exp. Sta # 00-14-85]
- 328) Dirikolu L, Lehner AF, Jacobs J, Woods WE, Karpiesiuk W, Harkins JD, Carter WG, Boyles J, Hughes C, Bosken JM, Holtz C, Natrass C, Fisher M, Tobin T: Celecoxib in the horse: Its recovery, mass spectrometric identification, disposition and major urinary metabolites. Proc 13<sup>th</sup> Int'l Conf Racing Analysts Vets, Cambridge, UK, 2000, pp162-170. [KY Ag. Exp. Sta #00-14-101]
- 329) Carter WG, Walters K, Chamblin T, Tobin T: A review of Association of Racing Commissioners International class 1, 2 and 3 medication violations and penalties for 1995-1999 in North America. Proc 13<sup>th</sup> Int'l Conf Racing Analysts Vets, Cambridge, UK, 2000, pp303-309.
- 330) Holtz C, Drinnon R, Gates R, Hughes CG, Woods WE, Sweet A, Dirikolu L, Bosken JM, Harkins JD, Lehner AF, Carter WG, Karpiesiuk W, Boyles J, Fisher MG, Tobin T: The postural signature device: A non-invasive tool for identifying medication thresholds. A preliminary report. Proc 13<sup>th</sup> Int'l Conf Racing Analysts Vets, Cambridge, UK, 2000, pp46-52. [KY Ag. Exp. Sta #00-14-110]
- 331) Lehner AF, Almeida P, Harkins JD, Karpiesiuk W, Woods WE, Dirikolu L, Bosken JM, Carter WG, Boyles J, Holtz C, Heller T, Natrass C, Fisher M, Tobin T: Identification and detection of the major equine urinary metabolite of remifentanyl. Proc 13<sup>th</sup> Int'l Conf Racing Analysts Vets, Cambridge, UK, 2000, pp465-471. [KY Ag. Exp. Sta #00-14-104]
- 332) Lehner AF, Woods WE, Karpiesiuk W, Harkins JD, Fisher M, Tobin T: A highly sensitive detection method for clenbuterol in equine serum. Proc 13<sup>th</sup> Int'l Conf Racing Analysts Vets, Cambridge, UK, 2000, pp420-426. [KY Ag. Exp. Sta #00-14-103]
- 333) Lehner AF, Hughes C, Woods WE, Karpiesiuk W, Harkins JD, Dirikolu L, Holtz C, Bosken JM, Carter WG, Boyles J, Booze R, Mactutus C, Fisher M, Tobin T: A liquid chromatographic-electrospray tandem MS/MS method for quantitation of equine cocaine metabolites. Proc 13<sup>th</sup> Int'l Conf Racing Analysts Vets, Cambridge, UK, 2000, pp413-419. [KY Ag. Exp. Sta #00-14-105]
- 334) Patrick S, Heller T, Tobin T, Bratton C, Bass S: Fentanyl group ELISA for the detection of remifentanyl and other narcotic analgesics. Proc 13<sup>th</sup> Int'l Conf Racing Analysts Vets, Cambridge, UK, 2000, pp337-340.
- 335) Karpiesiuk W, Lehner AF, Tobin T: Synthesis and characterization of deuterated clenbuterol and two equine metabolites. Proc 13<sup>th</sup> Int'l Conf Racing Analysts Vets, Cambridge, UK, 2000, 427-429. [KY Ag. Exp. Sta #01-14-8]
- 336) Bosken JM, Tobin T, Mundy GD, Fisher M, Banks RO: Comparison of specific gravity and osmolality in post-race urine of furosemide-treated and control Thoroughbred horses. Proc 13<sup>th</sup> Int'l Conf Racing Analysts Vets, Cambridge, UK, 2000, pp345-349.
- 337) Dirikolu L, Bentz BG, Lehner AF, Woods WE, Harkins JD, Karpiesiuk W, Carter WG, Boyles J, Granstrom D, Tobin T: New therapeutic approaches to equine protozoal myeloencephalitis: Clinical pharmacology and apparent efficacy of diclazuril, toltrazuril and sulfonotoltrazuril. Submitted to *J Vet Pharmacol Therap*, 2001. [KY Ag. Exp. Sta #00-14-102]
- 338) Tobin T, Harkins JD, Fisher M: 'No-effect limits': An overview and a pharmacological approach. Proc 13<sup>th</sup> Int'l Conf Racing Analysts Vets, Cambridge, UK, 2000, pp36-42. [KY Ag. Exp. Sta #00-14-198]

Friday, August 14, 2009

- 339) Hale ND, Tobin T, Tai H-H, Harkins JD, Heller T, Schroedter DE, Bratton C, Mayer B: ELISA assay for stanozolol. Proc 13<sup>th</sup> Int'l Conf Racing Analysts Vets, Cambridge, UK, 2000, pp341-344.
- 340) Harkins JD, Dirikolu L, Lehner AF, Hughes C, Schroedter D, Mayer B, Bratton C, Fisher M, Tobin T: The detection and biotransformation of guanabenz in horses: A preliminary report. *Vet Ther*, 4(2): 197-209, 2003. [KY Ag. Exp. Sta. #01-14-113]
- 341) Harkins JD, Lehner AF, Woods WE, Tobin T: Guanabenz in the horse: Clinical effects and its comparison with other  $\alpha_2$  agonists. Manuscript in preparation, 2003.
- 342) Dirikolu L, Lehner AF, Hughes C, Woods WE, Karpiesiuk W, Harkins JD, Boyles J, Granstrom DE, Tobin T: Toltrazuril sulfone in the horse: Its identification, detection and pharmacokinetics. Manuscript in preparation, 2001.
- 343) Dirikolu L, Lehner AF, Karpiesiuk W, Hughes C, Woods WE, Carter WG, Boyles J, Harkins JD, Tobin T: Detection, quantification, metabolism and behavioral effects of selegiline in the horse. *Veterinary Therapeutics*, 4(3):257-268, 2003. [KY Ag. Exp. Sta. #01-14-186]
- 344) Bosken J, Lehner AF, Woods WE, Hughes CG, Harkins JD, Boyles J, Tobin T: A GC/MS method for the determination of isoxsuprine in biological fluids of the horse utilizing electron impact ionization. Manuscript submitted to *J Anal Tox*, 2003.
- 345) Dirikolu L, Lehner AF, Hughes C, Woods WE, Karpiesiuk W, Harkins JD, Boyles J, Granstrom DE, Tobin T: Sodium salt formulations of diclazuril and toltrazuril sulfone in the horse: Identification, synthesis, detection and pharmacokinetics. Manuscript in preparation, 2001.
- 346) Dirikolu L, Mollett BA, Woods WE, Lehner AF, Karpiesiuk W, Boyles J, Harkins JD, Bratton C, Tobin T: Apparent ELISA detection times for albuterol after administration with the torpex equine inhaler device. *Vet Ther* 3(3):297-307, 2002. [KY Ag Exp Sta #02-14-30]
- 347) Lehner AF, Craig AM, Fannin N, Bush L, Tobin T: Fragmentation patterns of selected ergot alkaloids by electrospray ionization tandem quadrupole mass spectrometry. *J Mass Spec*, 39(11):1275-862003. [KY Ag Exp Sta #02-14-60]
- 348) Dirikolu L, Mollett BA, Woods WE, Bratton C, Lehner AF, Karpiesiuk W, Hughes C, Boyles J, Harkins JD, Troppmann A, Tobin T: ELISA "detection times" of albuterol after Torpex<sup>TM</sup> administration: a preliminary report. In press, Proc 14<sup>th</sup> Int'l Conf Racing Analysts Vets, Orlando, FL, 2002.
- 349) Hughes C, Lehner AF, Crutchfield J, Woods WE, Harkins JD, Karpiesiuk W, Dirikolu L, Sebastian M, Troppmann A, Boyles J, Bosken J, Harrison L, Tobin T: Analytical detection and "normal" population data of cyanide and thiocyanate in equine blood and serum. In press, Proc 14<sup>th</sup> Int'l Conf Racing Analysts Vets, Orlando, FL, 2002. [KY Ag Exp Sta #02-14-168]
- 350) Harkins JD, Tobin T: Pharmacodynamics of guanabenz and related  $\alpha_2$  agonists. In press, Proc 14<sup>th</sup> Int'l Conf Racing Analysts Vets, Orlando, FL, 2002. [Abstract only]
- 351) Lehner AF, Hughes C, Woods WE, Harkins JD, Karpiesiuk W, Dirikolu L, Bosken J, Boyles J, Troppmann A, Fisher M, Tobin T: Proposed methodology for the detection of Oxyglobin® in equine plasma. In press, Proc 14<sup>th</sup> Int'l Conf Racing Analysts Vets, Orlando, FL, 2002. [KY Ag Exp Sta #02-14-169]
- 352) Karpiesiuk W, Lehner AF, Dirikolu L, Fisher M, Tobin T: Synthesis and characterization of deuterated standard of furosemide (Salix®). In press, Proc 14<sup>th</sup> Int'l Conf Racing Analysts Vets, Orlando, FL, 2002. [KY Ag Exp Sta #02-14-181]
- 353) Dirikolu L, Lehner AF, Hughes C, Karpiesiuk W, Camargo FC, Harkins JD, Woods WE, Bosken J, Boyles J, Troppmann A, Fisher M, Tobin T: Detection, quantification and pharmacokinetics of furosemide in horses: a preliminary report. In press, Proc 14<sup>th</sup> Int'l Conf Racing Analysts Vets, Orlando, FL, 2002. [Ky Ag Exp Sta #03-14-070]

Friday, August 14, 2009

- 354) Casey PJ, Champion ZJ, Mansell KB, Tobin T: Stallion influence on reproductive loss during Mare Reproductive Loss Syndrome (MRLS) in Lexington, Kentucky 2001. Abstract submitted to Proc 14<sup>th</sup> Int'l Conf Racing Analysts Vets, Orlando, FL, 2002.
- 355) Casey PJ, Korolev AB, Baker IDC, Champion ZJ, Tobin T: The effect of intermittent hypoxic training (IHT) on haematological values, aerobic capacity and performance in racing thoroughbreds. Abstract submitted to Proc 14<sup>th</sup> Int'l Conf Racing Analysts Vets, Orlando, FL, 2002.
- 356) Lehner AF, Meek J, True J, Harkins JD, Karpiesiuk W, Hughes CG, Dirikolu L, Woods WE, Bosken J, Boyles J, Troppmann A, Fannin N, Bush L, Craig AM, Tobin T: Ergot alkaloids screened by HPLC-electrospray[+] tandem quadrupole mass spectrometry. Manuscript accepted by *J Anal Tox*, 2002. [KY Ag Exp Sta# 02-14-61]
- 357) Hughes CG, Sebastian M, Crutchfield J, Dirikolu L, Harkins JD, Boyles J, Troppmann A, McDowell K, Harrison L, Tobin T: A simple, rapid and highly sensitive spectrophotometric method for determination of cyanide in equine biological samples. *Toxicology Mechanisms and Methods* **13**:129-138, 2003. [KY Ag Exp Sta# 02-14-85]
- 358) Dirikolu L, Sebastian M, Hughes CG, Crutchfield J, Harkins JD, Boyles J, Troppmann A, McDowell K, Harrison L, Tobin T: The toxicokinetics of cyanide and mandelonitrile in the horse and their relevance to the Mare Reproductive Loss Syndrome. *Toxicology Mechanisms and Methods*, **13**:199-211, 2003. [KY Ag Exp Sta# 02-14-86]
- 359) Tobin T, McDowell K, Hughes CG, Lehner AF, Crutchfield J, Harkins JD, Dirikolu L, Sebastian M, Harrison L, Williams N, Smith R, Webb B, Newman K, Allman R, Dwyer R, Powell D: The Kentucky 2001 Mare Reproductive Loss Syndrome: overview and preliminary toxicological approaches. Proc 14<sup>th</sup> Int'l Conf Racing Analysts Vets, Orlando, FL, 2002. p. 261.
- 360) Camargo F, Dirikolu L, Sebastian M, Hughes C, Crutchfield J, Harkins JD, Boyles J, Troppmann A, McDowell K, Harrison L, Tobin T: The pharmacokinetics of cyanide and mandelonitrile in the horse and their relevance to the Mare Reproductive Loss Syndrome. In press, Proc 14<sup>th</sup> Int'l Conf Racing Analysts Vets, Orlando, FL, 2002. [KY Ag Exp Sta #03-14-071]
- 361) Queiroz-Neto A, Zamur G, Lacerda-Neto C, Tobin T: Determination of the Highest No-effect Dose (HNED) and of the elimination pattern for cocaine in horses. *J Appl Toxicol* **22**:117-121, 2002. [KY Ag Exp Sta #02-14-156]
- 362) Powell DG, Troppmann A, and Tobin T (eds): Proceedings of the First Workshop on Mare Reproductive Loss Syndrome. Lexington, KY, 2002. Published 2003.
- 363) Mayer BA, Tobin T, Tai HH, Harkins JD, Carbajal J, Scherer C, Hawkins T, Bratton C, Schroedter DE: Detection of selegiline and selegiline metabolites in an ELISA assay for amphetamine. Manuscript submitted to Proc 14<sup>th</sup> Int'l Conf Racing Analysts Vets, Orlando, FL, 2002.
- 364) Mayer BA, Tobin T, Tai HH, Harkins JD, Hawkins T, Bratton C, Schroedter DE: ELISA assay for ketamine. Manuscript submitted to Proc 14<sup>th</sup> Int'l Conf Racing Analysts Vets, Orlando, FL, 2002.
- 365) Mayer BA, Tobin T, Tai HH, Harkins JD, Hale ND, Bratton C, Schroedter DE: ELISA assay for guanabenz. Manuscript submitted to Proc 14<sup>th</sup> Int'l Conf Racing Analysts Vets, Orlando, FL, 2002.
- 366) Mayer BA, Tobin T, Tai HH, Harkins JD, Hale ND, Bratton C, Scherer C, Schroedter DE: ELISA assay for apomorphine. Manuscript submitted to Proc 14<sup>th</sup> Int'l Conf Racing Analysts Vets, Orlando, FL, 2002.
- 367) Harkins JD, Dirikolu L, Sebastian M, Hughes C, Crutchfield J, Troppmann A, Boyles J, Webb B, McDowell K, Long W, Henning J, Harrison L, Fitzgerald T, Tobin T: Cherry trees, plant cyanogens, caterpillars and Mare Reproductive Loss Syndrome: Toxicological evaluation of a working hypothesis. In Powell DG, Troppman A, Tobin T (eds), Proc First Workshop on Mare Reproductive Loss Syndrome, Lexington, KY, 2002, pp68-74. [KY Ag Exp Sta # 02-14-167]

Friday, August 14, 2009

- 368) Dirikolu L, Lehner AF, Hughes CG, Karpiesiuk W, Camargo F, Harkins JD, Woods WE, Bosken JM, Boyles J, Troppmann A, Fisher M, Tobin T: The detection, quantification and pharmacokinetics of furosemide and its effects on urinary specific gravity following intravenous administration to horses. Manuscript in press, *Veterinary Therapeutics*, 2003. [KY Ag. Exp. Sta. #03-14-104]
- 369) Champion ZJ, Breier BH, Ewen WE, Tobin T, Casey PJ: Blood plasma concentrations of insulin-like growth factor-1 (IGF-1) in resting standardbred horses. *The Vet J* **163**:45-50, 2002.
- 370) Sebastian M, Williams D, Harrison L, Donahue J, Seahorn T, Slovis N, Richter D, Fuller T, Trail C, Douglas R, Tobin T: Experimentally Induced Mare Reproductive Loss Syndrome Late Fetal Losses with Eastern Tent Caterpillars. In Powell DG, Troppman A, Tobin T (eds), Proc First Workshop on Mare Reproductive Loss Syndrome, Lexington, KY, 2002, pp80-81.
- 371) Sebastian M, Harkins JD, Jackson C, Fuller T, Trail C, Richter D, Harrison L, and Tobin T: A laboratory animal model of Mare Reproductive Loss Syndrome: preliminary evaluation of a mouse model. In Powell DG, Troppman A, Tobin T (eds), Proc First Workshop on Mare Reproductive Loss Syndrome, Lexington, KY, 2002, pp51-53.
- 372) Bosken JM, Tobin T, Mundy G, Fisher M, Gantz MG, Banks RO: Effect of furosemide on urine specific gravity and osmolality in Thoroughbred racehorses. *Veterinary Therapeutics*, 4(3):292-298, 2003. [Ky Ag Exp Sta # 02-14-180]
- 373) Lehner AF, Hughes CG, Karpiesiuk W, Harkins JD, Dirikolu L, Bosken J, Camargo F, Boyles J, Troppmann A, Woods WE, Tobin T: Development of a method for the detection and confirmation of the  $\alpha$ 2-agonist amitraz and its metabolites in horse urine. Manuscript accepted by *J Anal Tox*, 2003.
- 374) Tobin T: Septic Penetrating Setae/Septic Emboli/Septic Penetrating Setal Emboli (SPS/SE/SPSE): A hypothesis to explain the pathogenesis of the Mare Reproductive Loss Syndrome. Copyright registered at Library of Congress, June 17, 2003, #TXU1111484.
- 375) Lehner AF, Hughes CG, Harkins JD, Nickerson C, Mollett B, Dirikolu L, Bosken JM, Camargo F, Boyles J, Troppmann A, Karpiesiuk W, Woods WE, Tobin T: Detection and confirmation of ractopamine and its metabolites in horse urine after Paylean(R) administration. Manuscript accepted by *J Anal Tox*, 2003. [KY Ag Exp Sta # 03-14-041]
- 376) Tobin T: The past and future of equine drug testing and medication regulation. Proc 24<sup>th</sup> Bain-Fallon Memorial Lectures, Gold Coast, Australia, 2002, pp.8-12.
- 377) Tobin T: Factors affecting “detection times” and “withdrawal times” for NSAIDs. Proc 24<sup>th</sup> Bain-Fallon Memorial Lectures, Gold Coast, Australia, 2002, pp.13-17.
- 378) Tobin T: Pre-purchase and drug testing of horses: a review. Proc 24<sup>th</sup> Bain-Fallon Memorial Lectures, Gold Coast, Australia, 2002, pp. 18-22.
- 379) Tobin T: The Mare Reproductive Loss Syndrome: an ongoing toxicological/other investigation. Submitted to Proc 24<sup>th</sup> Bain-Fallon Memorial Lectures, Gold Coast, Australia, 2002.
- 380) Stirling K, Bellocq R, and Tobin T: National Horsemen’s Benevolent and Protective Association, Inc. Proposed National Policy on Drug Testing and Therapeutic Medication. *J Eq Vet Sci* **23**(1): 4-5, 18-40, 2003. [Ky Ag Exp Sta# 03-14-072]
- 381) Sebastian MM, Gantz M, Tobin T, Harkins JD, Bosken JM, Hughes CG, Harrison LR, Bernard WV, Richter D and Fitzgerald TD: Eastern tent caterpillars and the Mare Reproductive Loss Syndrome: Clinical, epidemiological and mechanistic implications of a toxicokinetic/statistical analysis. Manuscript submitted to *Veterinary Therapeutics*, 2003.
- 382) Tobin T: Summary, Session 5: MRLS and Associated Syndromes: Toxicological Hypotheses. In Powell DG, Troppman A, Tobin T (eds), Proc First Workshop on Mare Reproductive Loss Syndrome, Lexington, KY, 2002, p75.

Friday, August 14, 2009

- 383) Harkins JD, Dirikolu L, Lehner AF, Hughes CG, Woods WE, Schroedter D, Mayer B, Bratton C, Fisher MV, Tobin T: Short Communication: A rapid and sensitive Enzyme Linked ImmunoSorbent Assay (ELISA) test for guanabenz in the horse. Manuscript in preparation, 2003.
- 384) Tobin T: Test of time. *The Blood Horse*, November 17, 1990, pp. 6188-6190.
- 385) Carter WG, Troppmann A, Tobin T, Franklin B: An overview of the effective world rules on therapeutic medications. Booklet published by Gluck Equine Research Center.
- 386) Mundy GD, Stanley SD, Tobin T: Analysis of prohibited substances in Kentucky with emphasis on strategies for practitioners to avoid problems. Proc 41<sup>st</sup> Convent Am Assoc Equine Pract, Lexington, KY, 1995, pp160-162.
- 387) Tobin T, Harkins JD, Woods WE, Queiroz-Neto A, Stanley SD, Mundy GD: Overview of dietary, environmental, and endogenous substances of regulatory concern in racing horses. Proc 41<sup>st</sup> Convent Am Assoc Equine Pract, Lexington, KY, 1995, pp156-159.
- 388) Tobin T: Trace Level Benzoyllecgonine Identifications in Post-Race Urines: Probable Sources and the Regulatory Significance of Such Identifications, HBPA Booklet published by Gluck Equine Research Center, Lexington, KY, 2000. Also: Appendix II: Currently in place “limits” or “cutoffs” or thresholds for cocaine/benzoyllecgonine.
- 389) Rees WA, Harkins JD, Lu M, Holland RE, Lehner A, Tobin T, Chambers TM: Pharmacokinetics and therapeutic efficacy of rimantadine in horses experimentally infected with influenza virus A2. *Am J Vet Res*, **60**:888-894, 1999. [KY Ag Exp Sta #96-14-131].
- 390) Harkins JD, Queiroz-Neto A, Mundy GD, West D, Tobin T: Development and characterization of an equine behavior chamber and the effects of amitraz and detomidine on spontaneous locomotor activity. *J Vet Pharmacol Therap*, **20**:396-401, 1997.
- 391) Harkins JD, Lehner A, Karpiesiuk W, Woods WE, Dirikolu L, Boyles J, Carter WG, Tobin T: Bupivacaine in the horse: Relationship of local anaesthetic responses and urinary concentrations of 3-hydroxybupivacaine. *J Vet Pharmacol Therap*, **22**:181-195, 1999. [KY Ag Exp Sta #98-14-166]
- 392) Dirikolu L, Lehner AF, Karpiesiuk W, Hughes C, Woods WE, Bosken J, Carter WG, Boyles J, Harkins JD, Tobin T: Detection of selegiline and its major urinary metabolite, N-desmethyloselegiline, in equine urine: A preliminary report. Submitted to Proceedings of the 54<sup>th</sup> Meeting of the Association of Official Racing Chemists, Lexington, KY, 2001.[KY Ag Exp Sta #01-14-186]
- 393) Tobin T, Harkins JD, Lehner AF, Woods WE, Karpiesiuk W, Dirikolu L, Carter W, Boyles J, Sams RA: An overview of analytical/pharmacological relationships and the need for limitations on the sensitivity of testing for certain agents. Proc 12<sup>th</sup> Int’l Conf Racing Analysts Vets, Vancouver, Canada, 1998, pp210-216. [KY Ag Exp Sta #98-14-50]
- 394) Lehner AF, Hughes CG, Karpiesiuk W, Harkins JD, Bosken JM, Camargo F, Boyles J, Troppmann A, Woods WE and Tobin T: (2004) Metabolism of the  $\alpha$ 2-agonist amitraz in horses and confirmation of its administration, Proc 15<sup>th</sup> Intl Conf Racing Analysts Vets, pp. 155-160 [KY Ag Exp Sta #04-14-010].
- 395) Lehner AF, Hughes CG, Harkins JD, Bosken JM, Camargo F, Boyles J, Troppmann A, Karpiesiuk W, Woods WE and Tobin T(2004) Metabolism of the beta-adrenergic agonist ractopamine in horses and confirmation of its administration with GC/MS. 15<sup>th</sup> Intl Conf Racing Analysts Vets, pp.93-98 [KY Ag Exp Sta #04-14-008]
- 396) Hughes CG, Lehner AF, Harkins JD and Tobin T: Preliminary report on the confirmation and quantitative determination of salmeterol in equine urine. Proc 15th Intl Conf Racing Analysts Vets, 2004. p. 406-411[KY Ag Exp Sta #04-14-009]
- 397) Gantz MG, Harkins JD, Sebastian M, Bosken J, Hughes CG, Harrison L, Bernard WV, Richter D, Fitzgerald TD and Tobin T: A toxicokinetic/Accelerated Failure Time Analysis of the Mare Reproductive Loss Syndrome (MRLS). Proc 15<sup>th</sup> Intl Conf Racing Analysts Vets, 2004. p212-217 [KY Ag Exp Sta #04-14-020]

Friday, August 14, 2009

- 398) Tobin T: Septic Penetrating Setae/Bacteria/Bacterial Emboli/Septic Penetrating Setal Emboli (SPS/B/BE/SPSE): A hypothesis to explain the pathogenesis of Mare Reproductive Loss Syndrome. 15<sup>th</sup> Intl Conf Racing Analysts Vets, p. 418-422 , 2004.
- 399) Karpiesiuk W, Lehner AF and Tobin T: Synthesis and certification of salmeterol and salmeterol-d12 standards. *Proc 15<sup>th</sup> Intl Conf Racing Analysts Vets*, 2004. p405
- 400) Tobin T, Harkins JD, VanMeter PW, Fuller TA: The Mare Reproductive Loss Syndrome II: Clinical evaluation of the syndrome and a proposed mechanism: septic penetrating setae. *Int J Applied Res in Vet Med*, 2004.
- 401) Lehner AF, Hughes CG, Harkins JD, Karpiesiuk W, Camargo F, Boyles J, Woods WE and Tobin T: Detection and identification of dizocilpine and its major urinary metabolites in the horse: a preliminary report. *Chromatographia* 59:S95-S103, 2004. [KY Ag Exp Sta #04-14-003]
- 402) Lehner AF, Hughes CG, Karpiesiuk W, Camargo FC, Harkins JD, Woods WE, Bosken J, Boyles J, Troppmann A and Tobin T: Determination of salmeterol in equine urine and serum. *Chromatographia* 59:S79-S84, 2004. [KY Ag Exp Sta# 04-14-011]
- 403) Hall NC, Yang J-M, Stanley SD, Mundy GD, Kryscio R, Tai HH, Rees WA Blake JW, Woods WE and Tobin T: Number of negative tests required to exclude specified levels of agent abuse in equine forensic chemistry. Manuscript in progress, 2004.
- 404) Karpiesiuk W, Lehner AF, Hughes CG, and Tobin T (2004): Preparation and Chromatographic Characterization of tetrahydrogestrinone (THG), a New “designer” Anabolic Steroid. *Chromatographia*, 60, 359-363. [KY Ag Exp Sta #04-14-052]
- 405) Dirikolu L, Karpiesiuk W, Lehner AF, Hughes, C., Woods WE, Harkins JD, Boyles J, Atkinson A, Granstrom D, and Tobin T. (2004) New Therapeutic Approaches for Equine Protozoal Myelitis: Synthesis and Pharmacokinetics of Diclazuril Sodium Salt in the Horse: Proceedings of the 15th International Conference of Racing Analysts and Veterinarians, Dubai, pp 135-140
- 406) Karpiesiuk W, Lehner AF, Hughes CG, Guan F, Uboh C, Soma L, Bratton C, Kellerman L and Tobin T: (2004) Preparation and analysis of tetrahydrogestrinone (THG), a recently reported “designer” anabolic steroid. *Proc 15<sup>th</sup> Intl Conf Racing Analysts Vets.*,p518-522
- 407) Camargo FC, Lehner AF, Karpiesiuk W, Stirling K., Kavanagh PV, Brennan N, Dowling M., and Tobin T. (2005) Review of Environmental Morphine Identifications: World wide occurrences and Responses of Authorities. *AAEP Proc.* vol. 61 p58-64
- 408) Guan F, Uboh CE, Soma LR, Luo Y, Rudy J, and Tobin T., (2005) Detection, quantification and confirmation of anabolic steroids in equine plasma by liquid chromatography and tandem mass spectrometry. *Journal of Chromatography B* 829 56–68.
- 409) Tobin T., Camargo FC, Lehner AF, and Karpiesiuk W. (2005) Drugs Medications and Performance Altering Substances: Their Performance Effects, Detection and Regulation: From 1800 to Keenland Oct 12<sup>th</sup> 2005
- 410) Camargo FC, Robinson NE, Berney C, Eberhart S, Baker S, DeTolve P, Derksen FJ, Harkins JD, Lehner AF, and Tobin T. 2006. Intravenous and intratracheal administration of trimetoprim, a fast-acting short-lived bronchodilator in horses with 'heaves'. *Equine Vet J.* 38(6):563-9
- 411) Tobin T, Hughes C, Lehner AF, Camargo FC: (2006) Synthesis of deuterated analytical standards: Ketoprofen-d3 and Flunixin-d3. Proceedings of the 16th International Conference of Racing Analysts and Veterinarians, pp214-217
- 412) Camargo FC, Hughes C, Lehner AF and Tobin T. (2006) Trace Level Benzoyllecgonine Identifications in Post-Race Urines: Probable Sources and the Regulatory Significance of Such Identifications. *AAEP Proc.* Vol. 52 p331-336

Friday, August 14, 2009

- 413) Camargo FC, Robinson NE, Berney C, Eberhart S, Baker S, Detolve P, Derksen FJ, Lehner AF, Hughes C, Tobin T. (2007) Trimetoquinol: bronchodilator effects in horses with heaves following aerosolised and oral administration. *Equine Vet J.* 39(3):215-20
- 414) Budharaja A., Camargo FC, Hughes C, Lehner AF, Stirling K., Brennan N, Dowling M., and Tobin T (2007) Caffeine and Theobromine Identifications in Post race Urines: Threshold Levels and Regulatory Significance of Such Identifications. *AAEP Proc.* Vol. 53 p87-92.
- 415) Lehner AF, Stewart J, Dafalla A, Ely KJ, Connerly AL, Jones CN, ElkHoly H, Thompson K, Tobin T, Dirikolu L. (2007) Gabapentin in horses: validation of an analytical method for gabapentin quantitation. *J Anal Toxicol.* 31(9):555-65
- 416) Camargo FC, Robinson NE, Dirikolu L, Berney C, Eberhart S, Derksen FJ, Lehner AF, May J, Hughes C, Tobin T., (2008) Plasma and urinary concentrations of trimetoquinol by LC-MS-MS following intravenous and intra-tracheal administration to horses with heaves. *J Vet Pharmacol Ther* 31(6):501-10
- 417) Dirikolu L, Dafalla A, Ely KJ, Connerly AL, Jones CN, ElkHoly H, Lehner AF, Thompson K, and Tobin T.(2008) Pharmacokinetics of gabapentin in horses. *J Vet Pharmacol Ther.* 31(2):175-7.
- 418) Spencer WA, Camargo FC, Karpiesiuk W., Stirling K., Casey PJ, and Tobin T. (2008). Review of the Current Status of Thresholds/Withdrawal Time Guidelines for Therapeutic Medications in Performance Horses. *AAEP proc.* Vol.54 p29-37
- 419) Dirikolu L., Woods WE, Boyles J., Lehner A F, Harkins JD, Fisher M, Schaeffer DJ and Tobin T (2008) Nonsteroidal anti-inflammatory agents and musculoskeletal injuries in Thoroughbred racehorses in Kentucky *J. vet. Pharmacol. Therap.* doi: 10.1111/j.1365-2885.2008.01038.x
- 420) Dirikolu L, Lehner A F, Hughes C, Karpiesiuk, W and Tobin T: (2008) New Therapeutic Approaches to Equine Protozoal Myelitis: Pharmacokinetics of Toltrazuril Sulfone Sodium Salts in the Horse *AAEP Proc.* Vol.54 p191
- 421) Lehner AF, Fitzgerald BP, Hughes CG, Tobin T, Camargo FC., May J, Dirikolu L, Christiansen DL, and Ryan PL. (2008) Serum concentrations of ergovaline/ergot alkaloids in late-term pregnant mares grazing entophyte infected tall fescue pastures: A preliminary report. *Theriogenology* 70 (2008) p583
- 422) Dirikolu L, Lehner AF, Harkins JD, Woods WE, Karpiesiuk W, Gates RS, Fisher M, Tobin T: (2009) Pyrilamine in the horse: Detection and pharmacokinetics of pyrilamine and its major urinary metabolite "O-desmethylpyrilamine". *J Vet Pharmacol Ther.* 2009 Feb;32(1):66-78
- 423) Lehner AF, Petzinger E, Stewart J, Lang DG, Johnson MB, Harrison L, Seanor JW, Tobin T. (2009) ESI+MS/MS confirmation of canine ivermectin toxicity *J Mass Spectrom.*44(1):1119.

## ABSTRACTS

- 1) Tobin T, Sen AK: Ouabain inhibition and ligand affinities of the (Na<sup>+</sup> + K<sup>+</sup>)-ATPase. Proc Fed Biol Soc 11, 93, 1968.
- 2) Tobin T, Sen AK: Ligand sensitivity and reversibility of ouabain binding to guinea pig (Na<sup>+</sup> + K<sup>+</sup>)-ATPase. Proc Fourth Int'l Cong Pharmacology (Basel, 1969), 199, 1968.
- 3) Tobin T, Brody TM: Alkali metal cation stabilization of [3H]-ouabain binding to (Na<sup>+</sup> + K<sup>+</sup>)-ATPase. Fed Proc 30, 780, 1971.
- 4) Tobin T, Akera T, Brody TM: The rates of dissociation of enzyme ouabain and apparent K<sub>i</sub> values in (Na<sup>+</sup> + K<sup>+</sup>)-ATPase from different species. *Pharmacologist* 13, 308, 1971.
- 5) Akera T, Tobin T, Brody TM: Influence of assay procedures on the study of ouabain inhibition of (Na<sup>+</sup> + K<sup>+</sup>)-ATPase in vitro. *Pharmacologist* 13, 308, 1971.
- 6) Tobin T, Baskin SI, Akera T, Brody TM: Nucleotide specificity of the phosphorylation and [3H]-ouabain binding reactions of (Na<sup>+</sup> + K<sup>+</sup>)-ATPase. Fed Proc 31, 583, 1972.
- 7) Akera T, Baskin SI, Tobin T: Potassium-induced conformational transition of the ouabain (Na<sup>+</sup> + K<sup>+</sup>)-ATPase complex. Fluorescent probe studies. Fed Proc 31, 591, 1972.
- 8) Tobin T, Lee Cy, Akera T, Baskin SI, Brody TM: Effects of ethacrynic acid on the duration of transient pulses of [3H]-ouabain binding to guinea pig kidney (Na<sup>+</sup> + K<sup>+</sup>)-ATPase. Proc Fifth Int'l Congress of Pharmacology, San Francisco, p 243, 1972.
- 9) Akera T, Lee CY, Baskin SI, Tobin T, Brody TM, Takahashi T: Comparative effects of chlorpromazine and its free radical on cytoplasmic membrane phenomena. Proc Fifth Int'l Congress on Pharmacology, San Francisco, p 3, 1972.
- 10) Tobin T, Akera T, Baskin SI, Brody TM: The mechanism of the calcium ion inhibition of Na<sup>+</sup> + K<sup>+</sup>-ATPase. Proc Fifth Int'l Study Group for Research in Cardiac Metabolism, Winnipeg, p 82, 1972.
- 11) Akera T, Baskin SI, Tobin T, Brody TM: Cardiac glycosides: Temporal relationship between the inotropic action and binding to and dissociation from Na<sup>+</sup> + K<sup>+</sup>-ATPase in vitro. Proc Fifth Int'l Study Group for Research on Cardiac Metabolism, Winnipeg, p 80, 1972.
- 12) Tobin T, Banerjee SP, Sen AK: Ligand sensitivity of [3H]-ouabain binding to native and ethacrynic acid-treated enzyme. *Irish J Med Sci*, 1972.
- 13) Baskin SI, Akera T, Tobin T, Brody SL, Puckett CR: Effect of potassium canrenoate on cardiac functions and on Na<sup>+</sup> + K<sup>+</sup>-ATPase. Fed Proc 32, 811, 1973.
- 14) Tobin T, Akera T, Baskin SI, Brody TM: [3H]-ouabain binding to Na<sup>+</sup> + K<sup>+</sup>-ATPase: Inhibition by -methylene ATP. Fed Proc 32, 709, 1973.
- 15) Tobin T, Brody TM, Lu MC: Reversible interaction of strophanthidin-bromacetate with the cardiotonic site of (NaK) ATPase. *Pharmacologist* 15, 224, 1973.
- 16) Akera T, Tobin T, Ting D, Shieh I-S, Gatti A, Brody TM: Stabilizing effects of potassium on the ouabain-(Na<sup>+</sup> + K<sup>+</sup>)-ATPase complex. *Pharmacologist* 15, 224, 1973.
- 17) Baskin TM, Akera T, Tobin T, Brody TM: Effect of 7,8-dihydrochlorpromazine on Na-K-ATPase and cardiac function. *Pharmacologist* 15, 224, 1973.
- 18) Brody TM, Akera T, Tobin T, So RHM: Mechanical shaking of Na-K-ATPase: Loss of catalytic activity and release of specifically bound cardiac glycosides. *Pharmacologist* 15, 224, 1973.



Friday, August 14, 2009

- 19) Akera T, Baskin SI, Tobin T, Brody TM, Manian AA: 7,8-Dihydrochloropromazine: (Na<sup>+</sup> + K<sup>+</sup>) -ATPase inhibition and positive inotropic effect. Presented at Third Int'l Symposium on Phenothiazines and Related Drugs, NIMU, Rockville, MD, June 25-28, 1973.
- 20) Tobin T, Akera T, Ku D, Brody TM, Lu MC: Strophandihidin-bromacetate: Reversible interaction with the cardiotonic steroid binding site of Na<sup>+</sup> + K<sup>+</sup> -ATPase. Third Annual Michigan Cardiovascular Research Forum, Ann Arbor, Sept 25, 1973.
- 21) Tobin T: Studies on the two phosphoenzyme conformations of Na<sup>+</sup> + K<sup>+</sup> -ATPase. NY Acad Sci Meeting on Na<sup>+</sup> + K<sup>+</sup> -ATPase. NY Acad Sci, NY, Nov 1973.
- 22) Tobin T: Lithium ion and Na<sup>+</sup> + K<sup>+</sup> -ATPase: A molecular basis for its pharmacological actions. Winter Brain Research Conference, Steamboat Springs, CO, January 1974.
- 23) Tobin T, Akera T, Brody TM: Lithium, rubidium and Na<sup>+</sup> + K<sup>+</sup> -ATPase: A molecular basis for their pharmacological actions. Fed Proc 33, 483, 1974.
- 24) Akera T, Tobin T, Brody TM: Ouabain-Na<sup>+</sup> + K<sup>+</sup> -ATPase complex: Evidence for more than two forms. Fed Proc 33, 491, 1974.
- 25) Tobin T, Akera T, Taneja HR, Brody TM: Affinity labeling of Na<sup>+</sup> + K<sup>+</sup> -ATPase. I. Strophanthidin 3,5-bisparabenzylbenzoate, a photochemical analogue of strophanthidin. Canad Fed Biol Societies, presentation, Societies Meeting, Hamilton, Ontario, June 1974.
- 26) Ku D, Akera T, Tobin T, Brody TM: Effects of monovalent cations on cardiac Na, K-ATPase activity and on contractile force. *Pharmacologist* 15, 326, 1974.
- 27) Tobin T, Akera T, Ku D, Brody TM: Cassaine: Its mechanism of inhibition of Na<sup>+</sup> + K<sup>+</sup> -ATPase and the relationship of this inhibition to its cardiotonic actions. Fourth Annual Michigan Cardiovascular Research Conference, Detroit, MI, September 20, 1974.
- 28) Akera T, Young RC, Tobin T, Brody TM: Estimation of maximal ouabain binding to Na, K-ATPase and tissue differences in enzyme turnover. *Pharmacologist* 16, 293, 1974.
- 29) Tobin T, Akera T, Brody TM: Shadowmycin a nucleotide site directed inhibitor of Na<sup>+</sup> + K<sup>+</sup> -ATPase. Fed Proc 34, 715, 1975.
- 30) Tobin T, Abramson H: Affinity labeling of Na<sup>+</sup> + K<sup>+</sup> -ATPase: Digoxigenin-3-12-di-bromacetate, an alkylating derivative of digoxigenin. Presented at 1975 Winter Conference for Brain Research, Steamboat Springs, CO.
- 31) Ku D, Akera T, Tobin T, Brody TM: Comparative species studies on the effect of monovalent cations and ouabain on cardiac Na<sup>+</sup> + K<sup>+</sup> -ATPase and contractile force. Fed Proc 34, 792, 1975.
- 32) Tobin T, Blake JW: The pharmacokinetics and behavioral effects of procaine in Thoroughbred horses. Second Int'l Doping Research and Control Conference, Newmarket, England, May 1976.
- 33) Roberts BL, Blake JW, Tobin T: Pharmacodynamics and drug interactions of furosemide in the horse. 1st Int'l Toxicology Conference, Toronto, Ontario, 1977.
- 34) Miller JR, Blake JW, Tobin T: Detection and pharmacokinetics of apomorphine in the horse. 1st Int'l Toxicology Conference, Toronto, Ontario, 1977.
- 35) Widest SA, Akera T, Brody TM, Tobin T: Effects of potassium on the inotropic action of digoxin. Fed Mtgs, Chicago, 1977.
- 36) White CG, Woods WE, Tobin T: The pharmacology of reserpine in the horse. II. Effects of reserpine and imipramine on platelet uptake of serotonin. 7th Int'l Congress of Pharmacology, Paris, France, 1978.
- 37) White CG, Woods WE, Tobin T: Biochemical and behavioral effects of reserpine in the horse. For presentation and publication, SOT Mtg, New Orleans, March 1979.

Friday, August 14, 2009

- 38) Shults T, Combie J, Dougherty J, Tobin T: Pharmacokinetics and behavioral effects of cocaine in the horse. For presentation and publication, SOT Mtg, New Orleans, LA, March 1979.
- 39) Combie J, Shults T, Nugent E, Tobin T: Pharmacokinetics and behavioral effects of fentanyl in the horse. For presentation and publication, SOT Mtg, New Orleans, LA, March 1979.
- 40) Combie J, Shults, Tobin T: The pharmacokinetics and behavioral effects of fentanyl and other narcotic analgesics in the horse. A bstr, Third Int'l Symposium on Equine Medication Control, Lexington, KY, 1979.41. Shults T, Combie J, Dougherty J, Tobin T: Variable interval scheduling in the horse: A sensitive measure of behavior. Ibid, 1979.
- 41) Chay S, Woods WE, Tobin T: The pharmacokinetics of flunixin in the horse. Third Symposium of American Academy of Veterinary Pharmacology and Therapeutics, Ohio State University, Columbus, 1982.
- 42) Weld JM, Combie J, Nugent T, Oeltgen P, Tobin T: Hemorrhagic and endotoxin shock in horses: Effects of naloxone treatment on cardiovascular performance. Ibid, 1982.
- 43) Chay S, Woods WE, Tobin T: The pharmacokinetics and blood levels of furosemide after intravenous administration. Fifth Int'l Conf Control of Use of Drugs in Race Horses. Toronto, Canada, 1983.
- 44) Houston TE, Tobin T, Blake JW: The effect of urinary pH on oxyphenbutazone concentrations in equine urine. Ibid, 1983.
- 45) Collett LJ, Kamerling S, Nugent T, Weckman TJ, Woods WE, DeQuick D, Tobin T: Clearance times and behavioral effects of clenbuterol in the horse. Ibid. 1983.
- 46) Kamerling S, DeQuick D, Nugent T, Weckman TJ, Tobin T: Phenylbutazone: Lack of effect on normal cutaneous pain perception in the horse. Ibid, 1983.

**(AFTER 1983 ABSTRACTS WERE NO LONGER RECORDED FOR A PERIOD, THEN RECORDING COMMENCED AGAIN IN 1991)**

- 47) Jeganathan, A., Park, O.S., Steviou, I., Ravard, A., Vasudevan, S., Yang, J., Stanley, S., Woods, W.E., Tai, H-H., Blake, J.W., Tobin, T., and Watt, D.: Strategies for the development of effective ELISA tests for controlling medicants and illegal drugs in racing horses. Submitted for presentation at The World Veterinary Conference XXIV, Rio De Janeiro, Brazil, Aug. 1991.
- 48) Yang, J., Stanley, S., Jeganathan, A., Park, O.S., Steviou, I., Ravard, A., Vasudevan, S., Woods, W.E., Watt, D., Tai, H-H., Blake, J.W., and Tobin, T.: High sensitivity ELISA tests for drugs abused in racing horses. Submitted for presentation at The World Veterinary Conference XXIV, Rio De Janeiro, Brazil Aug., 1991.
- 49) Roth, L., Harbison, R.D., James, R.C., Tobin, T., and Roberts, S.M.: Localization of cocaine and metabolites in liver sections: Effect of enzyme inducer pretreatment. Submitted for publication and presentation, SOT Mtg, Seattle, WA, February 1992.
- 50) Stanley, S.D., Huffman, M., Sadove, D., Cole, N., Diana, J.N., Tai, H-H., Gairola, C.G. and Tobin, T. Salivary levels of cotinine and wound healing in post surgical patients: A preliminary report. Submitted for publication and presentation, SOT Mtg, Seattle, WA, February 1992.
- 51) Gairola, C.G., Stanley, S.D., Diana, J.N., Tai, H-H. and Tobin, T.: Urinary excretion of cotinine in chronically cigarette smoke-exposed mice. Submitted for publication and presentation, SOT Mtg, Seattle, WA, February 1992.
- 52) Yang, J.M., Woods, W.E., Tai, H-H., Watt, D.S. and Tobin, T.: Development of highly sensitive ELISA for fluphenazine in horses. Submitted for publication and presentation, SOT Mtg, Seattle, WA, February 1992.

Friday, August 14, 2009

- 53) Woods, W.E., Stanley, S., Yang, J-M., Cook, D., Gerkin, D., Detra, R., Sams, R., Watt, D., Tai, H-H., and Tobin, T.: ELISA detection of azaperone the race-horse. Submitted for presentation at The Ninth International Conference of Racing Analysts and Veterinarians. New Orleans, LA, March, 1992.
- 54) Stanley, S.D., Wood, T.W., Selonen, J.S., Yang, J-M., Watt, D., Tai, H- H., and Tobin, T.: Detomidine clearance in the horse as determined by ELISA. Submitted for presentation at The Ninth International Conference of Racing Analyst and Veterinarians. New Orleans, LA, March, 1992.
- 55) Yang, J-M., Stanley, S., Woods, W.E., Cook, D., Tai, H-H., Watt, D., and Tobin, T.: The procaine ELISA screening in racing horses. Submitted for presentation at The Ninth International Conference of Racing Analyst and Veterinarians. New Orleans, LA, March, 1992.
- 56) Roth L, Harbison R, James R, Tobin T, Roberts S. Cocaine hepatotoxicity: Influence of hepatic enzyme inducing and inhibiting agents on the site of necrosis. Submitted for publication to SOT, Seattle, Washington, 1992.
- 57) Stanley, SC, Huffman, M, Sadove, Rn, Cole, N, Diana JN, Gairola CG, Tai H-H and Tobin T: Salivary levels of cotinine and wound healing in post surgical patients: A preliminary report. Society of Toxicology. Annual Meeting, Seattle, Washington, February, 1992.
- 58) Determination of highest no-effect doses (HNEDS) for local anesthetic responses to procaine, cocaine, bupivacaine and benzocaine in thoroughbred mares.
- 59) Character and duration of pharmacological effects of intravenous isoxsuprine.
- 60) Significance of procaine residues in post-race urine samples.
- 61) Effect of  $\alpha$ -phenyl-*tert*-butylnitronone on endotoxin toxemia in horses.
- 62) The pharmacokinetics and bioavailability of amantadine in the horse: A preliminary report.
- 63) An analysis of prohibited substances in Kentucky with emphasis on strategies for practitioners to avoid problems.
- 64) Quantification of the sedative effect of amitraz in the horse.
- 65) An overview of dietary, environmental and endogenous substances of regulatory concern in racing horses.
- 66) Fifth Symposium of Environmental Toxicology and Risk Assessment: Biomarkers and Risk Assessment. An Overview of Dietary, Environmental and Endogenous Substances of Regulatory Concern in Racing Horses.
- 67) Testing for Drugs, Medications and Other Substances in Racing Horses.
- 68) Quantification of the Sedative Effect of Amitraz in the Horse.
- 69) Character and Duration of Pharmacological Effects of Intravenous Isoxsuprine.
- 70) Significance of Procaine Residues in Post Race Urine Samples.
- 71) Effect of  $\alpha$ -Phenyl-*tert*-butylnitronone on Endotoxin Toxemia in Horses.
- 72) Determination of Highest No-Effect Doses (HNEDS) for Local Anesthetic Responses to Procaine, Cocaine, Bupivacaine, and Benzocaine in Thoroughbred Mares.
- 73) Procaine, Cocaine, Bupivacaine, and Benzocaine in Thoroughbred Mares.
- 74) Quantitation of the Locomoter Effect of Therapeutic Medication in a Behavior Chamber.
- 75) ELISA and GC/MS Detection of Cocaine.
- 76) Testing for Therapeutic medications, Environmental and Dietary Substances in Racing Horses: Outcomes of the Workshop Held in Lexington, August, 1994.
- 77) A Review of a Consequence of Highly Sensitive Drug Testing: The Need for Data on Analytical/Pharmacological Relationships for Therapeutic Medications.

Friday, August 14, 2009

- 78) Lidocaine: Dose Response Relationships and Analytical Detection in Horses.
- 79) Pharmacokinetics and Bioavailability of Amantadine in the Horse: A Preliminary Report.
- 80) Analytical Detection and Preliminary Pharmacokinetics of Toltrazuril and Diclazuril in the Horse.
- 81) A Clinical Report of Didazuril Treatment for Equine Protozoal Myeloencephalitis.
- 82) Didazuril and Equine Protozoal Myeloencephalitis.
- 83) Development of an Equine Behavior Chamber and Effects of Amitraz, Detomidine, and Acepromazine on Spontaneous Locomotor Activity.
- 84) Preliminary Pharmacokinetics of Didazuril and Toltrazuril in the Horse.
- 85) Therapeutic Efficacy of Rimantadine HCL in Experimentally Induced Influenza: A n Illness in Horses.
- 86) Review of a Consequence of Highly Sensitive Drug Testing: The Need for Data on Analytical-Pharmacological Relationships for Therapeutic Medications.
- 87) Testing for Therapeutic Medications: Analytical / Pharmacological Relationships and the Need for Limitations on the Sensitivity of Testing for Certain Agents- A Work in Progress. Jan. 22, 1998.
- 88) Detection and Quantitation of 2-Hydroxylidocaine in Horse Urine.
- 89) ELISA Assay for Fluoxetine.
- 90) Detection and Quantitation of 3-Hydroxybupivacaine in Horse Urine.
- 91) Detection and Quantitation of 3-Hydroxymepivacaine in Horse Urine.
- 92) Karpiesiuk W, Lehner AF, Fisher M, Tobin T: Synthesis of the Equine Metabolites of Four Xylidide Local Anesthetics. 65<sup>th</sup> Annual Meeting AORC, March, 1999.
- 93) Harkins JD, Holtz C, Boyles J, Woods E, Lehner AF, Carter W, Karpiesiuk W, Fisher M, Tobin T: Behavioral and Cardiac Effects of Clenbuterol and Furosemide in the Horse: An Overview. 65<sup>th</sup> Annual Meeting AORC, March, 1999.
- 94) Dirikolu L, Lehner F, Harkins JD, Woods WE, Carter WG, Karpiesiuk W, Boyles J, Fisher M, Tobin T: Identification of Lidocaine and Its Metabolites in Post Administration Equine Urine By Elisa and MS/MS. 65<sup>th</sup> Annual Meeting AORC, March, 1999.
- 95) Woods WE, Lehner A, Bosken J, Holtz C, Fisher M, Tobin T: Elisa and GC/MS Detection of Isoxsuprine in Equine Urine. 65<sup>th</sup> Annual Meeting AORC, March, 1999.
- 96) Carter WG, Lehner AF, Dirikolu L, Woods WE, Karpiesiuk W, Harkins JD, Boyles JE, Jacobs J, Fisher M, Tobin T: Detection and Characterization of Ropivacaine Metabolites in Horse Urine. 65<sup>th</sup> Annual Meeting AORC, March, 1999.
- 97) Holtz C, Woods WE, Dirikolu L, Lehner F, Carter W, Harkins JD, Karpiesiuk W, Fisher M, Tobin T: Clenbuterol in the Horse: A Preliminary Analytical Report. 65<sup>th</sup> Annual Meeting AORC, March, 1999.
- 98) Lehner AF, Hunsucker A, Bosken JM, Harkins JD, Woods WE, Karpiesiuk W, Carter WG, Boyles J, Fisher M, Tobin T: Further Characterization of Equine Isoxsuprine Metabolites By Electrospray Ionization Tandem Mass Spectrometry. 65<sup>th</sup> Annual Meeting AORC, March, 1999.
- 99) Bosken JM, Lehner AF, Hunsucker A, Harkins JD, Woods WE, Karpiesiuk W, Carter WG, Boyles J, Fisher M, Tobin T: Isoxsuprine Conjugates Identified in Equine Urine By Direct Injection ESI/MS/MS. 65<sup>th</sup> Annual Meeting AORC, March 1999.
- 100) Boyles J, Woods WE, Harkins D, Lehner F, Karpiesiuk W, Dirikolu L, Bosken J, Carter W, Jacobs J, Fisher M, Tobin T: Procedures and Quality Assurance Aspects of the Testing Integrity Program. 65<sup>th</sup> Annual Meeting AORC, March 1999.

Friday, August 14, 2009

- 101) Harkins, JD and Tobin T. Highest No-Effect Dose for Pharmacological Responses to Acepromazine in the Horse: A Preliminary Communication. Research Committee of the Testing Integrity Program, May 2002.
- 102) Tobin T, McDowell K, Hughes C, Lehner A, Crutchfield J, Harkins JD, Dirikolu L, Sebastian M, Harrison L, Williams N, Smith R, Webb B, Bush L, Newman K, Allman R, Dwyer R and Powell D: The Kentucky 2001 Mare Reproductive Loss Syndrome: Overview and Preliminary Toxicological Approaches. 14<sup>th</sup> International Conference of Racing Analysts and Veterinarians, July 2002.
- 103) Dirikolu L, Lehner AF, Hughes C, Karpiesiuk W, Camargo FC, Harkins JD, Woods WE, Bosken J, Boyles J, Troppmann A, Fisher M and Tobin T: Detection, Quantification and Pharmacokinetics of Furosemide (Salix®) Following Intravenous Administrations in Horses. 14<sup>th</sup> International Conference of Racing Analysts and Veterinarians, July 2002.
- 104) Harkins JD and Tobin T: Pharmacodynamics of Guanabenz and Related  $\alpha_2$  Agonists. 14<sup>th</sup> International Conference of Racing Analysts and Veterinarians, July 2002.
- 105) Lehner A.F, Hughes C, Woods WE, Harkins JD, Karpiesiuk W, Dirikolu L, Bosken J, Boyles J, Troppmann A, Fisher M and Tobin T: Proposed Methodology for the Detection of Oxyglobin® in Equine Plasma. 14<sup>th</sup> International Conference of Racing Analysts and Veterinarians, July 2002.
- 106) Karpiesiuk W, Lehner AF, Dirikolu L, Fisher M, Tobin T: Synthesis and Characterization of Deuterated Standard of Furosemide (Salix®). 14<sup>th</sup> International Conference of Racing Analysts and Veterinarians, July 2002.
- 107) Hughes C, Lehner A, Crutchfield J, Woods W, Harkins J, Karpiesiuk W, Dirikolu L, Sebastian M, Troppmann A, Boyles J, Bosken J, Harrison L, Tobin T: Analytical Detection and “Normal” Population Data of Cyanide and Thiocyanate in Equine Blood and Serum. 14<sup>th</sup> International Conference of Racing Analysts and Veterinarians, July 2002.
- 108) Camargo F, Dirikolu L, Sebastian M, Hughes C, Crutchfield J, Harkins D, Boyles J, Troppmann A, McDowell K, Harrison L and Tobin T: The Toxicokinetics of Cyanide and Mandelonitrile in the Horse and Their Relevance to the Mare Reproductive Loss Syndrome. 14<sup>th</sup> International Conference of Racing Analysts and Veterinarians, July 2002.
- 109) Dirikolu L, Mollett BA, Woods WE, Bratton C, Lehner AF, Karpiesiuk W, Hughes C, Boyles J, Harkins JD, Troppmann A, and Tobin T: ELISA “Detection Times” of Albuterol after Torpex™ Administration: A Preliminary Report. 14<sup>th</sup> International Conference of Racing Analysts and Veterinarians, July 2002.

**Cumulative research and other support, 1970 - Feb 2009. About \$ 15,000,000**

## MATS H.T. TROEDSSON

Department of Large Animal Clinical Sciences  
College of Veterinary Medicine,  
PO Box 100136  
University of Florida,  
Gainesville, FL 32610  
(352) 392-4700 ext 5676

13029 SW 31 Avenue  
Gainesville, FL 32618  
(352) 331 5656

<b>INDEX</b>	<b>Page</b>
<i>Education</i>	1
<i>Board certification</i>	1
<i>Awards</i>	1
<i>Professional experience</i>	2
<i>Graduate School appointment</i>	2
<i>Graduate advisory experience</i>	2
<i>Professional Associations</i>	3
<i>Professional service</i>	3
<i>External Reviewer</i>	3
<i>Publications</i>	4-17
<i>Peer-reviewed</i>	4
<i>Conference Proceedings</i>	8
<i>Scientific Abstracts</i>	11
<i>Book Chapters</i>	15
<i>Non-Refereed Professional Articles</i>	16
<i>Teaching</i>	17
<i>Presentations</i>	18-27
<i>Continuing Education</i>	18
<i>Scientific Presentations</i>	20
<i>Invited Presentations</i>	23
<i>Research Grants</i>	27-29

### EDUCATION

**PhD:** Reproductive Immunology, Comparative Pathology Graduate Division, School of Veterinary Medicine, University of California, Davis. Dissertation: Uterine Defense Mechanisms in the Mare. December 1991.

Advisor: Dr Irwin K.M. Liu.

**DVM:** Royal Veterinary College, Stockholm, Sweden, 1975.

### BOARD CERTIFICATION

**Diplomate**, American College of Theriogenologists, 1993.

**Diplomate**, European College of Animal Reproduction, 2002

### AWARDS

- Selected to Madison Who's Who Registry of VIP Executives and Professionals edition, 2009
- University of Florida Superior Accomplishment Award, 2006
- DVM Student Award for Teaching, College of Veterinary Medicine, University of Minnesota, 2001
- DVM Student Award for Teaching, College of Veterinary Medicine, University of Minnesota, 2000
- DVM Student Award for Teaching, College of Veterinary Medicine, University of Minnesota, 1999
- Graduate Student Teaching Incentive Award, College of Veterinary Medicine, University of Minnesota, 1999
- College of Veterinary Medicine Collegiate Award, University of Minnesota, 1998
- DVM Student Award for Teaching, College of Veterinary Medicine, University of Minnesota, 1998
- Graduate Student Teaching Award, Theriogenology Graduate Program, University of Minnesota, 1997
- Departmental Teaching Incentive Award, College of Veterinary Medicine, University of Minnesota, 1997;1998

## PROFESSIONAL EXPERIENCE

**Professor and Chair:** June 2008 – present

*Department of Veterinary Science, University of Kentucky, Lexington, KY*

**Director of Maxwell H. Gluck Equine Research Center:** June 2008 – present

*University of Kentucky, Lexington, KY*

**Professor and Service Chief, Reproduction:** June 2002- 2008

*Department of Large Animal Clinical Sciences, College of Veterinary Medicine, University of Florida, Gainesville.*

**Adjunct Professor:** November 2003- present

*Department of Animal Sciences, University of Florida, Gainesville.*

**Consultant on Equine Research:** May 2002-present.

*Minitube of America, Verona, WI.*

**Associate Professor with tenure:** July 1998-June 2002

*Department of Clinical and Population Sciences, Section of Theriogenology, College of Veterinary Medicine,*

*University of Minnesota, St Paul*

**Assistant Professor:** January 1994-June 1998

*Department of Clinical and Population Sciences, Section of Theriogenology, College of Veterinary Medicine,*

*University of Minnesota, St Paul.*

**Adjunct Professor:** 1998-present

*Department of Animal Sciences, University of Minnesota, St. Paul*

**Clinical Instructor/Lecturer:** July 1991-January 1994

*University of California Davis. Clinical staff/Lecturer at the Department of Reproduction, School of Veterinary*

*Medicine.*

**Doctoral Studies/ Research assistant:** Jan 1988-1991

*University of California, Davis.*

**Research Associate:** 1986-1987

*Department of Obstetrics and Gynecology, Faculty of Veterinary Medicine, Swedish University of Agricultural Sciences, Uppsala, Sweden.*

**Private Practice, Knivsta, Sweden:** 1986-1987

**Clinical Faculty:** 1984-1985

*Ambulatory Services, Department of Reproduction, Faculty of Veterinary Medicine, Swedish University of Agricultural Sciences, Uppsala, Sweden during a sabbatical leave from private practice.*

**Private Practice, Torsby, Sweden:** 1975-1984, 1985-1986

## GRADUATE SCHOOL APPOINTMENT

2008- Full member, Veterinary Science, University of Kentucky

2002- Full member, Veterinary Medicine, University of Florida

2003- Full member, Animal Sciences, University of Florida

2002- Full member Animal Molecular and Cellular Biology, University of Florida

1998- Full member, Animal Sciences, University of Minnesota

1997- Full member, Veterinary Medicine Graduate Faculty, University of Minnesota

1994-97 Associate member, Theriogenology Graduate Faculty, University of Minnesota

## GRADUATE ADVISORY EXPERIENCE

Choung-soep Lee Advisor (Post doctoral fellow, 1997-98)

Ahmad Ijaz Advisor (Post doctoral fellow, 2001-2002)

Andria Desvouges Advisor (PhD, 2008)

Justin Hayna Advisor (MS)

Lynda Miller Advisor (PhD, projected 2010)

Scott Madill Advisor (PhD)

Abdorrahman S. Alghamdi Advisor (MS, 1998; PhD, 2004)

Mohammad Ababneh Advisor (PhD, 1999)

Kevin Rozeboom Advisor (MS, 1997; PhD, 1999)

Claudia Klein Advisor (PhD, projected 2011)

Elisabeth Woodward Advisor (PhD, projected 2012)

Meghan Connor	Advisor (MS, 2009)
Gonzalo Rocha-Chavez	Advisor (MS, 1999)
Rodrigo Velasco	Advisor (MS, transfer to UCD 2004)
Bruce Christensen	Advisor (MS, 2007)
Mamadou n'Diaye	Graduate Committee (PhD, 1996)
Mustafa Q. Husain	Graduate Committee (PhD, 1997)
Thomas M. Bailey	Graduate Committee (PhD, 2000)
Nasrldin M. Ibrahim	Graduate Committee (PhD, 1998)
Rahil Tayyib	Graduate Committee (PhD, 1998)
Castro Guto	Graduate Committee (PhD, 2007)
Tameka Phillips	Graduate Committee (PhD, projected 2010)
Dean Jousan	Graduate committee (PhD, 2006)
Rebekah Cosden	Graduate Committee (PhD, projected 2011)
Mitch Eaton	Graduate Committee (MS, 2001; College of Ecology)
Segundo Gonzales	Graduate Committee (MS, 1996)
Jennifer Graczyk	Graduate Committee (MS, projected 2009)
Sydney Hughes	Graduate Committee (MS, projected 2011)

### PROFESSIONAL ASSOCIATIONS

Society for the Study of Reproduction  
Society for Theriogenology  
American College of Theriogenologists  
European College of Animal Reproduction  
American Association of Equine Practitioners  
Kentucky Association of Equine Practitioners  
International Embryo Transfer Society  
Swedish Veterinary Association  
Swedish Society for Veterinarians at Scientific Institutions  
American Association of Animal Science  
Gamma Sigma Delta

### PROFESSIONAL SERVICE

<b>Director:</b>	Maxwell H. Gluck Equine Research Center, University of Kentucky
<b>Service Chief, Reproduction</b>	CVM, University of Florida
<b>Director:</b>	University of Florida, CVM Equine Research Programs
<b>Interim Associate Chief of Staff</b>	University of Florida, Large Animal VMTH (6/1-9/1 2003)
<b>Director:</b>	Minnesota Equine Research Center (1996-2001)
<b>Acting Director of Research</b>	University of Minnesota Equine Center (2001-2002)
<b>Clinical Director:</b>	Large Animal Hospital, University of Minnesota (1998-2002)
<b>Division Head:</b>	Clinical Services of the Department of Clinical and Population Sciences
<b>Program Advisory Committee Member:</b>	Veterinary Medicine Graduate Faculty, University of Minnesota
<b>Research Committee Member:</b>	CVM, University of Minnesota (1996-98; 2000-) Minnesota Equine Research Center (Chair; 1996-) CVM, University of Florida (2003-2006)
<b>Biosecurity Committee Member</b>	CVM University of Florida (2002-)
<b>Curriculum Committee Member</b>	CVM University of Florida (2007-present)
<b>Faculty Council Member:</b>	CVM, University of Minnesota (1997-2000)
<b>University Senate</b>	University of Minnesota (1998-99)
<b>Certifying Examination Committee</b>	American College of Theriogenologists (1997-2003); Chair 2001-02. European College of Animal Reproduction (2002-07).

### EXTERNAL REVIEWER (Ad Hoc)

a. Research grants:	Grayson Jockey Club foundation Equine Research Laboratory, University of California Horserace Betting Levy board, United Kingdom.
---------------------	---



USDA  
Minnesota Equine Research Center  
Swedish Racing Commission  
The Welcome Trust, United Kingdom  
The Volkswagen Research Foundation, Germany

- b. Scientific Journals: American Journal of Veterinary Research  
Journal of Reproduction and Fertility  
Journal of Veterinary Internal Medicine  
Journal of American Veterinary Medical Association  
Journal of Equine Veterinary Science  
Theriogenology  
Journal of Andrology  
Journal of Animal Science  
Animal Biotechnology  
Proceedings American Association of Equine Practitioners  
American Journal of Obstetrics and Gynecology  
Animal Reproduction Science  
Reproduction in Domestic Animals  
The Biological Bulletin  
Reproduction  
Biology of Reproduction
- c. Scientific meetings: International Conference on Equine Reproduction  
Society for Theriogenology  
International Congress on Animal Reproduction  
American Association of Equine Practitioners
- d. Other: University of Utrecht College of Veterinary Medicine External Research Evaluation  
Committee (2005)

## PUBLICATIONS

### Peer-reviewed

1. **Troedsson, M.H.T.** and Broström, H. (1986) Sommareksem på Islandshäst. Svensk Veterinärtidning, April.
2. Broström, H, **Troedsson, M.H.T.** and Larsson, A. (1987) Allergic Dermatitis (Sweet Itch) in Icelandic Horses in Sweden: An Epidemiological Study. Equine Vet. J. 19(3), 229-236.
3. Lasley, B.L., **Troedsson, M.H.T.**, Bravo, W. and Haggerty, M.A. (1989) Estrogen conjugate measurements to monitor ovarian activity. Theriogenology 31(1), 127-139.
4. **Troedsson, M.H.T.**, Concha, C., Einarsson, S. and Holmberg, O. (1990) A preliminary study of uterine derived polymorphonuclear cell function in mares with chronic uterine infections. Acta Vet. Scand. 31(4), 187-192.
5. McCue, P.M., **Troedsson, M.H.T.**, Stabenfeldt, G.H., Liu, I.K.M., Hughes, J.P. and Lasley, B.L. (1991) Endocrine response of anestrus mares to administration of native GnRH or GnRH agonist. J Repr. Fert. Suppl. 44, 227-233.
6. **Troedsson, M.H.T.** and Liu, I.K.M. (1991) Uterine clearance of non-antigenic markers (51Cr) in response to a bacterial challenge in mares potentially susceptible and resistant to chronic uterine infections. J. Repr. Fert. Suppl. 44, 283-288.
7. **Troedsson, M.H.T.** and Liu, I.K.M. (1992) Measurement of total volume and protein concentration of intrauterine secretion after intrauterine inoculation of bacteria in mares that were either resistant or susceptible to chronic uterine infection. Am. J. Vet. Res. 53,1641-1644.
8. **Troedsson, M.H.T.**, Scott, M.A. and Liu, I.K.M. (1993) Pathogenesis and treatment of chronic uterine infections. Proceedings of American Association of Equine Practitioners. 595-600.
9. **Troedsson, M.H.T.**, deMoraes, M.G. and Liu, I.K.M. (1993) Correlation between histologic endometrial lesions in mares and clinical response to intrauterine exposure with Streptococcus zooepidemicus. Am. J. Vet. Res. 54, 570-572.

10. **Troedsson, M.H.T.**, Liu, I.K.M and Thurmond, M. (1993) Immunoglobulin (IgG & IgA) and complement (C3) concentrations in uterine secretion following an intrauterine challenge of *Streptococcus zooepidemicus* in mares susceptible and resistant to chronic uterine infection. *Biol. Reprod.* 49, 502-506.
11. **Troedsson, M.H.T.**, Liu, I.K.M and Thurmond, M. (1993) Function of uterine-and blood derived PMNs in mares susceptible and resistant to chronic uterine infection (CUI): phagocytosis and chemotaxis. *Biol. Reprod.* 49, 507-514.
12. **Troedsson, M.H.T.**, Liu, I.K.M., Ing, M., Pascoe, J.R. and Thurmond, M. (1993) Multiple site electromyography recordings of uterine activity following an intrauterine bacterial challenge in mares susceptible and resistant to chronic uterine infection. *J. Reprod. Fert.* 99, 307-313.
13. **Troedsson, M.H.T.**, Wiström, A.O.G., Liu, I.K.M., Ing, M., Pascoe, J.R. and Thurmond, M. (1993) Registration of myometrial activity, using multiple site electromyography in the cycling mare. *J. Reprod. Fert.* 99, 299-306.
14. **Troedsson, M.H.T.** (1994) Uterine defense mechanisms in the mare. *Arch. STD/HIV. Res.* 8, 259-269.
15. **Troedsson, M.H.T.**, Scott, M. and Liu, I.K.M. (1995) Comparative treatment of mares susceptible to chronic uterine infection. *Am. J. Vet. Res.* 56:4, 468-472.
16. **Troedsson, M.H.T.**, Crabo, B.G. Ibrahim, N.M., Scott, M. and Ing, M. (1995) Mating-induced endometritis (MIE): Mechanisms, clinical importance and consequences. *Proc. Am. Assoc. Eq. Pract.* 41, 11-12.
17. Samper, J.C., Hamilton, D.W., Pryor, J.L., Loseth, K.J., **Troedsson, M.H.T.** and Crabo, B.G. (1995) Mechanisms of Sephadex trapping of capacitated stallion spermatozoa. *Biol. Reprod. Monograph 1: Eq. Reprod.*, 227-235.
- 18.\* Gibbs, H.M III and **Troedsson, M.H.T.** (1995) The effect of acepromazine, detomidine and xylazine on myometrial electrical activity in the mare. *Biol. Reprod. Monograph 1: Eq. Reprod.*, 299-304.
19. **Troedsson, M.H.T.**, Liu, I.K.M., Ing, M. and Pascoe, J. (1995) Smooth muscle electrical activity in the oviduct and the effect of oxytocin, PGF<sub>2a</sub> and PGE<sub>2</sub> on the myometrium and oviduct of the cycling mare. *Biol. Reprod. Monograph 1: Eq. Reprod.*, 439-452.
- 20.\* Barber, J.A. and **Troedsson, M.H.T.** (1996) A case of a mummified singleton fetus in a mare. *J. Am. Vet. Med. Assoc.* (9):1438-1440.
- 21.\* Barber, J.A., Farris, J.A., **Troedsson, M.H.T.**, Crabo, B.G. and Foster, D.N. (1996) Nucleotide sequence of the complementary DNA encoding equine clusterin. *Animal Biotechn.* 7(2), 113-123.
22. Bravo, P.W., Bazan, P., **Troedsson, M.H.T.**, Villata, M.S. and Garniza, J. (1996) Induction of parturition and neonate survival in the alpaca. *J. Am. Vet. Med. Assoc.* 209, 1760-1762.
- 23.\* Renaudin, C.D., **Troedsson, M.H.T.**, Gillis, C., King, V.L., and Bodena, A. (1997) Ultrasonographic evaluation of the equine placenta by transrectal and transabdominal approach in the normal pregnant mare. *Theriogenology* 47 (2), 559-573.
24. **Troedsson, M.H.T.**, Renaudin, C.D., Zent, W.W., and Steiner, J.V. (1997) Transrectal ultrasonography of the placenta in normal mares and mares with pending abortion: A field study. *Proc. Am. Assoc. Eq. Pract* (43) 256-258.
- 25.\* Rozeboom, K.J., **Troedsson, M.H.T.**, Shurson, G.C., Hawton, J.D., and Crabo, B.G. (1997) Late estrus or metestrus insemination subsequent to estrual inseminations decreased farrowing rate and litter size in swine. *J. An. Sc.* 75, 2323-2327.
26. **Troedsson M.H.T.** (1997) Therapeutic considerations for mating-induced endometritis. *Pferdeheilkunde*, 13, (5) 516-520.
27. **Troedsson, M.H.T.**, Liu, I.K.M., and Crabo, B.G. (1998) Sperm transport and survival in the female reproductive tract. *Theriogenology*, 49:5, 905-915.
- 28.\* Rozeboom, K.J., **Troedsson, M.H.T.**, King, V.L., and Crabo, B.G. (1998). Characterization of uterine leukocyte infiltration in gilts following artificial insemination. *J. Reprod. Fert.* 114:2,195-199.
29. Boussauw, B., Santschi, E.M., Wilderjans, H., **Troedsson, M.H.T.**, and Adams, A.P. (1998) Uterine drainage before ovariohysterectomy under general anesthesia in two mares. *Vet. Rec.*, 142:582-583.
30. Zent, W.W., **Troedsson, M.H.T.**, and Xue, J-L. (1998) Post-breeding uterine fluid in a normal population of Thoroughbred mares. *Proc. Am. Assoc. Eq. Pract.* 44:64-65.
- 31.\* Ibrahim, N.M., **Troedsson, M.H.T.**, Farris, J., Foster, D.N., and Crabo, B.G. (1999) Immunochemical characterization of clusterin from reproductive tract secretions and spermatozoa of the bull. *J. Androl.* 20 (2):230-240.
- 32.\* Renaudin, C.D., **Troedsson, M.H.T.**, and Gillis, C.L. (1999) Transrectal ultrasonographic evaluation of the

- normal equine placenta. *Eq. Vet. Edu.* 11:(2) 75-76.
- 33.\* Renaudin, C.D., Liu, I.K.M., **Troedsson, M.H.T.**, and Schrenzel, M. (1999) Two cases of transrectal ultrasonographic diagnosis of ascending placentitis in the mare. *Eq. Vet. Edu.* 11:(2):69-74.
34. **Troedsson M.H.T.** Uterine clearance and resistance to persistent endometritis in the mare. (1999) *Theriogenology*, 52:3,461-471.
- 35.\* Christman, S.A., Bailey, M.T., Wheaton, J.E., **Troedsson, M.H.T.**, and Ababneh, M.M. (1999) Dimeric inhibin concentrations in mares with granulosa-theca cell tumors. *Am. J. Vet. Res.* 60(11):1407-1410.
- 36.\* Rozeboom, K.J., **Troedsson, M.H.T.**, Molitor, T.W., and Crabo, B.G. (1999) The effect of spermatozoa and seminal plasma on leukocyte migration into the uterus of gilts. *J. An. Sci* 77:2201-2206.
37. **Troedsson, M.H.T.**, Franklin, R.K., and Crabo, B.G. (1999) Suppression of PMN-chemotaxis by different molecular weight fractions of seminal plasma. *Pferdeheilkunde.* 15(6):568-573.
38. **Troedsson, M.H.T.**, Lee, C-S, Franklin, R., and Crabo, B.G. (2000) The role of seminal plasma in post-breeding uterine inflammation. *J. Reprod. Fert. (Suppl)* 56:341-349.
- 39.\* Ababneh, M.M., **Troedsson, M.H.T.**, and Seguin, B.E. (2000) Characterization of equine conceptus prostaglandin inhibitor factor (PIF). VII International Symposium on Equine Reproduction. *J. Reprod. Fert. (Suppl)* 56:607-613.
- 40.\* Madill S., **Troedsson, M.H.T.**, Alexander, S.L., Shand, N., Santschi, E.M., and Irvine, C.H.G. (2000) Simultaneous recording of pituitary oxytocin secretion and myometrial activity in estrous mares exposed to various breeding stimuli. *J. Reprod. Fert. (Suppl).* 56:351-361.
- 41.\* Bailey, M.T., Christman, S.A., Wheaton, J.E., **Troedsson, M.H.T.**, O'Brien, T.D., Ababneh, M.M., and Santschi, E.M. (2000) Inhibin localization in equine granulosa-theca cell tumors (GTCT) and dimeric inhibin concentrations and  $\nabla$ -inhibin forms in tumor fluid and plasma. *J. Reprod. Fert. (Suppl)* 56:247-255.
- 42.\* Rozeboom, K.J., **Troedsson, M.H.T.**, and Crabo, B.G. AI in swine: The impact of inseminations on uterine environment. (2000) *Boar semen preservation 4 Ed.* LA Johnson & HD Guthrie. Allen Press, Lawrence, KA. Pp 177-184.
- 43.\* Rozeboom, K.J., **Troedsson, M.H.T.**, Hodson, H.H., Shurson, G.C., and Crabo, B.G. (2000) The importance of seminal plasma on spermatozoa viability of subsequent artificial inseminations in swine. *J. An. Sci.*78:443-448.
- 44.\* Alghamdi, A.S., **Troedsson, M.H.T.**, Laschkewitsch, T., and Xue, J-L. (2001) Uterine secretion from mares with post-breeding endometritis alters sperm motion characteristics in vitro. *Theriogenology.* 55:1019-1028.
- 45.\* Rozeboom, K.J., **Troedsson, M.H.T.**, Rocha, G.R., and Crabo, B.G. (2001) The chemotactic properties of porcine seminal components towards neutrophils. *J. Anim. Sci.* 79;4:996-102.
46. **Troedsson, M.H.T.**, Ohlgren, A.F., Ababneh, M.M., and Gregas, M. (2001) Effect of periovulatory prostaglandin  $F_2\nabla$  on pregnancy rates and luteal function. *Theriogenology* 55;9:1891-1899.
- 47.\* Ibrahim, N.M., Romano, J.E., **Troedsson, M.H.T.** and Crabo, B.G. (2001) Effect of scrotal insulation on clusterine-positive cells in ram semen and their relationship to semen quality. *J. Andrology* 22:5:863-877.
- 48.\* Rozeboom, K.J., Rocha-Chavez, G, and **Troedsson, M.H.T.** (2001) Inhibition of neutrophil chemotaxis by pig seminal plasma in vitro: A potential method for modulating post-breeding inflammation in sows. *Reproduction* 121;4:567-572.
49. **Troedsson, M.H.T.** (2001) Ultrasonographic evaluation of the placenta. *Pferdeheilkunde.* 6:583-588.
- 50.\* Alghamdi, A.S., Crabo, B.G., **Troedsson, M.H.T.**, and Jin-Liang Xue. (2002) Comparison of different extenders for freezing of equine semen. *American Journal of Veterinary Research* 63(6);880-885.
51. **Troedsson, M.H.T.**, Loseth, K, Alghamdi, A.M., Dahms, B, and Crabo, B.G. (2002) Interaction between equine semen and the endometrium: The inflammatory response to semen. *An. Reprod. Sci.* 68;273-278.
- 52.\* Bailey, M.T., Wheaton, J.E., and **Troedsson, M.H.T.** (2002) Inhibin concentrations in mares with granulosa-thecal cell tumors. *Theriogenology* 57:1885-1895.
53. Devireddy, R.V., Swanlund, D.J., Olin, T., Vincente, W., **Troedsson, M.H.T.**, Bischof, J.C., and Roberts, K.P. (2002) Cryopreservation of equine spermatozoa: Optimal cooling rates in the presence and absence of cryoprotective agents. *Biology of Reproduction* 66:222-231.
54. **Troedsson, M.H.T.**, Alghamdi, A.S., and Mattisen, J. (2002) Equine seminal plasma protects the fertility of spermatozoa in an inflamed environment. *Theriogenology*, 58:453-456.
- 55.\* Dahms, B.J., and **Troedsson, M.H.T.** (2002) The effect of seminal plasma components on opsonisation and PMN-phagocytosis of equine spermatozoa. *Theriogenology*, 58:457-461.

- 56.\* L. Duoos, **Troedsson, M.H.T.**, Alghamdi, A.S., Miller, L., and Roberts, K.P. (2002) The importance of osmotic pressure for the quality of fresh, cooled, and cryopreserved equine spermatozoa. *Theriogenology*, 58:261-264.
57. Devireddy, R.V., Swanlund, D.J., Alghamdi, A.S., **Troedsson, M.H.T.**, Bischof, J.C., and Roberts, K.P. (2002). The effect of collection and cooling conditions on water transport characteristics of equine spermatozoa. *Theriogenology*, 58:233-236.
- 58.\* Alghamdi, A.S. and **Troedsson, M.H.T.** (2002) Concentration of nitric oxide in uterine secretion from mares susceptible and resistant to chronic post-breeding endometritis. *Theriogenology*, 58:445-448.
- 59.\* Madill, S., **Troedsson, M.H.T.**, Santschi, E.M., and Malone, E.D. (2002) Dose-response effect of intramuscular oxytocin treatment on myometrial contraction of reproductively normal mares during estrus. *Theriogenology*, 58:479-482.
60. Sieme, H., **Troedsson, M.H.T.**, Weinrich, S., and Klug, E. (2003) Influence of exogenous GnRH on sexual behavior and frozen/thawed semen viability in stallions during the non-breeding season. *Theriogenology* 61;159-171.
61. Devireddy, R.V., Swanlund, D.J., Alghamdi, A.S., Duoos, L.A., **Troedsson, M.H.T.**, Bischof, J.C., and Roberts, K.P. (2002) The effect of collection and cooling conditions on motility and subzero water transport characteristics of equine spermatozoa. *Reproduction*, 125(5):643-648.
62. McCue, P.M. and **Troedsson, M.H.T.** (2003) Commercial embryo transfer in the United States. *Pferdeheilkunde* 19(6):689-692.
63. **Troedsson, M.H.T.**, Macpherson, M, and McCue, P.M. (2003) Pathophysiology of ovarian abnormalities in the mare. *Pferdeheilkunde* 19(6):577-584.
- 64.\* Alghamdi, A.S., Foster, D.N, and **Troedsson, M.H.T.** (2004) Equine seminal plasma reduces sperm binding to polymorphonuclear neutrophils and improves fertility of fresh semen inseminated into inflamed uteri. *Reproduction* 127:593-600.
65. Ernst, N., Hernandez, J., MacKay, R., Brown, M., Gaskin, J., Nguyen, A., Giguere, S., Colahan, P., **Troedsson, M.**, Haines, G., and Addison, I. (2004) Risk factors associated with Salmonella shedding in hospitalized horses with gastro-intestinal disease. *JAVMA* 225(2):275-291.
66. Lohmus, M., Olin, M., Sundstrom, L.F., **Troedsson, M.H.T.**, Molitor, T.W., and El Halawani, M. (2004) Leptin increases T-cell immune response in birds. *General and Comparative Endocrinology*. 139:245-250.
- 67.\* Alghamdi, A.S., Foster, G.N., and **Troedsson, M.H.T.** (2005) Nitric oxide levels and nitric oxide synthase expression in uterine samples from mares susceptible and resistant to persistent breeding-induced endometritis. *Am. J. Repr. Immun*, 53(5):230-7.
68. **Troedsson, M.H.T.**, Alghamdi, A.S., Desvousges, A., Dahms, B., Dow, C. A., Hayna, J., Valesco, R., Collahan, P.T., Macpherson, M.L., Pozor, M., and Buhi, W.C. (2005) Components in seminal plasma regulating sperm transport and elimination. *Anim. Reprod. Sci*, 89:171-186.
- 69.\* Christensen, B.W., **Troedsson, M.H.T.**, Murchie, T.A., Pozor, M.A., Macpherson, M.L., Roberts, G.D., Estrada, A.H., and Langois, J. (2006) Management of hydrops in a Thoroughbred mare resulting in successful foaling. *JAVMA*, 228:1228-1232.
- 70.\* Bruce W. Christensen, **Mats H.T. Troedsson**, John F. Roberts, Margo L. Macpherson, Margorzata A. Pozor, Adam C. Eichelberger. (2006) Equine high-risk pregnancy with vaginal varicose vein hemorrhage and a Nocardia-form placentitis. *JAVMA* 228(10):1507-1510.
71. **Troedsson, M.H.T.** (2006) Interaction between spermatozoa and the mare's reproductive tract is mediated by biochemical, physical, and inflammatory mechanisms. *Pferdeheilkunde*, 22:160-164.
72. **Troedsson, M.H.T.** (2007) High Risk Pregnant Mare. *Acta Veterinaria Scandinavica*, 49 (Suppl 1):S9
73. **Troedsson, M.H.T.** (2008) Breeding-induced endometritis. *Pferdeheilkunde*, 24;1:56-60.
74. Liu, I.K.M., **Troedsson, M.H.T.** (2008) The diagnosis and treatment of endometritis in the mare: Yesterday and today. *Theriogenology*, 70:415-420.
- 75.\* Christensen, B.W., **Troedsson, M.H.T.**, Young, L.J., Olivia, M., Penfold, L.M. (2008) Effects of sociosexual environment on serum testosterone in captive male African Rhinoceros. *Theriogenology* 71:1105-1111.
76. Abato, E., Christensen, B.W., **Troedsson, M.H.T.**, Olivia, M., Penfold, L.M.(2008) Serum testosterone and cortisol concentrations in the captive male Indian Rhinoceros (*Rhinoceros unicornis*). *Journal of Zoo and Wildlife Medicine*. (Accepted with revisions).
77. Abel B. Ekiri, Robert J. MacKay, Jack M. Gaskin, David E. Freeman, Amanda M. House, Steeve Giguère, **Mats H.T. Troedsson**, Crystal Schuman, Maria von Chamier, Katherine Henry, Jorge A. Hernandez. (2008)

- Epidemiologic analysis of nosocomial Salmonella infections in hospitalized horses. *JAVMA* 234(1):108-119.
78. **Troedsson, M.H.T.** (2009) Problems after breeding. *J. Eq. Vet. Sci.* 28(11):635-639.
79. Moller Nielsen, J. **Troedsson, M.H.T.**, Zent, W.W. (2010) Results of bacteriological and cytological examinations of the endometrium of mares in a practice in Denmark and in Central Kentucky, USA. *Eq. Vet. Sci.* (In press)
80. **Troedsson, M.** (2010) Sperm transport and elimination from the mares' reproductive tract. *Pferdeheilkunde* 26;25-28.
- 81\*. Klein, C. Scoggin, K. Ealy, A.D., **Troedsson, M.H.T.** (2010) Transcriptional profiling of equine endometrium during the time of maternal recognition of pregnancy. *Biol. Reprod.* (submitted).
- 82.\* Bailey, C.S., Macpherson, M.L., Pozor, M.A., **Troedsson, M.H.T.**, Benson, S., Giguere, S., Sanchez, L.C., LeBlanc, M.M., Vicroy, T.W. (2010) Treatment efficacy of trimethoprim sulfamethoxazole, pentoxifylline and altrenogest in experimentally-induced equine placentitis. *Theriogenology* (accepted).
83. Mozzaquatro F.D., Verstegen J.P. Douglas R.H., **Troedsson M.H.T.**, Silva C.A.M., Rubin M.I.B. (2010) Luteal function induced by transvaginal ultrasonic-guided follicular aspiration in mares. *An. Reprod. Sci.* (In press)

\* graduate student or resident as first author

### Articles in Conference Proceedings

1. Viring, S., Bolske, G., Franklin, A., Reh binder, C., Segall, T. and **Troedsson, M.H.T.** (1986) Bacteriological findings in nasal and lower respiratory tract samples of calves with acute respiratory disease. Proceedings of XIV World Congress on Diseases of Cattle, Dublin.
2. **Troedsson, M.H.T.**, Liu, I.K.M. and Scott, M.A. Breakdown of the uterine defense mechanisms in mares susceptible to chronic uterine infections (CUI): Efficacy of different treatment strategies. Proceedings 6th Annual Symposium on Advances in Clinical Veterinary Medicine 1993, University of California, Davis CA.
3. **Troedsson, M.H.T.** Management of mares susceptible to chronic endometritis. Proceedings 1993 Annual Fall Conference for Veterinarians. University of Minnesota, St Paul.
4. **Troedsson, M.H.T.** (1995) Uterine response to semen deposition in the mare. *Proc. Soc. Therio.* 130-135.
5. Liu, I.K.M., and **Troedsson, M.H.T.** (1995) Uterine defense mechanisms in mares resistant and susceptible to chronic uterine infection. *Proc. World Veterinary Congress in Yokohama, Japan.*
6. **Troedsson, M.H.T.** (1996) Dystocia in the mare. Proceedings 1996 Annual Fall Conference for Veterinarians. University of Minnesota, St Paul. 1-13.
7. **Troedsson, M.H.T.** (1996) Therapy of Endometritis. Proceedings 1996 Annual Fall Conference for Veterinarians. University of Minnesota, St Paul. 22-31.
8. **Troedsson, M.H.T.** (1996) Practical aspects of transported semen. Proceedings 1996 Annual Fall Conference for Veterinarians. University of Minnesota, St Paul. 32-36.
9. **Troedsson, M.H.T.** (1996) Treatment strategies in mares with endometritis. *Proc. Mare Reproduct. Symp.*, SFT 40-50.
10. **Troedsson, M.H.T.** (1996) Treatment strategies in mares with endometritis. *Mare Reproduct. Symp.*, Kansas City, MI.
11. **Troedsson, M.H.T.** (1997) Artificial insemination in the horse. Short course for stud farm managers. University of Minnesota, St. Paul
12. **Troedsson, M.H.T.** (1997) Transported cooled and frozen semen. Short course for equine practitioners. University of Minnesota, St. Paul.
13. **Troedsson, M.H.T.** (1997) Equine Endometritis: Pathophysiology and therapeutic considerations. Proceedings, XXV Brazilian Veterinary Medicine Congress.
14. **Troedsson, M.H.T.**, Alghamdi, A., Laschkewitsch, T., and Xue, J-L. (1998) Sperm motility is altered in uterine secretions from mares with post-breeding endometritis. *Am. Assoc. Eq. Pract.* 44:66-67.
15. **Troedsson, M.H.T.** (1998) Placentitis. Bluegrass Equine Reproduction Symposium. Lexington, KY.
16. **Troedsson, M.H.T.** (1998) Uterine clearance and fertility. Bluegrass Equine Reproduction Symposium . Lexington, KY.
- 17.\* Rozeboom, K.J., **Troedsson, M.H.T.**, Shurson, G.C., Hodson, H., and Crabo, B.G. (1998) Optimal use of multiple inseminations. Assisted Swine Reproduction Seminar, Allen D. Lehman Swine Conference, Minneapolis, MN, pp 72-76.

18. **Troedsson, M.H.T.** (1999) Management and treatment of placentitis. Proceedings of the Flamish Equine Practitioners 1st Annual Meeting.
19. **Troedsson, M.H.T.** (1999) Placentitis. Equine School for Veterinarians. North Dakota State University.
20. **Troedsson, M.H.T.** (1999) Uterine clearance and fertility. Equine School for Veterinarians. North Dakota State University.
21. **Troedsson, M.H.T.** (1999) Breeding with Cooled-Transported Equine Semen. Equine School for Veterinarians. North Dakota State University.
22. **Troedsson, M.H.T.** (1999) Timing of Insemination with Cooled and Frozen/Thawed Equine Semen. Equine School for Veterinarians. North Dakota State University.
23. **Troedsson, M.H.T.** and Madill, S. (1999) Clinical evaluation of the reproductive tract of the mare. Proceedings Society for Theriogenology. 63-78.
24. **Troedsson, M.H.T.** (1999) Equine Embryo Transfer. Proceedings 1999 Annual Fall Conference for Veterinarians. University of Minnesota, St Paul. 49-52.
25. Rozeboom, K.J., **Troedsson, M.H.T.**, and Crabo, B.G. (1999) AI in swine: The impact of inseminations on uterine environment. ICBS, .Reproduction in domestic animals. Suppl.
26. **Troedsson, M.H.T.** (2000) The pathophysiology and therapy of endometritis in the mare. Ippol 11(3):5-16.
27. **Troedsson, M.H.T.** (2000) The role of seminal plasma in the modulation of breeding induced endometritis. Ippologia 11(3):17-22.
28. **Troedsson, M.H.T.** (2000) Diagnostics and management of mares with placentitis. Ippologia 11(3):31-34.
29. **Troedsson, M.H.T.** (2000) Diagnostics and clinical management of ovarian problems. Ippologia 11(3):35-47.
30. **Troedsson, M.H.T.** (2000) Diagnostic work-up for barren mares and breeding the problem mare. Proceedings, Bluegrass Equine Reproductive Symposium. 89-105.
31. **Troedsson, M.H.T.** (2000) Myometrial activity and progesterin supplementation. Proceedings, Pre-Conference Symposium, SFT/ACT, 17-24.
32. **Troedsson, M.H.T.** (2000) Placentitis. Proceedings, Pre-Conference Symposium, SFT/ACT, 45-50.
33. **Troedsson, M.H.T.** (2000) Fetal membrane retention and toxic metritis. Proceedings, Pre-Conference Symposium, SFT/ACT, 113-118.
34. **Troedsson, M.H.T.** (2001) Management of the infertile mare. Proceedings, West Coast Equine Reproduction Symposium, 123-135.
35. **Troedsson, M.H.T.** (2003) Clinical Importance of Breeding-Induced endometritis in the mare. AAEP, Focus Equine Reproduction. pp1-8.
36. **Troedsson, M.H.T.** (2003) Recent advances in Mare Reproduction. University of Florida, Veterinary Appreciation Day.
37. **Troedsson, M.H.T.** and Zent, W.W. (2004) Clinical ultrasonographic evaluation of the equine placenta as a method to successfully identify and treat mares with placentitis. Workshop on the Equine Placenta (In press)
38. **Troedsson, M.H.T.** (2004) Breeding Management of the Mare. Breeding Management Short Course, University of Florida. pp. 33-40.
39. **Troedsson, M.H.T.** (2004) Common Fertility Problems. Breeding Management Short Course, University of Florida. pp. 41-48.
40. **Troedsson, M.H.T.** (2004) Endometritis: Still a major problem in brood mare practice. AAEP 6<sup>th</sup> Annual Resort Symposium, Cozumel, Mexico.
41. **Troedsson, M.H.T.** (2004) Placentitis: When do we treat and with what? AAEP 6<sup>th</sup> Annual Resort Symposium, Cozumel, Mexico.
42. **Troedsson, M.H.T.**, Miller, L.M.J., Roberts, K.J. (2004) Cryopreservation of equine spermatozoa alters the expression of sperm protein 22 kDa (SP22). Havermeyer Workshop on transporting gametes and embryos. P 28.
43. **Troedsson, M.H.T.** (2004) Role of seminal plasma in freezing equine spermatozoa. Havermeyer Workshop on transporting gametes and embryos P 31.
44. **Troedsson, M.H.T.**, and Zent, W.W. (2004) Equine Placenta: Evaluation and Pathology. Proc. Bluegrass Equine Reproduction Symposium. Pp. 83-89.
45. Hayna, J., Madill, S., and **Troedsson, M.H.T.** (2004) The effect of transvaginal aspiration of follicles on corpus luteum function in the mare. Havermeyer Foundation Monograph Series 14:90-92.
46. **Troedsson, M.H.T.** (2005) A clinical approach to endometritis. Proceedings, Ontario Veterinary Medical Association Pp. 247-253.

46. **Troedsson, M.H.T.** (2005) Diagnosis and management of equine placentitis: A clinical perspective. Proceedings, Ontario Veterinary Medical Association Pp. 239-246.
47. Wilson, M.E., Rozeboom, K.J., Dobrinsky, J.R., Terlouw, S.L., Francisci de Geau, A., Willenburg, K.L., **Troedsson, M.H.T.**, and Didion, (2005) International biotechnology center: bridges the gap between new technologies and training. Proc. AASV Pp. 247-253.
48. **Troedsson, M.H.T.**, Alghamdi, A.S., and Desvougues, A. (2005) A protective role of seminal plasma in sperm-induced endometritis. EAAP proceedings.
49. **Troedsson, M.H.T.** , Macpherson, M.L. (2005) An update on equine placentitis. University of Florida, Veterinary Appreciation Day.
50. Macpherson, M.L., **Troedsson, M.H.T.** (2006) Diagnosis and treatment of equine placentitis. Proc. West Coast Equine Reproduction Symposium, Solvang, CA. pp 75-86.
51. Macpherson, M.L., **Troedsson, M.H.T.** (2006) Diagnosis and treatment of equine placentitis. Proveto Symposium on Equine Reproduction, The Netherlands.
52. **Troedsson, M.H.T.** Infertility in the mare. (2006) Proceedings Zwolle International Equine Reproduction Seminar. pp43-52.
53. **Troedsson, M.H.T.** (2006) Clinical importance of endometritis. Proceedings, GVMA Fall Convention (in press).
54. **Troedsson, M.H.T.** (2006) Equine embryo transfer. Proceedings, GVMA Fall Convention (in press).
55. **Troedsson, M.H.T.** (2006) Practical aspects of AI with cooled and frozen/thawed semen. Proceedings, GVMA Fall Convention (in press).
56. **Troedsson, M.H.T.** (2006) Clinical aspects of placentitis. Proceedings, GVMA Fall Convention (in press).
57. **Troedsson, M.H.T.** (2006) Equine dystocia and accidents of gestation. Proceedings, GVMA Fall Convention (in press).
58. **Troedsson, M.H.T.** (2006) Managing the post-breeding endometritis mare for optimal fertility. International Symposium on Equine Reproduction. Pre-symposium clinical conference.
59. **Troedsson, M.H.T.** (2006) Mating-induced endometritis. Bluegrass Equine Reproduction Symposium, Lexington, KY.
60. **Troedsson, M.H.T.** (2006) Equine Endometritis. AMMVEE Annual Conference. (in press).
61. **Troedsson, M.H.T.** (2006) Equine Placentitis: Diagnosis and therapy. AMMVEE, Annual Conference. (in press).
62. **Troedsson, M.H.T.** (2006) Accidents of gestation. AMMVEE, Annual Conference. (in press).
63. **Troedsson, M.H.T.** (2007) Equine endometritis: Still an important problem in equine practice. Proceedings of 13<sup>th</sup> SIVE Congress, pp 79-81..
64. **Troedsson, M.H.T.** (2007) Diagnosis and treatment aspects of equine placentitis. . Proceedings of 13<sup>th</sup> SIVE Congress, 82-84.
65. **Troedsson, M.H.T.** (2007) Clinical importance of sperm transport and elimination from the mares' reproductive tract. . Proceedings of 13<sup>th</sup> SIVE Congress, pp. 85-87.
66. **Troedsson, M.H.T.** (2007) Infertility caused by ovarian abnormalities. . Proceedings of 13<sup>th</sup> SIVE Congress, 88-89.
67. **Troedsson, M.H.T.** (2007) How to manage placental retention. Proceedings of 13<sup>th</sup> SIVE Congress, pp 147-149..
68. **Troedsson, M.H.T.** (2007) High Risk Pregnant Mare. Proceedings, 20<sup>th</sup> NKVet Symposium on perinatal Death in Domestic Animals. Pp. 48-60.
69. **Troedsson, M.H.T.** (2007) Pre-partum complications in pregnant mares. Proceedings of SVT Annual Conference, pp 75-84.
70. **Troedsson, M.H.T.** (2007) Post-partum complications in mares. Proceedings of SVT Annual Conference, pp 85-89.
- 71.\* Bailey, C.S., Macpherson, M.L., Graczyk, J., Pozor, M.A., **Troedsson, M.H.T.**, leBlanc, M.M., Vickroy, T.W. (2007) Treatment efficacy of Trimethoprim Sulfamethoxazole, Pentoxifylline, and Altrenogest in equine placentitis. Proc. 53<sup>rd</sup> Annual Conv. AAEP. 339-340.
- 72.\* Eichelberger, A.C., **Troedsson, M.H.T.**, Pozor, M.A., Macpherson, M.L. (2007) How to collect, handle, and process post-mortem epididymal sperm for breeding or assisted reproductive techniques. Proc. 53<sup>rd</sup> Annual Conv. AAEP. P 583.

73. **Troedsson, M.H.T.** (2008) What is new in assisted reproductive techniques? Bluegrass Equine Reproduction Symposium.
74. **Troedsson, M.H.T.** (2008) Endocrinology in the mare. Bluegrass Equine Reproduction Symposium
75. **Troedsson, M.H.T.** (2008) High risk pregnant mare. AMMVEE, Annual Conference.
76. **Troedsson, M.H.T.** (2009) Management of mares before and after breeding. The Voorjaarsdagen, Annual Conference.
77. **Troedsson, M.H.T.** (2009) Breeding the problem mare. The Pyramide Society Breeders Conference Proceedings.
78. **Troedsson, M.H.T.** (2009) Sperm transport and elimination from the mare's reproductive tract. Proceedings, 6th International Conference on Equine Reproductive Medicine, 280-283.
- 79.\* Klein, C., **Troedsson, M.H.T.** (2009) Using a genomic approach to study maternal recognition of pregnancy in the horse. Proceedings, 6th International Conference on Equine Reproductive Medicine, 280-283.
80. **Troedsson, M.H.T.** (2010) Management of the Problem Mare: Uterine Issues. Proc. Equine Reproduction, Conference for Veterinarians: Current topics on broodmare management. Pp. 10-15.

\* graduate student or resident as first author

### Scientific Abstracts

1. Lui, I.K.M., **Troedsson, M.H.T.**, Williams, D.C. and Pascoe, J.R. (1991) Electromyography of uterine activity in the mare: Comparison of single vs. multiple recording sites. J. Repr. Fert. Suppl. 44.
2. **Troedsson, M.H.T.**, Steiger, B.N., Ibrahim, N.M., Foster, D.N., and Crabo, B.G. Mechanism of sperm-induced endometritis in the mare. (1995). Biol. Reprod. 52 (Suppl. 1):133.
3. Samper, J.C., Hamilton, D.W., Pryor, J.L., Loseth, K.J., **Troedsson, M.H.T.** and Crabo, B.G. (1995) Mechanisms of Sephadex trapping of capacitated stallion spermatozoa. 6th International Conference on Equine Reproduction, Caxambu, Brazil.
- 4.\* Renaudin, C.D., **Troedsson, M.H.T.**, Zent, W.W., Steiner, J.V., and Gillis, C.L. (1996) Etude echographique du placenta equine in vivo. The French Equine Veterinary Practitioners Annual Meeting.
5. **Troedsson, M.H.T.** (1996) Sperm transport and survival in the female reproductive tract. Symposium on Stallion Semen, Amersfoort, The Netherlands, 1996:21.
- 6.\* Ibrahim, N.M., Farris, J.A., Loseth, K.J., **Troedsson, M.H.T.**, Foster, D.N., and Crabo, B.G. (1996) Occurrence and characterization of clusterin in the reproductive tract of the bull. Proc. Soc. Therio., 320.
- 7.\* Rozeboom, K.J., **Troedsson, M.H.T.**, Shurson, G.C., Hawton, J.D., and Crabo, B.G. (1997) Late estrus and metestrus insemination subsequent to estrual inseminations decreases farrowing rate and litter size in swine. J. An. Sc. 75 (Suppl. 1) 37.
- 8.\* Madill, S., **Troedsson, M.H.T.**, Santschi, E.M. (1997) Individual registration of longitudinal and circular muscle in the equine myometrium using electromyography and strain gauges: Preliminary data. Proceedings, Havemeyer Foundation International Workshop on Uterine Defense Mechanisms in the Mare: Aspects of Physical Clearance. Gainesville, FL.
- 9.\* Rozeboom, K.J., **Troedsson, M.H.T.**, Hawton, J.D., and Crabo, B.G. (1997) Timing of inseminations, uterine clearance and the post-mating inflammatory response in the sow. Soc. Theriogenology, Newsletter 20:5.
- 10.\* Rozeboom, K.J., **Troedsson, M.H.T.**, Shurson, G.C., Hawton, J.D., and Crabo, B.G. (1997) AI in Swine: Timing of inseminations and post mating uterine inflammation. 1997 Allen D. Lemman Conferences (Suppl).
- 11.\* **Troedsson, M.H.T.**, Ibrahim, N.M., King, V.L., Foster, D.N., and Crabo, B.G. (1997) Post-breeding endometritis: The role of seminal components. Pferdeheilkunde, 13 (5) 542.
- 12.\* Rozeboom, K.J., **Troedsson, M.H.T.**, and Crabo, B.G. (1998) Artificial insemination induces a post-mating inflammatory response in gilts. J. An. Sc. (Suppl 1), 76:71.
- 13.\* Rozeboom, K.J., **Troedsson, M.H.T.**, and Crabo, B.G. (1999) The impact of inseminations on the uterine environment. Proc. IV Int. Conf. Boar Semen Cryopreservation, p2.
14. **Troedsson, M.H.T.**, Lee, C-S, Franklin, R., and Crabo, B.G. (1998) Post-breeding uterine inflammation: The role of seminal plasma. VII International Symposium on Equine Reproduction, pp. 91-92.
- 15.\* Ababneh, M.M., **Troedsson, M.H.T.**, and Seguin, B.E. (1998) Characterization of equine conceptus prostaglandin inhibitor factor (PIF). VII International Symposium on Equine Reproduction, pp. 159-160.
- 16.\* Madill S., **Troedsson, M.H.T.**, Alexander, S.L., Shand, N., Santschi, E.M., and Irvine, C.H.G. (1998) Simultaneous recording of pituitary oxytocin secretion and myometrial activity in estrous mares exposed to



- various breeding stimuli. VII International Symposium on Equine Reproduction, pp. 93-94.
- 17.\* Bailey, M.T., Christman, S.A., Wheaton, J.E., **Troedsson, M.H.T.**, O'Brien, T.D., Ababneh, M.M., and Santschi, E.M. (1998) Inhibin localization in equine granulosa-theca cell tumors (GTCT) and dimeric inhibin concentrations and  $\forall$ -inhibin forms in tumor fluid and plasma. VII International Symposium on Equine Reproduction, pp. 65-66.
  18. Christman, S.A., Bailey, M.T., Wheaton, J.E., **Troedsson, M.H.T.**, O'Brien, T.D., Ababneh, M.M., and Santschi, E. (1998) Staining of inhibin subunits in equine granulosa-theca cell tumors (GTCT) and concentration of dimeric inhibin in tumor fluid and plasma. 80th Ann. Meet. Endocr. Soc. Prog. and Abstr.297.
  19. De La Corte, F.D., Valberg, S.V., **Troedsson, M.H.T.**, and Mickelson, J.R. Developmental onset of polysaccharide storage myopathy in Quarter Horse foals. Proceedings ACVIM, 1998.
  20. **Troedsson, M.H.T.**, Zent. W.W., and Renaudin, C. (1998) Transrectal ultrasound evaluation of the placenta in normal mares and mares with impending abortion. Havermyer Foundation Workshop on Equine Placentitis. Lexington, KY, p. 36.
  21. **Troedsson M.H.T.**, Franklin R.K. and Crabo B.G. (1999) Suppression of PMN-chemotaxis by different molecular weight fractions of equine seminal plasma. 2nd International Conference on Equine Reproductive Medicine: Etiology, Diagnosis, and Therapy of Conceptual and Gestational Disturbances.
  - 22.\* Bailey, M.T., Christman, S.A., Wheaton, J.E., **Troedsson, M.H.T.**, Ababneh, M.M., and Santschi, E. (1999) Plasma dimeric ( $\forall\exists A$ ) and  $\exists$ -immunoreactive inhibin ( $\exists$ -inh) concentrations in mares with granulosa-theca cell tumors. N. Am. Inhibin and Activin Congress, Chicago, IL.
  - 23.\* Ababneh, M.M. and **Troedsson, M.H.T.** (1999) Regulation of endometrial PGF<sub>2</sub> $\alpha$  secretion in horses. Society of Theriogenology Annual Meeting.
  - 24.\* Ibrahim, N, Loseth, K, Romano, J, Crabo, B, and **Troedsson, M.** (2000) Effect of scrotal insulation on sperm and seminal clusterin in rams and its relationship to semen quality. Proceedings, International Conference on Animal Reproduction, Stockholm, Sweden.
  - 25.\* Rozeboom, K.J., Rocha-Chavez, G., and Troedsson, M.H.T. (2000) Neutrophil chemotactic properties of porcine seminal components. Proceedings, International Conference on Animal Reproduction, Stockholm, Sweden, Pp.8:4.
  - 26.\* Bailey, M.T., Christman, S.A., **Troedsson, M.H.T.**, Ababneh, M.M., and Wheaton, J.E. (2000) Inhibin production and secretion by granulosa-theca cell tumors in mares. Am. Soc. An. Sci., Midwest section, Des Moines, IA.
  - 27.\* Bailey, M.T., Wheaton, J.E., **Troedsson, M.H.T.**, and Liu, I.K.M. (2000) Inhibin, gonadotropins, and testosterone in mares with granulosa-theca cell tumors (GTCT). SSR, Madison, WI.
  28. Santschi, E.M. and **Troedsson, M.H.T.** Bilateral ovariectomy via two paramedian incision. (2000) Proc. American College of Veterinary Surgeons.
  - 29.\* Rocha-Chavez, G., **Troedsson, M.H.T.**, and Rozeboom, K.J. (2000) Boar seminal plasma regulates neutrophil chemotaxis and sperm cell phagocytosis after mating the sow (In vitro studies). Proc. Int. Pig Vet. Soc. Meeting, Melbourne, Australia.
  30. **Troedsson, M.H.T.**, Loseth, K., Alghamdi, A., and Crabo, B.G. (2001) Interaction between equine semen and the endometrium: The inflammatory response to semen. 3rd International Symposium on Stallion Reproduction, Fort Collins, CO.
  31. **Troedsson, M.H.T.**, Dahms, B., Alghamdi, A, and Mattisen, J. (2001) The effect of equine seminal plasma on opsonisation and phagocytosis by polymorphonuclear neutrophils. The 2nd Leipzig Expert Workshop on Equine Reproductive Medicine.
  32. **Troedsson, M.H.T.** (2001) Ultrasonographic evaluation of the equine placenta. The 3rd International Conference on Equine Reproductive Medicine.
  - 33.\* Miller, L.M.J., **Troedsson, M.H.T.**, Duoos, L., and Roberts, K.J. (2003) Immunohistochemical detection and localization of sperm protein 22 (SP22) in fresh and cryopreserved equine semen. Biol Reprod. (suppl 1):166.
  - 34.\* Alghamdi, A.S., Foster, D.N., and **Troedsson, M.H.T.** (2003) Binding between equine spermatozoa and polymorphonuclear neutrophils. AAEP FOCUS Equine Reproduction. pp10-11.
  35. **Troedsson, M.H.T.**, Bailey, M.T., and Wheaton, J.E. (2003) The effect of equine granulosa-theca cell tumors (GCT) on the pituitary-ovarian endocrine axis. Pferdeheilkunde. 19:6;711.
  36. **Troedsson, M.H.T.**, Miller, L.M.J., Roberts, K.J. (2003) Cryopreservation of equine spermatozoa alters the expression of sperm protein 22 kDa (SP22). (2003) Havermyer Workshop on transporting gametes and embryos.

37. **Troedsson, M.H.T.** (2003) Role of seminal plasma in freezing equine spermatozoa. Havermeier Workshop on transporting gametes and embryos.
38. **Troedsson, M.H.T.** and Zent, W.W. (2003) Clinical ultrasonographic evaluation of the equine placenta. Workshop on the Equine Placenta. P. 21.
- 39.\* Miller, L.M.J., **Troedsson, M.H.T.**, Klinefelter G.R., and Roberts K.P. (2004) Immunocytochemical detection and localization of sperm protein 22 (sp22) in fresh and cryopreserved equine semen. International Congress on Animal Reproduction. Volume 2, page 509.
- 40.\* Wells, B.A., Miller, L.M.J., Klinefelter, G.R., Roberts, K.P., and **Troedsson, M.H.T.** (2004) Immunohistological evaluation of sperm protein 22 (SP22) in fresh and frozen/thawed stallion semen. McNair scholarship seminar, University of Florida.
- 41.\* Hayna, J., Madill, S., and **Troedsson, M.H.T.** (2004) The effect of transvaginal aspiration of follicles on corpus luteum function in the mare. International Symposium on Equine Embryo Transfer. Page 35.
- 42.\* Christenson, B.W., **Troedsson, M.H.T.**, Oliva, M, Hernandez, J, Macpherson, M, Pozor, M, and Penfold, L. (2004) Influences of age, time of the year, and female presence on serum testosterone concentration in captive black rhinoceros (*Diceros bicornis*). 5<sup>th</sup> International Symposium on Physiology, Behavior and Conservation in Wildlife. Page 97.
- 43.\* Miller, L.M. Roberts, K.P., Troedsson, M.H.T. (2004) Expression of sperm protein 22 kDa in equine tissues. Proceedings, AMCB 2<sup>nd</sup> Annual Research Symposium.
- 44.\* Christenson, B.W., **Troedsson, M.H.T.**, Oliva, M, Hernandez, J, Macpherson, M, Pozor, M, and Penfold, L. (2004) Influences of Age, Time of Year, and Sociosexual Status on Serum Testosterone Concentration in Captive Black Rhinoceros (*Diceros Bicornis*). Proceedings for the Annual Conference of the SFT. Page 8.
- 45.\* Christenson, B.W., **Troedsson, M.H.T.**, Oliva, M, Hernandez, J, Macpherson, M, Pozor, M, and Penfold, L. (2004) Exogenous influences on serum testosterone concentration in captive black rhinoceros (*Diceros bicornis*). Proceedings for the AAZV Annual Conference. Page 540.
- 46.\* Hayna, J.T., Richmond, P.M., Desvousges, A.L., Troedsson, M.H.T. (2005) The effects of controlled short-term cooling prior to cryopreservation on motility and morphology of equine spermatozoa. AMCB 3<sup>rd</sup> Annual Research Symposium (abstr. #3).
- 47.\* Desvousges, A.L., Dow, C., Buhi, W.C., Hayna, J.T., Troedsson, M.H.T. (2005) A selective role of seminal plasma in PMN-binding and phagocytosis of live and non-viable equine spermatozoa. AMCB 3<sup>rd</sup> Annual Research Symposium (abstr. #6).
48. **Troedsson, M.H.T.**, Alghamdi, A.S., Desvousges. (2005) A protective role of seminal plasma in sperm-induced endometritis. EAAP.
- 49.\* Hayna, J., **Troedsson, M.H.T.** (2005) Non-pharmacological induction of luteal tissue in mares. University of Florida Research Emphasis Day.
- 50.\* Miller, L.M., **Troedsson, M.H.T.** (2005) Expression and localization of sperm protein 22 kDa in stallions. University of Florida Research Emphasis Day.
- 51.\* Desvousges, A.L., Dow, C., Buhi, W.C., Hayna, J., and **Troedsson, M.H.T.** (2005) Selective role of seminal plasma in the modulation of PMN-binding and phagocytosis of live, heat stressed, and non-viable equine spermatozoa. Biol. Reprod. (Special Issue for 38<sup>th</sup> Annual meeting of the SSR. Abstract W555, p203.
- 52.\* Miller, L.M., Klinefelter, G.R., Roberts, K.P., and **Troedsson, M.H.T.** (2005) Effects of cryopreservation and extenders on the expression and localization of sperm protein at 22 kDa (SP22) on equine spermatozoa. Theriogenology, 64:779.
- 53.\* Desvousges, A.L., Dow, C., Buhi, W.C., Hayna, J., and **Troedsson, M.H.T.** (2005) A selective role of seminal plasma in PMN-binding and phagocytosis of viable and non-viable equine spermatozoa. Theriogenology, 64:780.
- 54.\* Hayna, J., Richmond, P., Desvousges, A.D., and **Troedsson, M.H.T.** (2005) The effect of short term cooling prior to cryopreservation on motility and morphology of equine spermatozoa. Theriogenology, 64:792.
- 55.\* J. Graczyk, ML Macpherson, MA Pozor, **MHT Troedsson**, AC Eichelberger, MM LeBlanc, TW Vickroy. (2006) Treatment Efficacy of Trimethoprim Sulfamethoxazole and Pentoxifylline in Equine Placentitis. Anim. Reprod. Sci. 94:434-435.
56. M Pozor, ML Macpherson, **MHT Troedsson**, J Verstegen Effect of a single administration of human chorionic gonadotropin (hCG) on testicular blood flow in stallions. Anim. Reprod. Sci. 94:146-147.
- 57.\* Miller, L.M.J., Greene, E.S., Roberts, K.P., and **Troedsson, M.H.T.** (2006) Expression of Equine Sperm Protein 22 kDa (SP22) in Testicular and Epididymal Tissue. Anim. Reprod. Sci. 94:54-55.
- 58.\* A.L. Desvousges, A.L. Dow, A., Hayna, J.T., Miller, L., Jousan, D., Hansen, P. Buhi, W.C., and

- Troedsson, M.H.T.** (2006) Heat Shock Induces Apoptosis in Equine Spermatozoa. *Anim. Reprod. Sci.* 94:125-126.
- 59.\* Hayna, J.T., Madill, S., Roser, J.F. and **Troedsson, M.H.T.** (2006) The Effect of Transvaginal Aspiration of Small and Medium sized Follicles on Serum Progesterone, FSH and LH Concentrations in Mares. *Anim. Reprod. Sci.* 94:355-356.
60. **Troedsson, M.H.T.**, Desvousges, A.L., Hansen, P.J. and Buhi, W.C. (2006) Equine Seminal Plasma Proteins Protect Live Spermatozoa from PMN-binding and Phagocytosis, while Providing a Mechanism for Selective Sperm Elimination of Apoptotic and Dead Spermatozoa. *Anim. Reprod. Sci.* 94:60-61.
- 61.\* Doty, A.L. Vaerst, S., Benson, S., Pozor, M.A., Macpherson, M.L., Buhi, W.C. and **Troedsson, M.H.T.** (2007) Heat Shock of Equine Sperm Induce Structural and Functional damage to PMNs. *Theriogenology*, 2007, **68**(3): 512.
- 63.\* C.S. Bailey, M.L. Macpherson, J. Graczyk, M.A. Pozor, **M.H.T. Troedsson**, M.M. LeBlanc, T.W. Vickroy. (2007) Treatment efficacy of trimethoprim sulfamethoxazole, pentoxifylline, and altrenogest in equine placentitis. *Theriogenology*, 2007, **68**(3): 516.
64. **Troedsson, M.H.T.**, Alghamdi A.S., Foster, D.N., Carlson, C.S. (2008) Nitric oxide and nitric oxide synthase expression in the uterus of mares susceptible and resistant to persistent endometritis. *Pferdeheilkunde*, 24(1):120-121.
65. Phillips J.A., Eichelberger A.C., Klein C., Pozor M.A., **Troedsson M.H.T.** (2008) Breeding Related Full-Thickness Vaginal Tear with Associated Peritonitis. *Theriogenology* (in press).
66. Klein, C., **Troedsson, M.H.T.**, and Ealy, A.D. (2008) Deciphering embryo-maternal communication in the horse – A genomic approach. Proc. 6<sup>th</sup> Annual Research Symposium, Animal Molecular and Cellular Biology Graduate Program. P. 23.
67. Moller-Nielsen, J., **Troedsson, M.H.T.**, Zent, W.W. (2008) Results of bacterial and cytological examinations of the endometrium in a practice in Denmark and in Central Kentucky, USA. Havermeyer Workshop on the Chronically Infertile Mare. pp. 34-35.
68. **Troedsson, M.H.T.**, Doty, A.L., Buhi, W.C. (2008) A specific seminal plasma protein regulates the interaction between PMNs and viable spermatozoa, but not non-viable spermatozoa or bacteria. Havermeyer Workshop on the Chronically Infertile Mare. pp.25-26.
69. **Troedsson, M.H.T.**, Doty, A., Scoggin, K. Buhi, W.C. (2010) Is sperm transport and elimination from the mares' reproductive tract a selective process or a random event? *Pferdeheilkunde*.
- 70.\* Klein, C. Ealy, A., Scoggins, K. **Troedsson, M.H.T.** Transcriptive profiling of equine endometrium during the time of maternal recognition of pregnancy. IETS 2010.
71. F.D. Mozzaquatro, J.P. Verstegen, R.H. Douglas, **M.H.T. Troedsson**, F.D. De la Corte, M.I.B. Rubin, C.A.M. Silva. Progesterone profile secretion by *Corpus luteum* formed after follicular aspiration. 2<sup>nd</sup> Symposium on Animal Reproduction.
72. S.J. Coleman, Z. Zeng, D. Miller, C. Klein, **M.H.T. Troedsson**, D.F. Antczak, J. Liu, and J.N. MacLeod. (2010) Generation of a Consensus Protein-Coding Equine Gene Set. Plant and Animal Genome XVIII Conference 2010. P619.
- 73.\* L.M.J. Miller, E. Woodward, J.R. Campos, **M.H.T. Troedsson**. (2010) Expression of sperm protein at 22 kDa (SP22) in equine spermatozoa prior to and following heat induced testicular degeneration. ISER X (accepted).
- 74.\* C. Klein, J.M. Donahue, S.F. Sells, E.L. Squires, P.J. Timoney, **M.H.T. Troedsson**. (2010) Antibiotic-containing semen extender reduces the risk of transmission of CEM. ISER X (accepted).
75. J.R. Dobrinsky, P. Griffin, A.M. Paprochi, R.W. Koppang, C.M. Syverson, C. Klein, **M.H.T. Troedsson**. (2010) Transfer success of biopsied and vitrified equine embryos. ISER X (accepted).
76. M. Pozor, **M.H.T. Troedsson**, M.L. Macpherson, R. Sams. (2010) Effects of treatment with oral dexamethasone solution on testicular function in miniature horse stallions. ISER X (accepted).
- 77.\* M. Diaw, C.S. Bailey, D. Schlafer, M. Pozor, **M.H.T. Troedsson**, S. Benson, M.L. Macpherson. (2010) Evaluation of endometrial culture and biopsy immediately after post partum from normal mares and those with induced placentitis. ISER X (accepted).
78. **M.H.T. Troedsson**, A. Doty, M.L. Macpherson, M.C. Connor, J.P. Verstegen, M.A. Pozor, W.C. Buhi. (2010) CRISP-3 in equine seminal plasma is involved in selective uterine sperm transport. ISER X (accepted).

\* graduate student or a resident as first author

## Book chapters

### *Consulting Editor:*

1. **Troedsson, M.H.T.** 1996. Chapter 12: Alterations in sexual function. Consulting editor. In: Large Animal Internal Medicine. ED. Smith, B.P. Mosby Co, St Louis, MO.
2. **Troedsson, M.H.T.** 1997. Section 12: Reproduction. Consulting editor. In: Current Therapy in Equine Medicine 4. ED. Robinson N.E. Saunders Co, Philadelphia, PA.
3. **Troedsson, M.H.T.** 2001. Chapter 12: Alterations in sexual function. Consulting editor. In: Large Animal Internal Medicine (3d ed). ED. Smith, B.P. Mosby Co, St Louis, MO.
4. Seguin, B., and **Troedsson, M.H.T.** 2001. Chapter 41: Diseases of the Reproductive System. Disorders of the Organ Systems. Consulting editor. In: Large Animal Internal Medicine (3d ed). ED. Smith, B.P. Mosby Co, St Louis, MO.
5. **Troedsson, M.H.T.** 2008. Chapter 12: Alterations in sexual function. Consulting editor. In: Large Animal Internal Medicine (4th ed). ED. Smith, B.P. Mosby Co, St Louis, MO. 194-216.
6. **Troedsson, M.H.T.** 2008. Chapter 43: Diseases of the Reproductive System. Disorders of the Organ Systems. Consulting editor. In: Large Animal Internal Medicine (4th ed). ED. Smith, B.P. Mosby Co, St Louis, MO. 1419-1484.

### *Author:*

7. **Troedsson, M.H.T.**, och Liu, I.K.M. Elektromyografiska mätningar av livmoder-muskulaturen hos sto. Agria's Forskningsfond 1988-1990, Jubileumstidskrift, Stockholm, Sweden, 1991, pp 27-34.
8. **Troedsson, M.H.T.** and McCue, P.M. Pregnancy loss. In: Large Animal Internal Medicine. ED. Smith, B.F. Mosby Co, St Louis, MO, 1996, pp 252-257.
9. Madill, S. and **Troedsson, M.H.T.** Breeding soundness examination of the mare. In: Current Therapy in Equine Medicine 4. ED. Robinson N.E. Saunders Co, Philadelphia, PA, 1997, pp 505- 512.
10. **Troedsson, M.H.T.** Diseases of the external genitalia. In: Current Therapy in Equine Medicine 4. ED. Robinson N.E. Saunders Co, Philadelphia, PA, 1997, pp 512-516.
11. **Troedsson, M.H.T.** Diseases of the uterus. In: Current Therapy in Equine Medicine 4. ED. Robinson N.E. Saunders Co, Philadelphia, PA, 1997, pp 517-524.
12. **Troedsson, M.H.T.** and Barber, J.A. Diseases of the ovary. In: Current Therapy in Equine Medicine 4. ED. Robinson N.E. Saunders Co, Philadelphia, PA, 1997, pp 524-531.
13. **Troedsson, M.H.T.** Abortion. In: Current Therapy in Equine Medicine 4. ED. Robinson N.E. Saunders Co, Philadelphia, PA, 1997, pp 534-541.
14. Fahning, M, Spensley, M.S. and **Troedsson, M.H.T.** Dystocia. In: Current Therapy in Equine Medicine 4. ED. Robinson N.E. Saunders Co, Philadelphia, PA, 1997, pp 552-559.
15. **Troedsson, M.H.T.**, Spensley, M.S. and Fahning, M. Retained fetal membranes. In: Current Therapy in Equine Medicine 4. ED. Robinson N.E. Saunders Co, Philadelphia, PA, 1997, pp 560-562.
16. McCue, P.M., and **Troedsson, M.H.T.** Pregnancy loss, early embryonic death, and abortion. In: Large Animal Internal Medicine 3d ed. ED. Smith, B.F. Mosby Co, St Louis, MO. pp, 217-221.
17. Spensley, M.S., and **Troedsson, M.H.T.** Dystocia. In: Large Animal Internal Medicine 3d ed. ED. Smith, B.F. Mosby Co, St Louis, MO. pp, 224-227.
18. Spensley, M.S., and **Troedsson, M.H.T.** Retained fetal membranes. In: Large Animal Internal Medicine 3d ed. ED. Smith, B.F. Mosby Co, St Louis, MO. pp, 227-228.
19. Maarten Drost, Philip G.A. Thomas, Brad Seguin, and **Mats H.T. Troedsson** Female Reproductive Disorders. In: Large Animal Internal Medicine 3d ed. ED. Smith, B.F. Mosby Co, St Louis, MO. pp, 1292-1332.
20. **Troedsson, M.H.T.**, and Sage, A. 2001 Fetal/Placental monitoring. International Veterinary Information Services (IVIS).
21. **Troedsson, M.H.T.** Placentitis. In: Current Therapy in Equine Medicine 5. ED. Robinson N.E. Saunders Co, Philadelphia, PA.
22. **Troedsson, M.H.T.** Interaction between the uterus, semen, and the fetus; Equine research during two decades. In: Equine Research in the last 25 years. ATG, Sweden.
23. **Troedsson, M.H.T.**, and Madill, S. 2004 Pathophysiology of the reproductive system. In: Veterinary Pathophysiology. Eds. R.H. Dunlop & C.-H. Malbert. Blackwell Publishing, Ames, IA. pp 213-258.
24. Ricketts, S.W. and **Troedsson, M.H.T.** 2006. Barren Mares: Fertility expectations and management for

- optimal fertility. In: Current Therapy in Equine Reproduction. Eds. A.O. McKinnon, J. Samper, and J. Pycock. Saunders Co, Philadelphia, PA. Pp 53-69.
25. **Troedsson, M.H.T.** 2006. Breeding-induced endometritis. In. Veterinary Clinics of North America, Ed. E. Carnevale. Pp 705-712.
  26. Macpherson, M.L., Hayna, J., **Troedsson, M.H.T.** 2006. Premature lactation in mares. Current Therapy in Equine Reproduction. Ed. Samper J., Pycock, J., McKinnon, A. pp 435-440.
  27. **Troedsson, M.H.T.** (2008) Dystocia. In: Large Animal Internal Medicine 4th ed. ED. Smith, B.F. Mosby Co, St Louis, MO. 210-212.
  28. **Troedsson, M.H.T.** (2008) Retained fetal membranes. In: Large Animal Internal Medicine 4<sup>th</sup> ed. ED. Smith, B.F. Mosby Co, St Louis, MO. 212-213.
  29. B. Christensen, **Mats H.T. Troedsson**, and M. Drost. (2008) Female Reproductive Disorders. In: Large Animal Internal Medicine 4th ed. ED. Smith, B.F. Mosby Co, St Louis, MO. 1419-1469.
  30. **Troedsson, M.H.T.** Endometritis. In: Equine Reproduction. Ed. A. McKinnon. (Accepted).
  31. **Troedsson, M.H.T.**, Macpherson, M.L. Placentitis. In: Equine Reproduction. Ed. A. McKinnon. (Accepted).
  32. **Troedsson, M.H.T.** and Peter J. Timoney. Equine Contagious Metritis. In: Clinical Veterinary Advisor. Ed. D. Wilson (accepted)

### Non Refereed Professional Articles

1. **Troedsson, M.H.T.** (1992) Chronic uterine inflammation (CUI) in the mare: the role of uterine defense mechanisms. Modern Horse Breeding 9(9) 1.
2. **Troedsson, M.H.T.** Breeding Mares Early in the Season. Minnesota Thoroughbred Association Newsletter, 1994.
3. **Troedsson, M.H.T.** and Liu, I.K.M. Management of mares with chronic uterine inflammation. ERL update 1994 published by layman's magazines including The Thoroughbred of California CA, Aug. 1994; Arabian Horse Association of California CA, Jan. 1995; The Corinthian Horse Sport ONT, Jan. 1995; The Quarter Horse Journal TX, Jan. 1995; The Southern Horseman MS, Jan. 1995; Gallopin'Gazette MI, Jan. 1995; Speedhorse OK, Dec. 1994; Just Horses ID, Feb. 1995; The Backstreich, April 1995, Large Animal Veterinarian, Nov. 1995.
4. **Troedsson, M.H.T.** and Liu I.K.M. (1995) Managing mares with chronic uterine inflammation. Eq. Vet. Sci. (15)3: 112-114.
5. **Troedsson, M.H.T.** (1996) Causes and treatment strategies of mares with persistent uterine inflammation. Minnesota Thoroughbred Association Newsletter, 1996.
6. **Troedsson, M.H.T.**, and Liu, I.K.M. (1996) Management and treatment strategies of mares with persistent uterine inflammation. Minnesota Thoroughbred Association Newsletter.
7. **Troedsson, M.H.T.** (1997) Early diagnosis and treatment of placentitis may prevent late term abortions. Minnesota Equine Research Center Newsletter. (1):2.
8. **Troedsson, M.H.T.** (1997) Getting the older mare in foal. World Equine Veterinary Review (2):14-15.
9. **Troedsson, M.H.T.**, and Fahning, M.L. (1997) The latest in equine embryo transfer. Arabian Horse Times. September, 768-771.
10. Wheaton, J.E., **Troedsson, M.H.T.**, Bailey, M.T., and Christman, S.A. Inhibin and reproduction in the mare. Minnesota Equine Research Center Newsletter. 1997:2.
11. **Troedsson, M.H.T.** Minnesota Equine Research Center. Horse'n Around. 1997;8:1:6.
12. **Troedsson, M.H.T.** Some practical aspects on breeding mares. Horse'n Around. 1998;8:3:6-7.
13. Madill, S, and **Troedsson, M.H.T.** The importance of stallion contact for the reproductive health of broodmares. Minnesota Equine Research center Newsletter. 1998;2:2-3.
14. **Troedsson, M.H.T.**, Zent, W.W., and Xue, J-L. Post-breeding uterine fluid accumulation in a normal population of thoroughbred mares: A field study. Minnesota Equine Research center Newsletter. 1998;2:3.
15. **Troedsson, M.H.T.**, and Zent, W.W. (1998) Equine placentitis. World Equine Veterinary Review. 1998; (3)4:16-19.
16. **Troedsson, M.H.T.** How to manage mares with placentitis. Horse'n Around. 1999; (9)3:6.
17. **Troedsson, M.H.T.** Some practical considerations of breeding mares. Horse=n Around. 1999; (9)3:8-9.
18. **Troedsson, M.H.T.** Management of mares with placentitis. American Hanoverian Magazine. (2000).
19. **Troedsson, M.H.T.** (2001) From the Director. Minnesota Equine Research Center Newsletter, 2001;1:1.
20. **Troedsson, M.H.T.** (2001) The role of seminal plasma in the regulation of breeding-induced endometritis.

- 1:5.
21. **Troedsson, M.H.T.** (2002) Preparing mares for foaling and subsequent breeding. Minnesota Thoroughbred Association Newsletter.
  22. **Troedsson, M.H.T.**, Duoos, L.A., Alghamdi, A.S., Miller, L, and Roberts, K.P. (2002) Artificial insemination (AI) with fresh, cooled and frozen/thawed semen: Does lubrication of the artificial vagina affect semen quality? University of Minnesota Equine Center Newsletter.
  22. Alghamdi, A.S., and **Troedsson, M.H.T.** (2002) The importance of nitric oxide in persistent breeding induced endometritis. University of Minnesota Equine Center Newsletter.
  23. **Troedsson, M.H.T.** (2003) Manipulation of the estrous cycle. Proceedings: Ocala Equine Conference.
  24. **Troedsson, M.H.T.** (2003) Present and future assisted reproductive technologies. Proceedings: Ocala Equine Conference.
  25. **Troedsson, M.H.T.** (2004) Breeding Management of the Mare. Breeding Management Short Course, University of Florida.
  26. **Troedsson, M.H.T.** (2004) Common Fertility Problems. Breeding Management Short Course, University of Florida.
  27. **Troedsson, M.H.T.** (2005) The role of specific seminal plasma components in breeding-induced endometritis. SBS annual meeting.
  28. **Troedsson, M.H.T.** (2006) Management of High Risk pregnancies. KWPN of North America Newsletter.
  29. **Troedsson, M.H.T.** (2006) Management of Problem Breeders. KWPN of North America Newsletter.
  30. **Troedsson M.H.T.** and Macpherson, M.L. (2007) Diagnostico y tratamiento de la placentitis equine. Revision Medica Equina, 1:23-32.
  31. **Troedsson, M.H.T.**, Macpherson, M.L. (2007) Breeding management of mares with sick foals. Proc. Referring Veterinarian Appreciation Day at the Univeristy of Florida.
  32. **Troedsson, M.H.T.** (2009) Reproductive technologies for the stallion. Proc. Kentucky Breeders Seminar, Pp 7-10.
  33. **Troedsson, M.H.T.** (2009) Health Article - Sexually transmitted diseases in the horse: What do we need to know? 2010 Egyptian Stallion Guide. Pp 2-3.
  34. **Troedsson, M.H.T.** (2009) Cryopreservation of equine embryos with the Equine Embryo Direct Transfer (dt) Vitrification Kit. Sperm notes (accepted).

## **TEACHING**

### **University of California, Davis (1991-1993)**

- Reproductive physiology (2nd year DVM curriculum; lectures)
- Equine Reproduction (3rd year DVM curriculum; lectures and labs)
- Equine Reproduction Clinical Training (4th year DVM curriculum)

### **University of Minnesota (1993-2002)**

- CVM 6480 Obstetrics and Reproductive Diagnostics (2nd year DVM curriculum; lectures)
- CVM 6728 Reproductive Diseases of the horse (3rd year DVM curriculum; Course coordinator; lectures and labs)
- CVM 6727 Equine Palpation (3rd year DVM curriculum; labs)
- CVM Equine Theriogenology (4th year DVM curriculum; Course coordinator; clinics and labs)
- CVM 6748 Advanced Equine Theriogenology (4th year DVM curriculum; Course coordinator; advanced clinical training in assisted reproduction)
- AnSci 5009 Science in Agriculture (Undergraduate research training)
- VMED 8882 Advanced Endocrinology in reproduction (Graduate course in reproduction)

### **University of Florida (2002-2009)**

- VEM 5111 Animal System I Veterinary Reproduction (1st year DVM curriculum; Course coordinator; lectures and labs)
- VEM 5278 Theriogenology (2nd year DVM curriculum; lectures and labs)
- VEM 5785 Equine Theriogenology (3rd and 4th year DVM curriculum; Course coordinator; clinical training)
- VEM5274 Equine Reproduction (4th year DVM curriculum; lectures and labs)
- VEM 5886 Stud Farm Clerkship (4th year DVM curriculum; Course coordinator; clinical training)

- Research in Veterinary Medicine (4th year DVM curriculum; research training)
- Andrology (Graduate interdisciplinary course in animal andrology; lectures and labs)

## PRESENTATIONS

### Continuing Education

- 1993 Troedsson, M.H.T., Liu, I.K.M. and Scott, M.A. Breakdown of the uterine defense mechanisms in mares susceptible to chronic uterine infections (CUI): Efficacy of different treatment strategies. Symposium on Advances in Clinical Veterinary Medicine, University of California, Davis CA.
- 1993 Troedsson, M.H.T. Management of mares susceptible to chronic endometritis. Proceedings 1993 Annual Fall Conference for Veterinarians. University of Minnesota, St Paul.
- 1995 Troedsson, M.H.T. An update on endometritis in the mare. Minnesota Equine Veterinary Association, St. Paul, MN.
- 1995 Troedsson, M.H.T. Progestin therapy in the mare. Minnesota Equine Veterinary Association, St. Paul, MN.
- 1996 Troedsson, M.H.T. Dystocia in the mare. Annual Fall Conference for Veterinarians. University of Minnesota, St Paul.
- 1996 Troedsson, M.H.T. Therapy of Endometritis. Annual Fall Conference for Veterinarians. University of Minnesota, St Paul.
- 1996 Troedsson, M.H.T. Practical aspects of transported semen. Annual Fall Conference for Veterinarians. University of Minnesota, St Paul.
- 1997 Troedsson, M.H.T. Topics on equine reproduction: Breeding management. Northwest Equine Conference. University of Minnesota, Crookston.
- 1997 Troedsson, M.H.T. Artificial insemination in the horse. Short course for stud farm managers. Two days lectures and wet labs. University of Minnesota, St. Paul
- 1997 Troedsson, M.H.T. Transported cooled and frozen semen. Short course for equine practitioners. 1 days lectures and wet lab. University of Minnesota, St. Paul.
- 1997 Troedsson, M.H.T. Ultrasonography in equine reproduction. Short course sponsored by Universal Medical, Inc., NY, University of Minnesota, St. Paul.
- 1998 Troedsson, M.H.T. Handling of transported cooled and frozen/thawed semen. Short course for equine practitioners. 1 day lectures and wet lab. University of Minnesota, St. Paul.
- 1998 Troedsson, M.H.T. Artificial insemination in the horse. Short course for stud farm managers. Two days lectures and wet labs. University of Minnesota, St. Paul.
- 1998 Troedsson, M.H.T. Ultrasonography of the pregnant and non-pregnant reproductive tract. Short course sponsored by Universal Medical, Inc., NY, University of Minnesota, St. Paul.
- 1998 Troedsson, M.H.T. Transrectal ultrasonographic evaluation of the equine placenta. Short course sponsored by Universal Medical, Inc., NY, University of Minnesota, St. Paul.
- 1998\* Vetscher, N., and Troedsson, M.H.T. Transrectal ultrasonography of the equine placenta. Annual Fall Conference for Veterinarians. University of Minnesota, St Paul.
- 1999 Troedsson, M.H.T. Artificial insemination in the horse. Short course for stud farm managers. Two days lectures and wet labs. University of Minnesota, St. Paul.
- 1999 Troedsson, M.H.T. Ultrasonography of the normal and abnormal reproductive tract. Short course sponsored by Universal Medical, Inc., NY, University of Minnesota, St. Paul.
- 1999 Troedsson, M.H.T. Transrectal ultrasonographic evaluation of the equine placenta. Short course sponsored by Universal Medical, Inc., NY, University of Minnesota, St. Paul.
- 1999 Troedsson, M.H.T. Breeding and foaling: Horse care topics for experienced owners (6 hours lectures). University College, Continuing and Distance Education, University of Minnesota.
- 1999 Troedsson, M.H.T. Topics in Equine Reproduction (3 hours lecture), Fargo, North Dakota.
- 1999 Troedsson, M.H.T. Equine Embryo Transfer. (1 hour lecture and 3 hour lab) Annual Fall Conference for Veterinarians. University of Minnesota, St Paul. 22-31.
- 2000 Troedsson, M.H.T. Artificial insemination in the horse. Short course for stud farm managers. Two days lectures and wet labs. University of Minnesota, St. Paul.
- 2001 Troedsson, M.H.T. Artificial insemination in the horse. Short course for stud farm managers. Two days lectures and wet labs. University of Minnesota, St. Paul.
- 2001 Troedsson, M.H.T. Cryopreservation of equine semen. Short course for equine pract.. Uof MN, St. Paul.
- 2002 Troedsson, M.H.T. Artificial insemination in the horse. Short course for stud farm managers. Two days lectures and wet labs. University of Minnesota, St. Paul.

- 2002 Troedsson, M.H.T. Current topics in Equine Reproduction. Wisconsin Equine Veterinary Association, Oconomowoc, WI. 1 day lecture and lab.
- 2003 Troedsson, M.H.T. Mare Reproduction. University of Florida, Veterinary Appreciation Day. 1 lecture
- 2003 Troedsson, M.H.T. Breeding soundness examination in the mare. Florida Institute and Allied Trade Show, Ocala, FL. 1 hour lecture and 1 hour panel discussion.
- 2003 Troedsson, M.H.T. Manipulation of the estrous cycle. Ocala Equine Conference. 1 hour lecture.
- 2003 Troedsson, M.H.T. Present and future assisted reproductive technologies. Ocala Equine Conference. 1.5 hour lecture.
- 2004 Troedsson, M.H.T. Breeding Management of the Mare. Breeding Management Short Course, University of Florida. 1 hr lecture.
- 2004 Troedsson, M.H.T. Common Fertility Problems. Breeding Management Short Course, University of Florida. 1 hr lecture.
- 2004 Troedsson, M.H.T. Breeding Management of the Mare. 8 hrs lab in semen handling, AI, and Embryo transfer. Breeding Management Short Course, University of Florida.
- 2005 Troedsson M.H.T. An update on equine placentitis. University of Florida, Veterinary Appreciation Day.
- 2006 Troedsson, M.H.T. Clinical importance of endometritis. GVMA Fall Convention, Destin, FL.
- 2006 Troedsson, M.H.T. Equine embryo transfer. GVMA Fall Convention, Destin, FL.
- 2006 Troedsson, M.H.T. Practical aspects of AI with cooled and frozen/thawed semen. GVMA Fall Convention, Destin, FL.
- 2006 Troedsson, M.H.T. Clinical aspects of placentitis. GVMA Fall Convention, Destin, FL.
- 2006 Troedsson, M.H.T. Equine dystocia and accidents of gestation. GVMA Fall Convention, Destin, FL.
- 2007 Troedsson, M.H.T. Breeding Management with Cooled transported semen. Ansager Dyreklinik Short Course. Jylland, Denmark.
- 2007 Troedsson, M.H.T. Management of High Risk Pregnancies. Ansager Dyreklinik Short Course. Jylland, Denmark.
- 2007 Troedsson, M.H.T. Endometritis. Ansager Dyreklinik Short Course. Jylland, Denmark.
- 2007 Troedsson, M.H.T. Reproductive endocrinology and physiology of the mare, hormone therapy. Danish Veterinary Association, Billup, Denmark.
- 2007 Troedsson, M.H.T. Reproductive endocrinology and physiology of the stallion, hormone therapy. Danish Veterinary Association, Billup, Denmark.
- 2007 Troedsson, M.H.T. Breeding management. Danish Veterinary Association, Billup, Denmark.
- 2007 Troedsson, M.H.T. Stud Farm management. Danish Veterinary Association, Billup, Denmark.
- 2007 Troedsson, M.H.T. Ovarian Abnormalities. Danish Veterinary Association, Billup, Denmark.
- 2007 Troedsson, M.H.T. Normal pregnancy development. Danish Veterinary Association, Billup, Denmark.
- 2007 Troedsson, M.H.T. High risk pregnancies. Danish Veterinary Association, Billup, Denmark.
- 2007 Troedsson, M.H.T. Cooled, shipped, and frozen semen. Danish Veterinary Association, Billup, Denmark.
- 2007 Troedsson, M.H.T. Assisted reproduction: Embryo and oocyte transfer, ICSI, Cloning. Danish Veterinary Association, Billup, Denmark.
- 2007 Troedsson, M.H.T. Breeding management of mares with sick foals. Referring Veterinarian Appreciation Day at the University of Florida
- 2008 Troedsson, M.H.T. Breeding Management of the Mare. Breeding Management Short Course, University of Florida. 1 hr lecture.
- 2008 Troedsson, M.H.T. Common Fertility Problems. Breeding Management Short Course, University of Florida. 1 hr lecture.
- 2008 Troedsson, M.H.T. Breeding Management of the Mare. 8 hrs lab in semen handling, and AI. Breeding Management Short Course, University of Florida.
- 2009 Troedsson, M.H.T. Reproductive technologies for the stallion. Proc. Kentucky Breeders Seminar, Louisville, KY.
- 2009 Troedsson, M.H.T. Reproductive endocrinology and physiology of the mare, hormone therapy. Danish Veterinary Association, Billup, Denmark.
- 2009 Troedsson, M.H.T. Reproductive endocrinology and physiology of the stallion, hormone therapy. Danish Veterinary Association, Billup, Denmark.
- 2009 Troedsson, M.H.T. Breeding management. Danish Veterinary Association, Billup, Denmark.
- 2009 Troedsson, M.H.T. Stud Farm management. Danish Veterinary Association, Billup, Denmark.
- 2009 Troedsson, M.H.T. Ovarian Abnormalities. Danish Veterinary Association, Billup, Denmark.



- 2009 Troedsson, M.H.T. Normal pregnancy development. Danish Veterinary Association, Billup, Denmark.
- 2009 Troedsson, M.H.T. High risk pregnancies. Danish Veterinary Association, Billup, Denmark.
- 2009 Troedsson, M.H.T. Cooled, shipped, and frozen semen. Danish Veterinary Association, Billup, Denmark
- 2009 Troedsson, M.H.T. Assisted reproduction: Embryo and oocyte transfer, ICSI, Cloning. Danish Veterinary Association, Billup, Denmark.
- 2009 Troedsson, M.H.T & Squires, E.L. Management of unwanted sexual behaviour in stallions and mares. University of Kentucky Diagnostic Research Seminars, Lexington, KY and West Liberty, KY.
- 2010 Troedsson, M.H.T. Kentucky Breeder's Short Course. Pregnancy losses: Diagnosis and Management. Fasig-Tipton, Lexington, KY
- 2010 Troedsson, M.H.T. Kentucky Breeder's Short Course. Controlling CEM with antibiotic treated semen. Fasig-Tipton, Lexington, KY.
- 2010 Troedsson, M.H.T. Ohio State University, College of Veterinary Medicine, Conference for Veterinarians - Current Topics on Broodmare Management. Columbus, OH.

### Scientific Presentations

- 1986 Viring, S., Bolske, G., Franklin, A., Reh binder, C., Segall, T. and Troedsson, M.H.T. Bacteriological findings in nasal and lower respiratory tract samples of calves with acute respiratory disease. XIV World Congress on Diseases of Cattle, Dublin.
- 1990 Liu, I.K.M., Troedsson, M.H.T., Williams, D.C. and Pascoe, J.R. Electromyography of uterine activity in the mare: Comparison of single vs multiple recording sites. 5th International symposium on Equine Reproduction, Deauville, France.
- 1990 Troedsson M.H.T. Electromyography of the Equine Uterus. Conference on Biology of Reproduction, University of California, Davis CA.
- 1992 Liu, I.K.M., Troedsson M.H.T. and deMoraes, M.J. Correlation of endometrial biopsy with clinical response to intrauterine bacterial inoculation. John Hughes International Workshop on Equine Endometritis. Newmarket, England.
- 1992 Scott, M., Troedsson, M.H.T. and Liu, I.K.M. Comparison of various intrauterine treatments in mares with chronic uterine infections. John Hughes International Workshop on Equine Endometritis. Newmarket, England
- 1994 Samper, J.C., Hamilton, D.W., Pryor, J.L., Loseth, K.J., Troedsson, M.H.T. and Crabo, B.G. Mechanisms of Sephadex trapping of capacitated stallion spermatozoa. 6th International Conference on Equine Reproduction, Caxambu, Brazil.
- 1996\* Ibrahim, N.M., Farris, J.A., Loseth, K.J., Troedsson, M.H.T., Foster, D.N., and Crabo, B.G. Immunochemical characterization of clusterin from reproductive tract secretions and spermatozoa of the bull. Ann. Meeting Am. Diary Sc. Assoc., Corvallis, OR.
- 1997\* Madill, S, Troedsson, M.H.T., Santschi, E.M. Individual registration of longitudinal and circular muscle in the equine myometrium using electromyography and strain gauges: Preliminary data. Havemeyer Foundation International Workshop on Uterine Defense Mechanisms in the Mare: Aspects of Physical Clearance. Gainesville, FL.
- 1997\* Rozeboom, K.J., Troedsson, M.H.T., Shurson, G.C., Hawton, J.D., and Crabo, B.G. Late estrus or metestrus insemination subsequent to estrual inseminations decreases farrowing rate and litter size in swine. ASAS/ADSA Midwest Section: Environment and Livestock Production.
- 1997 Troedsson, M.H.T., Zent, W.W., Renaudin, C. The use of transrectal ultrasonographic evaluation of the equine placenta. Swedish University of Agricultural Sciences, Uppsala, Sweden.
- 1997\* Rozeboom, K.J., Troedsson, M.H.T., Hawton, J.D., and Crabo, B.G. Timing of inseminations, uterine clearance and the post-mating inflammatory response in the sow. Society for Theriogenology, Montreal, Canada.
- 1997\* Rozeboom, K.J., Troedsson, M.H.T., Shurson, G.C., and Crabo, B.G. AI in swine: Timing of insemination and post-mating uterine inflammation. Al Lehman swine conference, St. Paul, MN.
- 1997 Zent, W.W., Troedsson, M.H.T, and Xue J-L. The incidence of post-breeding fluid accumulation in Thoroughbred mares, and its influence on fertility. 2nd International Workshop on Equine Endometritis/Endometrosis, Leipzig, Germany.
- 1988\* Ababneh, M.M., Troedsson, M.H.T., and Seguin, B.E. Characterization of equine conceptus prostaglandin inhibitor factor (PIF). VII International Symposium on Equine Reproduction. Pretoria, South Africa.
- 1988\* Madill S., Troedsson, M.H.T., Alexander, S.L., Shand, N., Santschi, E.M., and Irvine, C.H.G. Simultaneous recording of pituitary oxytocin secretion and myometrial activity in estrous mares exposed to various breeding

- stimuli. VII International Symposium on Equine Reproduction. Pretoria, South Africa.
- 1988\* Bailey, M.T., Christman, S.A., Wheaton, J.E., Troedsson, M.H.T., O'Brien, T.D., Ababneh, M.M., and Santschi, E.M. Inhibin localization in equine granulosa-theca cell tumors (GTCT) and dimeric inhibin concentrations and  $\alpha$ -inhibin forms in tumor fluid and plasma. VII International Symposium on Equine Reproduction. Pretoria, South Africa.
- 1998 Zent, W.W., Troedsson, M.H.T., and Xue, J-L. Post-breeding uterine fluid in a normal population of Thoroughbred mares. 44th Annual Convention of the American Association of Equine Practitioners, Baltimore, MA.
- 1999\* Ababneh, M.M. and Troedsson, M.H.T. Regulation of endometrial PGF<sub>2</sub> $\alpha$  secretion in horses. Society of Theriogenology Annual Meeting, Nashville, TN.
- 2000\* Ibrahim, N, Loseth, K, Romano, J, Crabo, B, and Troedsson, M. Effect of scrotal insulation on sperm and seminal clusterin in rams and its relationship to semen quality. International Conference on Animal Reproduction, Stockholm, Sweden.
- 2000\* Rozeboom, K.J., Rocha-Chavez, G., and Troedsson, M.H.T. Neutrophil chemotactic properties of porcine seminal components. International Conference on Animal Reproduction, Stockholm, Sweden.
- 2000.\* Bailey, M.T., Christman, S.A., Troedsson, M.H.T., Ababneh, M.M., and Wheaton, J.E. Inhibin production and secretion by granulosa-theca cell tumors in mares. Am. Soc. An. Sci., Midwest section, Des Moines, IA.
- 2000\* Bailey, M.T., Wheaton, J.E., Troedsson, M.H.T., and Liu, I.K.M. Inhibin, gonadotropins, and testosterone in mares with granulosa-theca cell tumors (GTCT). SSR, Madison, WI.
2000. Santschi, E.M. and Troedsson, M.H.T. Bilateral ovariectomy via two paramedian incision. American College of Veterinary Surgeons.
- 2000\* Rocha-Chavez, G., Troedsson, M.H.T., and Rozeboom, K.J. (2000) Boar seminal plasma regulates neutrophil chemotaxis and sperm cell phagocytosis after mating the sow (In vitro studies). Proc. Int. Pig Vet. Soc. Meeting, Melbourne, Australia.
- 2002 Dahms, B.J., and Troedsson, M.H.T. The effect of seminal plasma components on opsonisation and PMN-phagocytosis of equine spermatozoa. 8<sup>th</sup> International Symposium on Equine Reproduction.
- 2002 L. Duoos, Troedsson, M.H.T., Alghamdi, A.S., Miller, L., and Roberts, K.P. (2002) The importance of osmotic pressure for the quality of fresh, cooled, and cryopreserved equine spermatozoa. 8<sup>th</sup> International Symposium on Equine Reproduction.
- 2002 Devireddy, R.V., Swanlund, D.J., Alghamdi, A.S., Troedsson, M.H.T., Bischof, J.C., and Roberts, K.P. (2002). The effect of collection and cooling conditions on water transport characteristics of equine spermatozoa. Theriogenology, 58:233-236. 8<sup>th</sup> International Symposium on Equine Reproduction.
- 2002\* Alghamdi, A.S. and Troedsson, M.H.T. (2002) Concentration of nitric oxide in uterine secretion from mares susceptible and resistant to chronic post-breeding endometritis. 8<sup>th</sup> International Symposium on Equine Reproduction.
- 2002\* Madill, S., Troedsson, M.H.T., Santschi, E.M., and Malone, E.D. Dose-response effect of intramuscular oxytocin treatment on myometrial contraction of reproductively normal mares during estrus. 8<sup>th</sup> International Symposium on Equine Reproduction.
- 2003\* Alghamdi, A.S., Foster, D.N., and Troedsson, M.H.T. Binding between equine spermatozoa and polymorphonuclear neutrophils. AAEP FOCUS.
- 2003\* Miller, L.M.J., Troedsson, M.H.T., Duoos, L., and Roberts, K.J. (2003) Immunohistochemical detection and localization of sperm protein 22 (SP22) in fresh and cryopreserved equine semen. The Society for the Study of Reproduction.
- 2004\* Miller, L.M.J., Troedsson, M.H.T., Klinefelter G.R., and Roberts K.P. Immunocytochemical detection and localization of sperm protein 22 (sp22) in fresh and cryopreserved equine semen. International Congress on Animal Reproduction, Porto Seguro, Brazil.
- 2004\* Wells, B.A., Miller, L.M.J., Klinefelter, G.R., Roberts, K.P., and Troedsson, M.H.T. Immunohistological evaluation of sperm protein 22 (SP22) in fresh and frozen/thawed stallion semen. McNair scholarship seminar, University of Florida.
- 2004\*. Hayna, J., Madill, S., and Troedsson, M.H.T. The effect of transvaginal aspiration of follicles on corpus luteum function in the mare. International Symposium on Equine Embryo Transfer, Rio de Janeiro, Brazil.
- 2004\* Christenson, B.W., Troedsson, M.H.T., Oliva, M, Hernandez, J, Macpherson, M, Pozor, M, and Penfold, L. Influences of age, time of the year, and female presence on serum testosterone concentration in captive black rhinoceros (*Diceros bicornis*). 5<sup>th</sup> International Symposium on Physiology, Behavior and Conservation in Wildlife. Berlin, Germany.

- 2004\* Christenson, B.W., Troedsson, M.H.T., Oliva, M, Hernandez, J, Macpherson, M, Pozor, M, and Penfold, L. Influences of Age, Time of Year, and Sociosexual Status on Serum Testosterone Concentration in Captive Black Rhinoceros (*Diceros Bicornis*). 2004 Annual Conference of the SFT.
- 2004\*. Christenson, B.W., Troedsson, M.H.T., Oliva, M, Hernandez, J, Macpherson, M, Pozor, M, and Penfold, L. Exogenous influences on serum testosterone concentration in captive black rhinoceros (*Diceros bicornis*). AAZV Annual Conference.
- 2005\* Hayna, J., Troedsson, M.H.T. (2005) Non-pharmacological induction of luteal tissue in mares. University of Florida Research Emphasis Day.
- 2005\* Miller, L.M., Troedsson, M.H.T. Expression and localization of sperm protein 22 kDa in stallions. University of Florida Research Emphasis Day.
- 2005\* Desvougues, A.L., Dow, C., Buhi, W.C., Hayna, J., and Troedsson, M.H.T. Selective role of seminal plasma in the modulation of PMN-binding and phagocytosis of live, heat stressed, and non-viable equine spermatozoa. Society for the Study of Reproduction, Quebec City, Canada.
- 2005\* Miller, L.M., Kleinfelder, G.R., Roberts, K.P., and Troedsson, M.H.T. Effects of cryopreservation and extenders on the expression and localization of sperm protein at 22 kDa (SP22) on equine spermatozoa. Society for Theriogenology, Charleston, SC
- 2005\* Desvougues, A.L., Dow, C., Buhi, W.C., Hayna, J., and Troedsson, M.H.T. A selective role of seminal plasma in PMN-binding and phagocytosis of viable and non-viable equine spermatozoa. Society for Theriogenology, Charleston, SC
- 2005\* Hayna, J., Richmond, P., Desvougues, A.D., and Troedsson, M.H.T. The effect of short term cooling prior to cryopreservation on motility and morphology of equine spermatozoa. Society for Theriogenology, Charleston, SC
- 2005 Macpherson, M.L., Troedsson, M.H.T. Diagnosis and treatment of equine placentitis. South African Pract. Assoc. Drakensburg, South Africa.
- 2005 Macpherson, M.L., Troedsson, M.H.T. Diagnosis and treatment of equine placentitis. West Coast Equine Reproduction Symposium, Solvang, CA.
- 2006 Macpherson, M.L., Troedsson, M.H.T. Diagnosis and treatment of equine placentitis. Proveto Symposium on Equine Reproduction, The Netherlands.
- 2006\* J. Graczyk, ML Macpherson, MA Pozor, MHT Troedsson, AC Eichelberger, MM LeBlanc, TW Vickroy. Treatment Efficacy of Trimethoprim Sulfamethoxazole and Pentoxifylline in Equine Placentitis. 8<sup>th</sup> International Symposium on Equine Reproduction, Kerkede, The Netherlands.
- 2006 M Pozor, ML Macpherson, MHT Troedsson, J VerstegeEffect of a single administration of human chorionic gonadotropin (hCG) on testicular blood flow in stallions. 8<sup>th</sup> International Symposium on Equine Reproduction. Kerkede, The Netherlands.
- 2006.\* Miller, L.M.J., Greene, E.S., Roberts, K.P., and Troedsson, M.H.T. Expression of Equine Sperm Protein 22 kDa (SP22) in Testicular and Epididymal Tissue. 8<sup>th</sup> International Symposium on Equine Reproduction. Kerkede, The Netherlands.
- 2006.\* A.L. Desvougues, A.L. Dow, A., Hayna, J.T., Miller, L., Jousan, D., Hansen, P. Buhi, W.C., and Troedsson, M.H.T. Heat Shock Induces Apoptosis in Equine Spermatozoa. 8<sup>th</sup> International Symposium on Equine Reproduction. Kerkede, The Netherlands.
- 2006.\* Hayna, J.T., Madill, S., Roser, J.F. and Troedsson, M.H.T. The Effect of Transvaginal Aspiration of Small and Medium sized Follicles on Serum Progesterone, FSH and LH Concentrations in Mares. . 8<sup>th</sup> International Symposium on Equine Reproduction. Kerkede, The Netherlands.
- 2007\* CS Bailey, ML Macpherson, J Graczyk, MA Pozor, MHT Troedsson, MM LeBlanc, TW Vickroy. Treatment efficacy of trimethoprim sulfamethoxazole, pentoxifylline, and altrenogest in equine placentitis. Annual Meeting of the Society for Theriogenology.
- 2007\* Doty, A.L. Vaerst, S., Benson, S., Pozor, M.A., Macpherson, M.L., Buhi, W.C. and Troedsson, M.H.T. Heat Shock of Equine Sperm Induce Structural and Functional damage to PMNs. Annual Meeting of the Society for Theriogenology.
- 2007\* Eichelberger, A.C., Troedsson, M.H.T., Pozor, M.A., Macpherson, M.L. How to collect, handle, and process post-mortem epididymal sperm for breeding or assisted reproductive techniques. 53<sup>rd</sup> Annual Conv. AAEP.
- 2007\* Bailey, C.S., Macpherson, M.L., Graczyk, J., Pozor, M.A., Troedsson, M.H.T., leBlanc, M.M., Vickroy, T.W. Treatment efficacy of Trimethoprim Sulfamethoxazole, Pentoxifylline, and Altrenogest in equine placentitis. 53<sup>rd</sup> Annual Conv. AAEP.
- 2008\* Phillips J.A., Eichelberger A.C., Klein C., Pozor M.A., Troedsson M.H.T. Breeding Related Full-Thickness

- Vaginal Tear with Associated Peritonitis. Annual Meeting of the Society for Theriogenology, St. Louis, MO..
- 2008\* Klein, C., Troedsson, M.H.T., and Ealy, A.D. Deciphering embryo-maternal communication in the horse – A genomic approach. 6<sup>th</sup> Annual Research Symposium, Animal Molecular and Cellular Biology Graduate Program, Cedar Key, FL.
- 2008 Moller-Nielsen, J., Troedsson, M.H.T., Zent, W.W. (2008) Results of bacterial and cytological examinations of the endometrium in a practice in Denmark and in Central Kentucky, USA. Havermeyer Workshop on the Chronically Infertile Mare, Hilton Head Island, SC.
- 2009 F.D. Mozzaquatro, J.P. Verstegen, R.H. Douglas, M.H.T. Troedsson, F.D. De la Corte, M.I.B. Rubin, C.A.M. Silva. Progesterone profile secretion by *Corpus luteum* formed after follicular aspiration. 2<sup>nd</sup> Symposium on Animal Reproduction.
- 2010\* Klein, C. Ealy, A., Scoggins, K. Troedsson, M.H.T. Transcriptive profiling of equine endometrium during the time of maternal recognition of pregnancy. International Embryo Transfer Symposium, Argentina.
2010. S.J. Coleman, Z. Zeng, D. Miller, C. Klein, M.H.T. Troedsson, D.F. Antczak, J. Liu, and J.N. MacLeod. Generation of a Consensus Protein-Coding Equine Gene Set. Plant and Animal Genome XVIII Conference, San Diego, CA.

\* Presentation by graduate student or resident

### Invited Presentations

- 1990 Uterine clearance of non-antigenic markers (51Cr) in response to a bacterial challenge in mares potentially susceptible and resistant to chronic uterine infections. 5th International symposium on Equine Reproduction, Deauville, France.
- 1990 Electromyography of uterine activity in mares susceptible and resistant to chronic uterine infections. Symposium on Embryo Transfer and Reproductive Immunology, Guelph Ontario, Canada.
- 1992 Pathogenesis and treatment of chronic uterine infection. American Assoc Equine Pract. Orlando, Florida.
- 1992 Electromyographic recordings of myometrial activity in mares susceptible and resistant to chronic uterine infection. International Congress on Animal Reproduction. The Hague, Netherlands.
- 1992 PMN function in mares susceptible and resistant to chronic uterine infection. John Hughes International Workshop on Equine Endometritis. Newmarket, England.
- 1992 Electromyographic measurement of myometrial activity in mares susceptible and resistant to chronic endometritis. John Hughes International Workshop on Equine Endometritis. Newmarket, England.
- 1992 Pathogenesis and treatment comparisons for chronic endometritis. 14th Lake Tahoe Equine Conference.
- 1992 *Rhodococcus pneumonia* in the foal. Swedish Racing Board and AGRIA Insurance Company. Symposium on *Rhodococcus Equi*, Stockholm, Sweden.
- 1994 Smooth muscle electrical activity in the oviduct and the effect of oxytocin, PGF2a and PGE2 on the myometrium and oviduct of the cycling mare. 6th International Conference on Equine Reproduction, Caxambu, Brazil.
- 1994 The effect of acepromazine, detomidine and xylazine on myometrial electrical activity in the mare. 6th International Conference on Equine Reproduction, Caxambu, Brazil.
- 1994 Uterine defense mechanisms in the mare. Assisted Reproductive Technology/ Andrology Conference, Innsbruck, Austria.
- 1995 Post-mating endometritis in the mare: A physiological or pathological response? School of Veterinary Medicine, Federal University of Rio Grande do Sul, Porto Alegre, Brazil.
- 1995 Mating-induced endometritis (MIE): Mechanisms, clinical importance and consequences. American Assoc. Equine Pract, Lexington, Kentucky.
- 1995 Uterine response to semen deposition in the mare. Annual Conference of the Society for Theriogenology, San Antonio, Texas.
- 1995 Infertility in the mare. 1st Annual International Congress on Animal Reproduction Techniques, Cidreira, Brazil.
- 1995 Periparturient complications in mares and neonates. 1st Annual International Congress on Animal Reproduction Techniques. Cidreira, Brazil.
- 1995 Mechanism of sperm-induced endometritis in the mare. Society for the Study of Reproduction, Davis, CA.
- 1996 Sperm transport and survival in the female genital tract. Second International Symposium on Stallion Semen:

- Production, Evaluation & Preservation. Amersfoort, The Netherlands.
- 1996 Treatment strategies in mares with endometritis. Mare Reproduct. Symp., Kansas City, MI.
- 1997 Mechanisms of semen-induced endometritis in the mare. University of Utrecht, the Netherlands
- 1997 Endometritis in the mare: Previous research, "state of the art", and future research needs. Symposium on Equine Reproduction, Swedish Racing Board, Uppsala, Sweden.
- 1997 Persistent Mating-Induced Endometritis: A clinical review. Havemeyer Foundation International Workshop on Uterine Defense Mechanisms in the Mare: Aspects of Physical Clearance. Gainesville, FL.
- 1997 Therapeutic considerations for mating-induced endometritis. 1st International Conference on Equine Endometritis/ Endometrosis, Leipzig, Germany.
- 1997 Post-breeding endometritis: The role of seminal components. 2nd Int. Workshop on Equine Endometritis/Endometrosis, Leipzig, Germany.
- 1997 Pathophysiology and treatment of endometritis. Equine reproduction symposium. International Committee on Equine Reproduction, Lexington, Kentucky
- 1997 Ultrasonography of fetal membranes. Equine reproduction symposium. International Committee on Equine Reproduction, Lexington, Kentucky
- 1997 Equine Endometritis: Pathophysiology and therapeutic considerations. XXV Brazilian Veterinary Medicine Congress, Gramado, Brazil.
- 1997 Equine dystocia. Equine Clinic and Reproduction, School of Veterinary Medicine, Santa Maria, Brazil.
- 1997 Transrectal ultrasonography of the equine placenta. Equine Clinic and Reproduction, School of Veterinary Medicine, Santa Maria, Brazil.
- 1997 Equine embryo transfer. Equine Clinic and Reproduction, School of Veterinary Medicine, Santa Maria, Brazil.
- 1997 Breeding management of mares inseminated with cooled transported or frozen semen. Equine Clinic and Reproduction, School of Veterinary Medicine, Santa Maria, Brazil.
- 1997 Endometritis in the mare. Equine Clinic and Reproduction, School of Veterinary Medicine, Santa Maria, Brazil.
- 1997 Transrectal ultrasonography of the placenta in normal mares and mares with pending abortion: A field study. Proc. Am. Assoc. Eq. Pract, Phoenix, AZ.
- 1998 Post-breeding endometritis: Pathophysiology and clinical implications. College of Veterinary Medicine, University of Florida.
- 1988 The role of seminal components in breeding-induced endometritis. Veterinary PathoBiology/ Animal Biotechnology seminar series. University of Minnesota.
- 1988 Post-breeding uterine inflammation: The role of seminal plasma. VII International Symposium on Equine Reproduction. Pretoria, South Africa.
- 1998 Transrectal ultrasound evaluation of the placenta in normal mares and mares with impending abortion. Havermeyer Foundation Workshop on Equine Placentitis. Lexington, KY.
- 1998 Placentitis. Bluegrass Equine Reproduction Symposium. Lexington, KY.
- 1998 Uterine clearance and fertility. Bluegrass Equine Reproduction Symposium. Lexington, KY.
- 1998 Sperm motility is altered in uterine secretions from mares with post-breeding endometritis. Am. Assoc. Eq. Pract, Baltimore, MA.
- 1999 Management of the high risk pregnant mare. The Flammish Equine Practitioners 1st Annual Meeting, Gent, Belgium.
- 1999 Clinical evaluation of the reproductive tract of the mare. Annual Meeting of the Society for Theriogenology, Nashville, TN.
- 1999 Suppression of PMN-chemotaxis by different molecular weight fractions of seminal plasma. 2nd International Conference on Equine Reproductive Medicine: Etiology, Diagnosis, and Therapy of Conceptional and Gestational Disturbances. Celle, Germany.
- 2000 The pathophysiology and therapy of endometritis in the mare. International Seminar SIVE, Cremona, Italy.
- 2000 The role of seminal plasma in the modulation of breeding induced endometritis. International Seminar SIVE, Cremona, SIVE.
- 2000 Diagnostics and management of mares with placentitis. International Seminar SIVE, Cremona, SIVE.
- 2000 Diagnostics and clinical management of ovarian problems. International Seminar SIVE, Cremona, SIVE.
- 2000 Diagnostic work-up for barren mares and breeding the problem mare. Bluegrass Equine Reproductive Symposium, Lexington, KY.
- 2001 Interaction between equine semen and the endometrium: The inflammatory response to semen. 3rd International Symposium on Stallion Reproduction, Fort Collins, CO

- 2001 Topics in Equine Reproduction. Annual meeting of the Swedish Stud Farm Association, Askersund, Sweden.
- 2001 The effect of equine seminal plasma on opsonisation and phagocytosis by polymorphonuclear neutrophils. The 2<sup>nd</sup> Leipzig Expert Workshop on Equine Medicine. Leipzig, Germany.
- 2001 Ultrasonographic evaluation of the equine placenta. The 3<sup>rd</sup> International Conference on Equine Reproductive Medicine. Leipzig, Germany.
- 2001 Management of the infertile mare. Proceedings, West Coast Equine Reproduction Symposium, Ca.
- 2002 The inflammatory interaction between seminal components and the endometrium: Function and clinical importance. University of Florida.
- 2002 Equine Reproduction. Swedish Equine Breeders Association, Stockholm, Sweden
- 2002 Equine seminal plasma protects the fertility of spermatozoa in an inflamed environment. 8<sup>th</sup> International Symposium on Equine Reproduction, Fort Collins, CO.
- 2003 Seminal plasma: Does it matter? Physiology Science Seminar series. University of Florida.
- 2003 The role of seminal components in breeding-induced endometritis in mares. Animal Molecular and Cellular Biology Seminar series. University of Florida.
- 2003 Clinical importance of breeding-induced endometritis in the mare. State of the art lecture. AAEP FOCUS, Fort Collins, CO.
- 2003 Equine embryo transfer. The 3<sup>rd</sup> International Conference on Equine Reproductive Medicine. Leipzig, Germany.
- 2003 Pathophysiology of ovarian abnormalities in the mare. The 3<sup>rd</sup> International Conference on Equine Reproductive Medicine. Leipzig, Germany.
- 2003 The effect of equine granulosa-theca cell tumors (GCT) on the pituitary-ovarian endocrine axis. The 3<sup>rd</sup> Leipzig Expert Workshop on Equine Medicine. Leipzig, Germany.
- 2003 Cryopreservation of equine spermatozoa alters the expression of sperm protein 22 kDa (SP22). Havermeyer Workshop on transporting gametes and embryos. Brewster, MA.
- 2003 Role of seminal plasma in freezing equine spermatozoa. Havermeyer Workshop on transporting gametes and embryos. Havermeyer Workshop on transporting gametes and embryos. Brewster, MA.
- 2003 Clinical ultrasonographic evaluation of the equine placenta as a method to successfully identify and treat mares with placentitis. Workshop on the Equine Placenta. The Maxwell H. Gluck Equine Research Center, University of Kentucky, Lexington, KY.
- 2004 Endometritis: Still a major problem in brood mare practice. AAEP 6<sup>th</sup> Annual Resort Symposium, Cozumel, Mexico.
- 2004 Placentitis: When do we treat and with what? AAEP 6<sup>th</sup> Annual Resort Symposium, Cozumel, Mexico.
- 2004 Breeding-induced endometritis in the mare: Clinical importance and management of mares with persistent endometritis. Symposium on Equine Reproduction, Bage, Brazil.
- 2004 Breeding with frozen semen. Symposium on Equine Reproduction, Bage, Brazil.
- 2004 Assisted Reproduction. Symposium on Equine Reproduction, Bage, Brazil.
- 2004 Ovarian abnormalities in the mare. Symposium on Equine Reproduction, Bage, Brazil.
- 2004 Ultrasonographic evaluation of the equine placenta as a method to successfully identify and treat mares with placentitis. Symposium on Equine Reproduction, Bage, Brazil.
- 2004 Dystocia and accidents of gestation. Symposium on Equine Reproduction, Bage, Brazil.
- 2004 Equine Placenta: Evaluation and pathology. Bluegrass Equine Reproduction Symposium, Lexington, KY.
- 2005 A clinical approach to endometritis. Proceedings, Ontario Veterinary Medical Association, Toronto, ON, Canada.
- 2005 Diagnosis and management of equine placentitis: A clinical perspective. Proceedings, Ontario Veterinary Medical Association, Toronto, ON, Canada.
- 2005 Protective role of seminal plasma in sperm-induced endometritis. European Association of Animal Production. Uppsala, Sweden.
- 2005 Components in Seminal Plasma Regulating Sperm Transport. 4<sup>th</sup> International Symposium on Stallion Reproduction, Leipzig, Germany.
- 2005 The role of specific seminal plasma components in breeding-induced endometritis. Select Breeder Sires Annual meeting, Ocala, FL
- 2006 Management of Problem Mares. The Dutch Warmblood Association Annual Meeting, Ocala, FL
- 2006 Management of High Risk Pregnant Mares. The Dutch Warmblood Association Annual Meeting, Ocala, FL
- 2006 Infertility in the Mare. Zwolle International Equine Congress, Zwolle, The Netherlands.

- 2006 Managing the post-breeding endometritis mare for optimal fertility. International Symposium on Equine Reproduction. Pre-symposium clinical conference, Kerkede, The Netherlands.
- 2006 Equine seminal plasma proteins protect live spermatozoa from PMN-binding and phagocytosis, while providing a mechanism for selective sperm elimination of apoptotic and dead spermatozoa. 8<sup>th</sup> International Symposium on Equine Reproduction. Kerkede, The Netherlands.
- 2006 Equine Endometritis. AMMVEE, Monterrey, Mexico.
- 2006 Equine Placentitis: Diagnosis and therapy. AMMVEE, Monterrey, Mexico.
- 2006 Accidents of gestation. AMMVEE, Monterrey, Mexico.
- 2006 Mating-induced endometritis. Bluegrass Equine Reproduction Symposium, Lexington, KY.
- 2007 The role of seminal plasma in equine reproduction. 13<sup>th</sup> SIVE Congress, Bologna, Italy.
- 2007 Equine endometritis: Still an important problem in equine practice. 65. Diagnosis and treatment aspects of equine placentitis. . 13<sup>th</sup> SIVE Congress, Bologna, Italy.
- 2007 Clinical importance of sperm transport and elimination from the mares' reproductive tract. 13<sup>th</sup> SIVE Congress, Bologna, Italy.
- 2007 Infertility caused by ovarian abnormalities. 13<sup>th</sup> SIVE Congress, Bologna, Italy.
- 2007 How to manage placental retention. 13<sup>th</sup> SIVE Congress, Bologna, Italy.
- 2007 High Risk Pregnant Mare. 20<sup>th</sup> NKVet Symposium on perinatal Death in Domestic Animals. Reykjavik, Iceland.
- 2007 Pre-partum complications in pregnant mares. Proceedings of SVT Annual Conference, Uppsala, Sweden.
- 2007 Post-partum complications in mares. Proceedings of SVT Annual Conference. Uppsala, Sweden.
- 2007 Nitric oxide and nitric oxide synthase expression in the uterus of mares susceptible and resistant to persistent endometritis. 4<sup>th</sup> Leipzig Expert Workshop on Equine Reproduction Medicine. Leipzig, Germany.
- 2007 Persistent breeding-induced endometritis. 5<sup>th</sup> International Conference on Equine Reproduction Medicine. Leipzig, Germany.
- 2008 What is new in assisted reproductive techniques? Bluegrass Equine Reproduction Symposium, Lexington, KY.
- 2008 Endocrinology in the mare. Bluegrass Equine Reproduction Symposium, Lexington, KY.
- 2008 High risk pregnant mare. AMMVEE, Annual Conference, Puebla, Mexico.
- 2008 Diagnosis and treatment of high risk pregnant mares. Symposium on Veterinary Reproduction in honor of Prof. B. van der Weijden and M. Taverne. Utrecht, The Netherlands.
- 2008 A specific seminal plasma protein regulates the interaction between PMNs and viable spermatozoa, but not non-viable spermatozoa or bacteria. Havermeijer Workshop on the Chronically Infertile Mare, Hilton Head Island, SC.
- 2008 Problems after breeding. West Coast Symposium on Equine Reproduction, Solvang, CA.
- 2009 Management of mares before and after breeding. The Voorjaarsdagen, Amsterdam, The Netherlands.
- 2009 Maxwell H. Gluck Equine Research Center. Southern Animal Health Association annual meeting, Lexington, KY.
- 2009 Breeding the problem mare. The Pyramide Society Breeders Conference Proceedings, Lexington, KY.
- 2009 Sexually transmitted diseases in the horse: What do we need to know? The Pyramide Society Breeders Conference Proceedings, Lexington, KY.
- 2010 Sperm transport and elimination from the mares' reproductive tract. 6<sup>th</sup> International Conference on Equine Reproductive Medicine. Leipzig, Germany.
- 2010 Is sperm transport and elimination a selective process or a random event? 5<sup>th</sup> Leipzig Workshop on Equine Reproduction, Leipzig, Germany.
- 2010 Mechanisms of Sperm Transport and Elimination. The Ohio State University, College of Veterinary Medicine. Columbus, OH.

## RESEARCH GRANTS

- 1987 Swedish Racing Board (ATG) Coinvestigator: A preliminary study of uterine polymorphonuclear neutrophil function in mares with chronic uterine infections. 30,000 Skr (\$5,000).
- 1988 Equine Research Laboratory, UCD. Coinvestigator: The assessment of myeloperoxidase release associated with degranulated PMNs in the uterus of mares potentially susceptible and resistant to chronic uterine infection. \$15,889.
- 1988 Swedish Racing Board (ATG) Principal investigator: Uterine defense mechanisms in mares susceptible and resistant to chronic uterine infections. 80,000 Skr (\$13,333).
- 1989 AGRIA Insurance Company, Sweden. Principal Investigator: Electromyography of the myometrium during

- early pregnancy in the mare. 30,000 Skr (\$5,000).
- 1989 Equine Research Laboratory, UCD. Coinvestigator: The assessment of myeloperoxidase release associated with degranulated PMNs in the uterus of mares potentially susceptible and resistant to chronic uterine infection II. \$28,899.
- 1989 Swedish Racing Board (ATG) Principal investigator: Uterine defense mechanisms in mares susceptible and resistant to chronic uterine infections. 120,000 Skr (\$20,000).
- 1990 Equine Research Laboratory, UCD. Coinvestigator: Electromyography of uterine activity in mares potentially resistant or susceptible to chronic uterine infections. Part I. \$30,869.
- 1991 Equine Research Laboratory, Coinvestigator: Electromyography of uterine activity in mares potentially resistant or susceptible to chronic uterine infections. Part II. \$30,609.
- 1992 Veterinary Medical Teaching Hospital, UCD. Resident Research Fund, Principal Investigator: Development of a technique for videohysteroscopy in the mare. \$2,000.
- 1992 AGRIA Insurance Company, Principal investigator: The effect of sperm cells on inducing an inflammatory response in the uterus in the mare. \$2,166.
- 1993 Equine Research Laboratory, UCD. Principal Investigator: Pharmacological effects of oxytocin and prostaglandin F2a on oviductal and myometrial electrical activity in the mare. \$8647.
- 1993 Equine Research Laboratory, UCD. Principal Investigator: Quantitative analysis of prostaglandins in equine seminal plasma. \$1,401.
- 1994 21st Century Genetics, Principal Investigator: Uterine inflammatory response to semen in the cow. \$9,000.
- 1995 University of Minnesota, USDA Formula Fund, Principal Investigator: Spermatozoa surface proteins and seminal plasma proteins in modulating post-mating endometritis and fertility. \$50,000
- 1995 University of Minnesota, Undergraduate Research Opportunity Program. Supervisor and co-PI. Effect of semen on equine PMN-chemotaxis in vitro. \$1,000.
- 1996 Minnesota Racing Commission. Principal investigator: The importance of social interaction with a stallion on oxytocin release and uterine contractility. \$10,450.
- 1996 University of Minnesota Graduate School, Grant in Aid. Principal investigator: Dose-dependent effect of oxytocin on the myometrium of the mare. \$21,740.
- 1996 AGRIA Insurance Company, Principal investigator: Early diagnostics and treatment of placentitis to prevent abortion in the mare: A clinical field study. 30,000 Skr (\$3,872).
- 1996 Swedish Racing Board (ATG) Co-PI: Transmission of EVA-virus via frozen, cooled transported and fresh semen from a chronically infected stallion. 90,000 Skr (\$11,616).
- 1996 Minnesota Pork Producers, Co-investigator: The effect of insemination on uterine inflammation during estrus and metestrus in swine. \$12,713.
- 1996 University of Minnesota, Undergraduate Research Opportunity. Supervisor and co-PI. Assessment of Glasswool and Sephadex filtration in trapping capacitated stallion spermatozoa. \$1,000.
- 1996 University of Minnesota, Undergraduate Research Opportunity. Supervisor and co-PI. Male reproductive tract secretion as inhibitors of complement induced cytolysis in horses. \$1,000.
- 1997 University of Minnesota Graduate School, Grant in Aid. Co-PI: Equine conceptus prostaglandin inhibitor factor. \$17,750.
- 1997 Minnesota Equine Research Center. Principal investigator: Regulation of prostaglandin F2 $\alpha$  in the equine uterus: Importance for maternal recognition of pregnancy and during the estrous cycle. \$6,510.
- 1997 Minnesota Equine Research Center. Co-PI: Antifertility Hormone in Mares. \$6,000.
- 1997 Minnesota Pork Producers Association. Co-PI: AI in swine: The effect of sperm and seminal plasma on uterine post-breeding inflammation. \$15,000.
- 1998 Minnesota Equine Research Center. The role of seminal plasma in the regulation of breeding-induced endometritis. PI: \$ 18,547.
- 1998 Minnesota Equine Research Center. Co-PI: Development of a clinical inhibin assay for detection of granulosa-thecal cell tumors in the mare. \$ 6,000.
- 1998 Minnesota Equine Research Center. Co-PI: The effect of persistent endometritis on embryo viability. \$6,000.
- 1998 Minnesota Pork Producers Association. Co-PI: The mechanism of post-breeding inflammation in swine. \$15,000.
- 1998 Minnesota Racing Commission. PI: Minnesota Equine Research Center. \$40,000.
- 1998 Undergraduate Research Opportunities Program. Advisor. Cryopreservation of equine semen during the non-breeding season: The effect of exogenous GnRH. \$300.



- 1998 Undergraduate Research Opportunities Program. Advisor. The effect of periovulatory treatment of mares with PGF<sub>2</sub>α on pregnancy rates and luteal function. \$1,300.
- 1999 American Quarter Horse Association. PI: The role of components of seminal plasma in modulating post-breeding endometritis and fertility. \$42,770 .
- 1999 Minnesota Racing Commission. PI: Minnesota Equine Research Center. \$45,000.
- 1999 Minnesota Equine Research Center. PI: Regulation of PGF<sub>2</sub>α in the equine uterus: The role of phospholipase A2 in luteolysis and maternal recognition of pregnancy. \$19,289.
- 1999 Minnesota Equine Research Center. PI: The effect of periovulatory treatment with PGF<sub>2</sub>α on pregnancy rates and luteal function. \$9,956.40.
- 1999 University of Minnesota Academic Health Center. Faculty Research Development Program. Co-PI: Advances in gamete cryopreservation and assisted reproduction. \$199,650.
- 2000 Minnesota Equine Research Center. PI: Concentration of Nitric Oxide in uterine secretion from mares susceptible and resistant to chronic post -breeding endometritis. \$19,712.80
- 2000 Minnesota Equine Research Center. PI: The importance of osmotic pressure for the viability and quality of fresh and froze/thawed spermatozoa. \$4,486.
- 2000 Minnesota Racing Commission. PI: Minnesota Equine Research Center. \$45,000
- 2001 Minnesota Equine Research Center. PI: P-selectin Mediated Binding Between Equine Spermatozoa and Polymorphonuclear Neutrophils. \$10,700.
- 2001 Minnesota Equine Research Center. Co-PI: Sperm surface markers for fertility and subfertility in stallions. 20,000.
- 2002 Minnesota Racing Commission. PI: University of Minnesota Equine Center (research). \$60,000.
- 2002 Minnesota Equine Research Center. PI: Localization and determination of nitric oxide synthase isoforms in uterine biopsies from mares susceptible and resistant to post-breeding endometritis. \$5,640
- 2002 Minnesota Equine Research Center. Co-PI: Preliminary isolation of multipotent bone marrow-derived stem cells from adult horses. \$20,000.
- 2002 Minnesota Equine Research Center. Co-PI: Characterization of Crisp-1 and SP22 in stallion sperm; correlation of specific sperm function marker molecules to fertility status in stallions. \$10,000.
- 2002 Resident Intramural Competitive Grants Program. Faculty adviser: Critical concentration of seminal plasma needed to prevent binding of spermatozoa to neutrophils in an inflamed uterine environment. \$2,000.
- 2003 University of Florida Research Opportunity Fund Program. PI: Pre-implantation Genetic Diagnostic Screening of Bovine and Equine Embryos Prior to Embryo Transfer. \$98,232.
- 2003 Florida Pari-mutuel Wagering Trust Funds. Co-PI. Sperm Protein 22 kDa (SP22): A Potential Marker for Fertility in Stallions \$32,135.
- 2003 University of Florida, CVM Fall Consolidated Faculty Research Development Award Grant competition. PI. Does seminal plasma selectively protect viable spermatozoa from being phagocytosed by polymorphonuclear neutrophils? \$7,500.
- 2003 Resident Intramural Competitive Grants Program. Faculty adviser: Hormone concentrations in captive male rhinoceros: Seasonal, age, and sociosexual variations. \$2,000
- 2004 Florida Pari-mutuel Wagering Trust Funds. PI. Investigation on the mechanisms of breeding-induced endometritis. \$31,825.
- 2004 Resident Intramural Competitive Grants Program. Faculty adviser. The Effects of Hyaluronidase on Oocyte Recovery Using Transvaginal Ultrasound Guided Oocyte Aspiration in Mares. \$2,000.
- 2004 Grayson-Jockey Club Foundation. Co-PI. Treatment efficacy on pregnancy outcome in equine placentitis. \$70,455.
- 2005 Florida Pari-mutuel Wagering Trust Funds. PI. Identification of seminal plasma proteins with a regulatory role on binding between spermatozoa and PMNs. \$34,758.
- 2005 Florida Pari-mutuel Wagering Trust Funds. Co-PI. Cryopreservation of equine embryos. \$26,273.
- 2006 Florida pari-mutuel Wagering Trust Funds. PI. Identification and Characterization of Specific Seminal Plasma Proteins Involved in Selective Sperm Elimination from the Uterus. \$40,772.
- 2006 Florida pari-mutuel Wagering Trust Funds. Co-PI. Effect of pentoxifylline treatment on testicular perfusion and sperm production in stallions. \$35,085.
- 2007 University of Florida, College of Veterinary Medicine. PI. Expression of the ISG15 system in the equine endometrium during early pregnancy. \$2,000.
- 2007 Grayson-Jockey Club Foundation. Co-PI. Gene expression profile in equine endometrium. \$27,500
- 2007 Grayson-Jockey Club Foundation. PI. Seminal plasma proteins SPPα and SPPβ in equine semen. \$77,718.

- 2009 University of Kentucky, Kohler research funds for emerging diseases. PI. Study on the transmission of *Taylorella equigenitalis* through artificial insemination with semen from infected stallions. \$37,000.
- 2009 University of Copenhagen Joint Proof of Concept Fund. Co-PI. Inflammation Assisted Diagnostics of Equine Endometritis. \$275,260.

# External Review

22 March 2011

Mats H.T. Troedsson  
Chairman, Department of Veterinary Science  
Director, Gluck Equine Research Center  
Veterinary Science  
College of Agriculture  
Lexington, KY 40546-0099

Dear Dr. Troedsson:

Please find below our review of the Gluck Equine Research Center during 26 and 27 October 2010. We very much enjoyed our participation and are appreciative of the opportunity.

Our summary recommendations can be found on the following page, with details following.

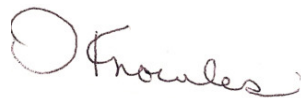
The Gluck Center has a unique opportunity to extend and strengthen the current programs to an integrated three-way partnership between the Gluck Center, the Veterinary Diagnostic Laboratory, and local practices.

Thank you again for the opportunity to visit and review the Gluck Equine Research Center. We would be happy to discuss any aspects of this report with you.

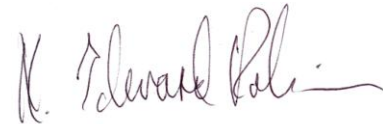
Sincerely:



Doug Antczak



Don Knowles



Ed Robinson

## Summary

Details relating to the following points can be found below in the body of the review document.

- 1) The Gluck Center has a proud tradition of basic science research on and for the horse that should be maintained and strengthened.
- 2) The disjointed construction of the Self-Study document suggests that the Gluck Center administration and faculty could, and should, work together more effectively to advance the mission and goals of the Center.
- 3) Although Gluck Center faculty do respond to requests for assistance from the local horse community, the effectiveness of these responses could be improved through closer working relationships with the Veterinary Diagnostic Laboratory.
- 4) The new series of brochures and other print materials developed by Dr. Ed Squires should be continued and reinforced with better web presence and oral presentations by the Director and other faculty at various equine events and gatherings.
- 5) The graduate training program should be strengthened and the Gluck Center should aggressively recruit top veterinary graduates to research training positions.
- 6) Gluck Center faculty should have formal teaching responsibilities to undergraduates and graduate students, with a target level of 25% commitment. The faculty should also participate in outreach activities to horsemen through the University's Equine Initiative.
- 7) The research record of current Gluck faculty is uneven, with some outstanding individuals and others whose performance does not meet minimum expectations.
- 8) The Gluck Center laboratory and animal (largely horse) facilities are in need of attention and upgrading.
- 9) The Gluck Center faculty and administration should work together to develop a strategic plan for recruitment of new faculty and for development of new research programs. In this regard the proposed endowed clinical scientist program should be considered very carefully and developed in a way that will not compromise the basic science programs of the Gluck Center.

## **Introduction**

The Gluck Center is one of very few institutions in the world focused on scientific investigations of the health of the horse. Its location in a research university with proximity to large breeding farms and populations of horses of diverse breeds, and some of the largest and most sophisticated veterinary practices in the US, provides an outstanding environment. Over the past 50 years the Gluck Center (and formerly the Department of Veterinary Science) has made major contributions to equine health in vaccine development and testing, infectious disease control, reproductive biology, drug testing, and genetics. The Gluck Center has a proud tradition of basic science research on and for the horse that should be maintained and strengthened.

## **Self-Study**

The self-study document appeared to consist of two separate parts. The initial section was prepared by Director Troedsson, while the bulk of the report was a compilation of annual reports of individual faculty and summaries prepared by the various research groupings within the Gluck Center. Compared to other similar self-study documents that the external team has reviewed, this document did not reflect a unified effort by the Gluck faculty and administration to establish common goals and aspirations. This suggested to the review team that the Gluck Center administration and faculty could, and should, work together more effectively to advance the mission and goals of the Center.

### **1) Contributions of the Gluck Center to the Veterinary Community**

(Information was gleaned from faculty, staff and student interviews)

- The Gluck Center is recognized worldwide for basic science research in equine diseases. This is based on solid fundamental research conducted by 20 faculty members who devote 100% of their time to research. There are few if any equivalent research institutions in the world. Gluck Center Foundation members interviewed made two important points. (1) The original Thoroughbred first philosophy has been replaced by the broader base of the Foundation and (2) a major management issue facing the Gluck Center is the need to “satisfy” multiple masters, the Foundation, the University and the local community (owners and veterinarians).
- The local community recognizes the uniqueness of the Gluck Center and appreciates their expertise. Despite this, there is a sense by some members of the current equine community that the Gluck Center has left practicality behind. This perceived disconnect between the clinical community and the research community occurs to some degree in most institutions because solving the remaining disease issues is difficult and requires novel and long-term approaches. The need for modern molecular and genetic research techniques is difficult to impart to clinical and especially lay audiences but it is the combination of these techniques with clinical testing that will provide future solutions.
- The local community is impressed by improvements in the Diagnostic Laboratory but sense that there needs to be more interaction with the scientists in the Gluck Center. The diagnostic laboratory gets an early indication of medical problems and a mechanism needs to be established to make sure that this information is regularly conveyed to the faculty members of the Gluck Center.

- Whenever they feel they have the expertise, Gluck Center faculty respond to the local and national horse industry and try to help resolve new or continuing medical problems. If the Gluck Center does not have the expertise, the faculty tries to identify other experts who can provide the answers. Gluck Center faculty members have an extensive knowledge of the leaders in the national and international equine clinical and research community.
- There are already excellent collaborations between some faculty members of the Gluck Center, the veterinary community, and the horse farms. Local veterinarians and horse farm managers are very willing to participate in research investigation, to provide samples, and to make their animals and farms available for protocols. This local availability of a huge laboratory of horses is unique in the world.
- Conveying what is happening in research at the Gluck Center and how this will solve difficult issues that face the equine community requires continual interactions with that community to keep them informed. The recent series of reports developed by Ed Squires and colleagues is an outstanding and important step in the right direction.
- All local horse farms participate in the "Horse Farms database" that is run by the Jockey Club. This also may be a source of information for Gluck Center scientists.
- Participation in the Equine Initiative may offer opportunities to "spread the word" about the value of the Gluck Center. The undergraduates in the equine program could be valuable ambassadors about the work being conducted at the Gluck Center. Some of these students could be future graduate students.
- There is a sense that Gluck Center faculty are working in isolation from the expertise and the rest of the University. Involvement of Gluck faculty in campus-wide undergraduate and graduate courses would alleviate this to some degree.

#### ❖ **Recommendations**

- The Gluck Center needs to continually work on communication with local veterinarians and the horse community to inform them of the work being conducted, the expertise available, and how this will contribute to horse health and productivity. Items to consider are:
  - a) Continuing the series of online and printed communications that are being developed by Ed Squires.
  - b) An annual address to leaders of the equine community by the Director. There was a suggestion that this could be conducted at Keeneland. Other venues might be important for other branches of the horse industry.
  - c) Hiring a veterinary extension agent who is in regular contact with veterinary practices and horse farms.
  - d) An annual open house at the Gluck Center.

- e) Getting links to the Gluck Center on a variety of broader horse-centered websites. It must be recognized however that maintaining a website that is continually interesting will require a considerable part of a dedicated staff member's time.
  - f) The Gluck Center has a unique opportunity to build/extend an alternative to the more common veterinary school centered research centers/departments. An integrated three-way partnership between the Gluck Center, VDL and local practices could provide a new model that would overcome the lack of a "typical" veterinary school structure.
- Faculty members of the Gluck Center should consider more active participation in the "equine initiative" and undergraduate teaching programs that are training future workers in the equine industry. The following might be considered:
    - a) An undergraduate course in maintaining horse health, which could be team taught by members of the Gluck Center faculty.
    - b) An undergraduate course in equine reproduction.
    - c) Due to the broad biomedical expertise of Gluck Center faculty, increased participation in University graduate education programs including committees is one possibility for expanding faculty outreach.
    - d) Whenever possible, Gluck Center faculty members should develop relationships with members of the faculty of other departments in the University so that university experts are known if and when new problems in the equine industry arise. The faculties of Animal Science and Veterinary Science should not be seen to be competing but rather should be cooperating.
  - The Gluck Center should consider restructuring their graduate program to be community centered. The following recommendations are provided:
    - a) Ensure all available faculty, staff and students attend preliminary and final examinations.
    - b) Ensure all available faculty participate in the preliminary and final examination process.
    - c) Consider awarding graduate student stipends and positions based on merit/start-up for new faculty.
    - d) Include greater numbers of University of Kentucky faculty on graduate student committees.
    - e) Implement a publication requirement for student graduation, if there is not one already
    - f) Implement a formal teaching requirement for graduate students.



- g) Ensure faculty, staff and student participation in the Center's faculty seminar series.

## 2) Scientific Direction and Performance / Assessment of current programs

### Faculty Assessment and Expectations

The Gluck Center consists of both tenure track and non-tenure track faculty and includes scientists grouped in the following areas:

Discipline	# of Faculty	Faculty names
Infectious diseases and immunology	8	Artiushin, Balasuriya, Chambers, Cook, Horohov, Issel, Timoney J., Timoney P.
Parasitology	2	Howe, Lyons
Genetics and Genomics	4	Bailey, Graves, Lear, MacLeod
Musculoskeletal disease	1	MacLeod
Pharmacology / Toxicology	1	Tobin
Reproductive Biology	5	Ball, McDowell, Squires, Swerczek, Troedsson
Other	2	Dwyer (Extension, epidemiology), Hale (Library)

- The distinction between the Infectious Diseases & Immunology group and the Parasitology group was not clear to the reviewers. When considered together, this component of the Gluck Center has a critical mass of research scientists. However, within them the disciplines of immunology and bacteriology are represented by only a single faculty member each (David Horohov and John Timoney, respectively). Immunology is a discipline that is relevant to both infectious and non-infectious diseases, and, in addition to Strangles, there are several uncontrolled important bacterial diseases of the horse that warrant attention (e.g. infection with *Rhodococcus equi*).
- The Genetics and Reproductive Biology groups have sufficient faculty to sustain nationally ranked research programs in those disciplines, but the Musculoskeletal Disease and Pharmacology / Toxicology components are very small. Both of these latter areas are important to the equine industry, and in particular to the Thoroughbred industry, and could be considered targets for strengthening in the coming years.
- The Gluck Center faculty is mature, with no non-tenured members in the tenure track. This means that in the near future there should be many opportunities for recruiting new faculty to the Gluck Center. Productive faculty who have passed the standard retirement age of 65 could be encourage to retire and continue working if space is available. This would free salary positions for new faculty recruits and retain the expertise and mentoring capabilities of senior scientists. Non-productive faculty at any stage of their careers should be held to established criteria for performance. Tenure does not provide protection to faculty who do not meet the obligations of their positions.

### Past / present performance

Each of the research units within the Gluck Center can claim successes and achievements. Nevertheless, the overall performance and quality of the faculty is uneven, as determined by numbers of peer-reviewed publications, evidence of competitive grant support, and national and international recognition. Expectations of productivity from faculty with 100% research

effort should be high, in the range of 4-6 publications per year, with commensurate external support from competitive grants.

## **Facilities and Operations**

The location of the Gluck Center on the main University of Kentucky campus, and in particular the close proximity of the Medical College, is a potential advantage. However, few examples of active collaboration between Gluck faculty and other UK scientists were made known to the research team. Gluck faculty do collaborate with other equine scientists around the country and abroad as part of their research programs. Establishing collaborations closer to home would be a distinct advantage to the Gluck Center.

### **State of facilities**

- The review team toured the main Gluck Building and the principal horse farm with Director Troedsson. Many of the laboratories in the Gluck building are in poor condition. The HVAC system of the entire building may also need attention. Most of the upper floor laboratories are small, cramped spaces. The laboratories on the ground floor are an exception. These large, open-plan laboratory spaces are more similar to modern, high quality laboratories found in other research institutes. Renovation of the upper floor labs should be a priority for the Gluck Center. It may be difficult to recruit outstanding new faculty without first-rate facilities.
- The need for modern instrumentation and equipment was emphasized during discussions with the faculty groups. Large pieces of equipment can easily cost \$100,000 to \$500,000. A process for replacement and upgrading major equipment should be part of the Gluck Center's strategic plan.
- The state of the Gluck Center's horse facilities is mixed. The newly renovated reproduction barn is outstanding, but the review team learned of construction problems with the new isolation barn. Other older barns and many of the pastures and paddocks appeared to be in poor shape and in need of urgent attention. The separation of laboratories from horse facilities is a challenge for the Gluck Center, but the amount and quality of land for horses is a big plus.
- The Gluck Center faculty enjoys levels of direct and indirect institutional financial support that is very rare in most other institutions. This support includes faculty salaries, technical staff, graduate students and post-docs, research expendables, and support for experimental horse care and maintenance. The issue of horse per diems was brought up several times in discussions with faculty and administration. The availability of large numbers of horses for research and the subsidies for horse costs are great advantages for the Gluck Center faculty, but they also tie up funds that could be used for other purposes appropriate to the mission. There are many ways in which institutional support, including horse care, could be tied to performance, for example, as matching funds for external grants.
- The review team did not tour the Diagnostic Laboratory, but we understand that new facilities are under construction at that site. The relationship between the Gluck Center and the Diagnostic Lab has changed over the years, and at the time of the review it does not seem to be optimal for interactions within the University and with the horse industry.

The Diagnostic Lab's daily activities have more „front line“ function than many of the research programs of the Gluck Center. Ideally, the two units should work together seamlessly.

### **Staff**

Staff members expressed great loyalty and are supportive for one another and for the mission of the Gluck Center. The long duration of service of many staff members is an indication of a positive work environment. Lynn Ennis, the Gluck's farm manager, seemed very knowledgeable and capable.

### **Areas for consideration for future development**

As mentioned above the disciplines that lack critical mass could be considered for future faculty recruitment. The Gluck Center would probably also benefit from increased strength in Epidemiology. Finally, the Gluck faculty could consider new areas for focus that could involve faculty from several of the current groups. Examples could be stem cell biology or inflammation. Interdisciplinary programs encourage interactions within an institution.

### **3) Composition of foundation board and interaction with the board**

The review team met with two members of the Gluck Foundation board. The Board members appeared loyal and very supportive of the Gluck Center. The Board could be strengthened by the addition of more wealthy individuals who could help with fundraising. The review team was made aware of the potential conflicts of interest within the University in fundraising (e.g. donors who might have an interest in the Medical College and the Gluck Center).

- Fundraising and public relations materials

An impressive collection of new brochures and reports were made available to the review team. Dr. Ed Squires and Jenny Blandford appear to be doing an excellent job in the public affairs arena. Education of donors about the long time frame for application of scientific discoveries is critical to attracting and retaining donors to the Gluck Center.

### **4) Relationship with and support from College of Agriculture**

The relationship between the Gluck Center and the College of Agriculture should be strong and positive. The University's Equine Initiative is important to the future of Kentucky's equine research, teaching, and outreach programs. The Gluck faculty should participate enthusiastically in the Equine Initiative.

### **5) Interaction with local practices (proposed Clinical Program)**

**Proposal for an endowed clinical scientist program within the Gluck Equine Research Center**

## **Background**

- Since its inception in 1987, the Gluck Equine Research Center has made its reputation in the basic research that underpins clinical medicine.
- There is an ongoing concern in the equine veterinary community and among horse owners and trainers that many scientists at the Gluck Equine Research Center do not have a connection to the clinical community. For this reason, both the translational clinical arm of research and the knowledge of the research scientists about current problems are lacking.
- Because the large Lexington equine hospitals emphasize the practice of clinical medicine, they do not attract academic clinicians who could interact with the Gluck Equine Research Center faculty members.
- Dr. Troedsson has proposed to develop a clinical scientist program consisting of:
  - a) Five endowed faculty positions in 1) orthopedics, 2) neonatology, 3) ophthalmology, 4) infectious diseases/epidemiology, and 5) medical imaging.
  - b) An endowed fund to allow research-trained local practitioners to take up part-time research appointments at the Gluck Equine Research Center.
  - c) Adjunct faculty positions of the Department of Veterinary Science for clinicians with appropriate research background.
  - d) Laboratories and research space for the program.

## **Comments and Recommendations**

- The proposed program could facilitate translation of findings from molecular and cellular research into the whole animal.
  - a) It is a very ambitious program that must be well thought through and extensively discussed with the Gluck Equine Research Center faculty members and local practitioners before its inception. Faculty members at Gluck Equine Research Center need to be adequately informed about the proposal. At present, few seem to understand its scope and some did not know of the proposal.
- The clinical scientist program will be very expensive in terms of endowments to support salaries of professors and their research. It will almost certainly need new laboratory space and renovations at the farm. Funds should not be taken from current operations to support this new development.
- It is unclear from the "Proposed Model" that was presented to the review committee if the five endowed faculty positions, the adjunct faculty positions in the Department of Veterinary Science, and the adjunct faculty from local practices will all be using the same endowed funds to support their research. If so, this will need to be a huge endowment.

- With regard to extramural funding of research, these clinical scientists will be competing for the same small amount of money that is currently available to the clinical scientists at the veterinary schools in North America. Every veterinary school is encouraging its clinical scientists to get more extramural funding. It is therefore highly unlikely that, absent a large increase in funds available through foundations, the program will attract much extramural funding.
- With regard to the suggested areas of clinical expertise,
  - a) Infectious diseases/epidemiology and orthopedics carry promise of strengthening the research profile of Gluck because of the existing basic science expertise in these fields.
  - b) The other areas do not fit in well with the current strengths of the Gluck Equine Research Center because:
    - i. Neonatology and ophthalmology are clinical specialties for which there is little research money available.
    - ii. Medical imaging is largely a service. A research program in imaging would require large investments in technology to keep the equipment ahead of that currently being used in many practices.

## **6) Quality of graduate training program**

### **Background**

- With 20 plus members of the faculty devoting almost 100% of their effort to research, it is to be expected that the Gluck Equine Research Center would have a strong graduate program.
- Current enrollment is 21 Ph.D. and 7 MS students, approximately half being domestic and the remainder international students.
- Stipends range from \$18-\$35000 per year depending on previous degrees and source of support.
- Ph.D. requirements include 36 credit hours to be taken before the qualifying examination. The only required courses are two semesters of Chemistry 550 and a statistics course.
- Student recruitment is via the web site, through receipt of a brochure (which is out of date), and through word-of-mouth. The GRE is required but a minimum score was not mentioned.
- MS students are expected to give one departmental seminar during the tenure of their program and Ph.D. students two seminars.

- During interviews, graduate students were generally enthusiastic about the program, their mentors, the degree of cooperation between laboratories, and the work of graduate director Howe.
- Students requested more feedback on their style of presentation and teaching methods.
  - a. Almost to a person, the graduate students were of the opinion that members of the faculty were not interested in attending graduate student seminars.
  - b. Students would like more journal clubs and would like to present more required seminars.
  - c. Students would like more opportunity to practice the 10-minute talks that are standard at scientific meetings.

### **Comments and Recommendations**

- With the members of the faculty devoting almost 100% of their time to research, the number of Ph.D. students is not excessive; on average, each faculty member graduates approximately 1 student every five years. With a primary research mission it is reasonable to expect each faculty member to have four graduate students working concurrently, but at different stages of their program.
- Enhancing the recruiting efforts and targeting specific groups at the University of Kentucky might bring in a larger pool of potential students. More stipends would of course be required.
  - a) For example, the Gluck Equine Research Center should market itself at colleges of veterinary medicine throughout North America.
  - b) The Center could offer a summer research experience to selected undergraduate or professional students from the University of Kentucky and elsewhere.
  - c) A new brochure or poster with tear-off information tabs could be sent to veterinary colleges and departments of veterinary science.
- The course requirements for the MS and PhD degrees should be reviewed and revised as necessary to prepare graduates for careers in modern biology.
- Members of the faculty of Gluck Center should consider offering graduate courses in their area or specialty. This will have several benefits:
  - a) It will increase the number of graduate courses available to Ph.D. and MS students at the Center and at University of Kentucky in general.
  - b) Preparation for team teaching and listening to one another's lectures can increase the amount of collaboration among faculty.
  - c) Preparation for graduate courses generally requires reading of current literature somewhat out of one's comfort level, which tends to make one keep up-to-date.

- d) Teaching in graduate courses will enhance the teaching load of Gluck Center faculty members, which will be to the liking of the administration of the College of Agriculture.
- The number of opportunities for graduate students to practice giving seminars should be increased and faculty attendance at these must increase.
  - a) All students should be required to present a least one seminar per year.
  - b) A record of attendance at student seminars should be maintained and attendance should be a point of discussion between faculty members and the Department Chairman at annual reviews.
- Dr. Howe deserves great praise for his work as director of the graduate program.

# Implementation Plan



# UK Program Review Implementation Plan

This required form is described as Appendix A in AR II-I.0.6.

College/Unit:

Date:

Recommendation/ Suggestion	Source I/E/H*	Accept/ Reject**	Unit Response (resulting goal or objective)	Actions (including needed resources)	Time Line
Gluck Center administration and faculty could work together more effectively to advance the mission and goals of the Center.	E	A	The construction of the self-study closely followed the recommended format and previous review documents, and should not be interpreted as a disconnection between faculty and administration.	The Director will continue to work with faculty to advance the mission and goals of the Gluck Center.	Continuous
Effectiveness of responses to horse industry could be improved through closer working relationships with the Veterinary Diagnostic Laboratory.	E	A	Gluck faculty are pleased to and do work with UKVDL and try to integrate with the diagnostic lab. Some practical problems in conducting collaborative research projects may, however, prevent an optimal situation.	Faculty will continue to collaborate with UKVDL and the Director will try to remove some of the obstacles and facilitate collaborations.	Immediate Action
Continue new series of brochures/other print materials. Reinforce with better web presence and oral presentations at various equine events and gatherings.	E/H	A	Annual overview by Dr. Troedsson of the Gluck Center's accomplishments presented to the industry, possibly at Keeneland. Hire full-time ext. person. Currently working on expanding web presence on horse-centered sites.	<ul style="list-style-type: none"> <li>- Ongoing work</li> <li>- Need funding for extension faculty</li> </ul>	Ongoing
Strengthen the graduate training program and aggressively recruit top veterinary graduates to research training positions.	E/H	A	Long-term partnership with Pfizer Animal Health and the University of Copenhagen are negotiated and will, if successful, provide funding for competitive graduate fellowships.	Ongoing negotiations and exploration of funding for students. No additional funding needed.	Immediate/ Ongoing
Gluck Center faculty should have formal teaching responsibilities to undergrad and grad students, with a target level of 25% commitment.	E	A	New courses are being developed in the Dept. of Vet Science.	List opportunities, identify any obstacles and resources needed, keeping in mind that our mission is primarily equine research.	1-2 yrs.
The faculty should participate in outreach activities to horsemen through the University's Equine Initiative.	E	A	Faculty at the Gluck Center are heavily involved in outreach on a daily basis through publications, seminars, interactions with vets on specific problems. OIE designation for equine herpesvirus/equine influenza/equine arteritis virus and through the Gluck/Morris Library.	Better documentation of extension activities within the Gluck Center.	6 mos.
The research record of Gluck faculty is uneven, with some outstanding individuals and others whose performance does not meet minimum expectations.	E/H	A	Standards for expected productivity have been developed in the Gluck Center's Strategic Plan.	Faculty should be held accountable to productivity standards in the Gluck Center's strategic plan. Important to have support for this by College Administration.	Immediate

The Gluck Center lab and animal (largely horse) facilities are in need of attention and upgrading.	E/H	A	Development of an itemized list of needed improvements.	Funds need to be identified at a University and College level.	1-5 yrs.
The Gluck Center faculty and administration should work together to develop a strategic plan for recruitment of new faculty and development of new research programs. The proposed endowed clinical scientist program should be developed in a way that will not compromise the basic science programs of the Gluck Center.	E/H	A	This issue has been discussed at faculty retreats and in preparation for the external review. It was our hope that the reviewer would provide feedback to these plans during their site visit.	<ul style="list-style-type: none"> <li>- A strategic plan has been developed.</li> <li>- Resources (~ \$5 million) are needed to implement the Clinical Science program as suggested to the committee.</li> </ul>	5-10 yrs.

\* Source of Recommendation (I = Internal recommendation; E = External Review Committee recommendation; H = Unit Head recommendation)

\*\* Accept/Reject Recommendation (A=Accept; R=Reject)

Unit Head Signature: 

Unit Head Supervisor Signature: \_\_\_\_\_

Date: \_\_\_\_\_