



Equine Research News

A digital presentation of Grayson-Jockey Club Research Foundation
Providers of Equine Research From 1940 thru 2016

Issue 1 • 2016



OVER \$1.1 MILLION ALLOTTED IN 2016 FOR RESEARCH PROJECTS

Grayson-Jockey Club Research Foundation's board of directors has approved an allocation of \$1.1 million for equine research in 2016. The funds will underwrite a slate of 11 start-up projects and 8 second-year proposals.

With this year's slate of projects that brings the totals of projects funded to more than \$23.3 million to fund 335 projects at 42 universities in North America and overseas, since 1983. In addition the foundation is also funding two Career Development Awards. For more detailed information <http://goo.gl/HLnPWo>

New 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.

In this edition:

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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 Firocoxib 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.



Students of Dr. Margo Macpherson, University of Florida with two of their subjects.

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.



Save
the
Date

2016 Belmont Stakes
Charity Celebration

Thursday, June 9, 2016

Bryant Park Grill • New York, NY

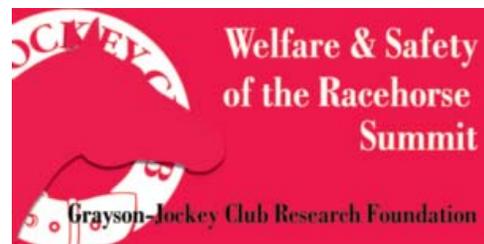


WELFARE AND SAFETY OF THE RACEHORSE SUMMIT VII SCHEDULED FOR JUNE 28, 2016

The first summit was held in October 2006. Subsequent editions were held in March 2008, June 2010, October 2012, July 2014, and July 2015. Summits will continue to be held annually.

“This year we plan to bring back the summit committee meetings the day after the summit as we have in the past with the first few editions,” said Edward L. Bowen, president, Grayson-Jockey Club Research Foundation. “This will help keep ideas fresh and keep committee members focused on initiatives to improve the welfare and safety of our equine and human athletes.”

The summit will be held in the Keeneland sales pavilion and it is open to the public; a live webcast will also be available. A formal agenda and a list of speakers will be announced at a later date.



OWNERS OF DERBY HOPEFULS PLEDGE RESEARCH SUPPORT THROUGH "SHARE THE WINS" PROGRAM

Grayson-Jockey Club Research Foundation's long-standing Share the Wins program got off to a quick start for 2016 with John Oxley, Heaven Trees, and Speedway Stables becoming the first three owners to pledge earnings from potential graded stakes wins on the Kentucky Derby trail to equine research.

Each owner has pledged to donate 1 percent of net purses (minus entry fees and trainer and jockey fees) for graded stakes up to and including the Kentucky Derby to Grayson-Jockey Club Research Foundation.

When Oxley, a resident of Tulsa, Okla., and a longtime board member of Grayson-Jockey Club Research Foundation, won the Kentucky Derby with Monarchos in 2001, he had already pledged 1 percent of the colt's purse earnings to the foundation. This year, he signed up his colt Airoforce, but he was taken off the Derby Trail after one start.

Heaven Trees Farm, owned by Dr. Dede McGehee in Lexington, Ky., is on board with Dolphus, a half-brother to Rachel Alexandra and a candidate for this weekend's Grade II Veterans Ford Risen Star Stakes at Fair Grounds. The percentage donated from Dolphus' graded stakes wins is earmarked to support future projects at the University of Florida.

Speedway Stables owners Peter Fluor and K. C. Weiner of Houston, Texas, made their pledge for Collected retroactive to his victory in the Grade III Sham Stakes and have made an initial contribution to Grayson-Jockey Club Research Foundation.

"We appreciate the generosity of these owners in agreeing to our request to make these pledges, and we hope many others will follow their lead," said Edward L. Bowen, president of Grayson-Jockey Club Research Foundation. "It is very kind of them to share the excitement of being on the Derby Trail, and it certainly is exciting for the foundation to have this connection with the respective owners of these talented racehorses."

Additional information about the Share the Wins program is available at <http://tinyurl.com/http-gjcrfstw1>



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I wish to be enrolled as a member or donor of Grayson-Jockey Club Research Foundation as follows:

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|--|---------------------|
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| <input type="checkbox"/> Gold Circle | \$ 5,000 or more |
| <input type="checkbox"/> Silver Circle | \$ 2,000 or more |
| <input type="checkbox"/> Patron | \$ 1,000 or more |
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I do not wish to be a member at this time, but choose to donate \$ _____ to the Foundation.

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