2016 Funded Research Projects

Thyro-Hyoid Muscle Training to Treat DDSP
Normand Ducharme, Cornell University
(DDSP is Dorsal Displacement of the Soft Palate.) A better knowledge of DDSP mechanism will give the basis for new treatment options and prophylactic training methods to prevent or reduce the occurrence of DDSP in young horses starting training.

A Novel Vaccine Against Equine Strangles
Noah Cohen, Texas A&M University
We have a new concept for a vaccine to protect horses against the disease known as Strangles and have good preliminary data suggesting this vaccine will be safe and effective.

Fitness and Persistence of Drug Resistant R. equi
Steeve Giguere, University of Georgia
We will determine if drug-resistant Rhodococcus equi can persist in the environment and if resistant strains are more likely to cause disease than susceptible strains.

Novel Analgesic Combination in Horses
Alonso Guedes, University of Minnesota
We propose to study a novel, likely more efficacious and potentially safer approach than currently available options to manage pain in horses.

Training and Surfaces for Injury Prevention
Susan Stover, UC Davis
Risk for bone fracture in the fetlock joint due to training program and race surface properties will be determined using computer models that simulate bone damage and repair

PET Imaging of the Equine Distal Limb
Mathieu Spriet, UC Davis
PET imaging is a diagnostic tool, newly available to the horse, that will allow detection of lesions not identified with other techniques. [PET means Positron Emission Tomography.]

Host-directed Control of R. equi Foal Pneumonia
Angela Bordin, Texas A&M University
We propose to use an inhaled product applied directly into the lungs to increase immune responses to protect foals against Rhodococcus equi, a bacterium that causes severe pneumonia in foals.

Unraveling Complex Traits by Defining Genome Function
Carrie Finno, UC Davis
This proposal defines the critical next step to understand underlying mechanisms of disease by developing a database of tissue– specific gene expression and regulation in the healthy adult horse.

Validation of Stall-side Strangles Diagnosis Using LAMP
Ashley Boyle, University of Pennsylvania
We aim to validate a stall–side test that could be used for fast, sensitive, accurate, and cost efficient diagnosis of strangles (S. equi) carriers (a highly infectious equine respiratory disease). [LAMP means loop– mediated isothermal nucleic acid amplification.]

IGGS(T) Antibodies Identify Foals at Risk for R. equi
David Horohov, University of Kentucky
This project involves the validation of a new test for Rhodococcus equi infections in foals

EHV-1 and Latency
Lutz Goehring, Ludwig Maximilians University
We will know about EHV–1 latency locations; about prevalence in horse populations, and if different latency stages exist. Finding 'stages' will allow us to speculate on interventional strategies.

Second Year Projects Include:

A Guinea Pig Model of Rhodococcus Equi Pneumonia
Angela Bordin, Texas A&M University
A guinea pig model of R. equi pneumonia will help to better understand the disease in foals, and evaluate novel approaches for controlling and preventing R. equi pneumonia.

Immune Properties of Autologous and Allogeneic BMDMSCS
Laurie Goodrich, Colorado State University
The completion of this project will answer the important question of whether allogeneic mesenchymal stem cells derived from bone marrow (BMDMSCs) are a viable alternative to autologous BMDMSCs in the horse. (Autologous means cells from the horse's own bone marrow; allogeneic means from another, healthy horse.)

Steroid / Neurosteroid Dynamics in Critically Ill Foals
Ramiro Toribio, The Ohio State University
This study will elucidate the importance of stress hormones as well as hormones that affect neurological function in the development and progression of diseases of newborn foals.

Inhibition of Type-1 Interferon Response by EHV–1
Thomas Chambers, University of Kentucky
This project explores the mechanism of equine herpesvirus-1 blockage of an immune defense pathway and its relationship to equine herpesviral myeloencephalopathy, a serious condition affecting horses.

Firocoxib Properties in Equine Pregnancy and Placentitis
Margo Macpherson, University of Florida
The potent anti–inflammatory properties of firocoxib have the potential to significantly inhibit inflammation, and subsequent preterm delivery of foals, from mares with placentitis.

Flunixin or Firoxoxib in Postoperative Colic Patients
Anthony Blikslager, North Carolina State University
This project will provide an evidence-based approach to the optimal treatment of horses with small intestinal strangulating obstruction in order to reduce endotoxemia and increase survival.

Microsphere Encapsulated EPCS and Wound Vascularization
Anne Wooldridge, Auburn University
Injectable hydrogel microsphere scaffolds containing endothelial progenitor cells are a potential novel therapy to decrease healing time in distal limb wounds in the horse.

Prevention of Supporting Limb Laminitis
Andrew van Eps, University of Queensland
It is anticipated that the results of this study will directly guide the design of devices and/or protocols that can be used in the clinical setting to prevent supporting limb laminitis.

2016 CAREER DEVELOPMENT AWARD RECIPIENTS

The Storm Cat Career Development Award, inaugurated in 2006, is a $15,000 grant designed as an early boost to an individual considering a career in equine research. It has been underwritten annually by Mrs. Lucy Young Hamilton, a Grayson-Jockey Club Research Foundation board member whose family stood the retired champion stallion Storm Cat at Overbrook Farm. This year the award winner is:

Elaine Norton- University of Minnesota
Dr. Norton received her DVM from Colorado State and did a residency/ masters program in large animal medicine at Auburn University. She is currently enrolled in the PhD program at the University of Minnesota College of Veterinary Medicine. Her field of study is comparative and molecular biosciences. She is under the mentorship of Dr. Molly McCue and her research project for the period of the award is the identification of the underlying genetic risk factors in horses with Equine Metabolic Syndrome. She presented an excellent plan for her year of study and her support letters were filled with accolades for her abilities and dedication to equine research.

The Elaine Klein Development Award is a competitive program intended to promote development of promising investigators by providing a one year salary supplement of $15,000. This program is restricted to one award per year and is named in honor of renowned horsewoman, Elaine Klein. The grant is funded by $15,000 donations by the Klein Family Foundation. The 2016 award winner is:

Amanda Ziegler- North Carolina State University
Dr. Zeigler is a graduate student at NCSU in the college of Veterinary Medicine's Comparative Biomedical Sciences program. Her year of study was well defined and is being spent on a project funded by GJCRF in 2015 working under Dr. Anthony Blikslager. The project deals with improving drug selection for postoperative colic pain. She received excellent letters of support from faculty, mentors and the Dean of the college, Dr. Paul Lunn. This is a multi-institutional effort combining cases from N.C. State, Michigan State and New Bolton Center. It will help tremendously to know this information to improve the survival rate of surgical colics.