

FOR THE SIXTH CONSECUTIVE YEAR, FUNDING MORE THAN \$1 MILLION IN EQUINE RESEARCH

The board of directors of Grayson-Jockey Club Research Foundation announced today that it has authorized expenditure of \$1,389,637 to fund 17 new projects at 13 universities, four continuing projects, and the Storm Cat Career Development Award. The 2020 slate of research brings Grayson-Jockey Club Research Foundation's totals since 1983 to more than \$28.8 million to underwrite 383 projects at 45 universities. One of the projects, to fund sample collection, storage, and cataloging of tissue related to nocardioform placentitis for future submitted research, was accepted because it is directly affecting the 2020 Kentucky foal crop.



“All of our projects are important and designed to help the most horses with the most relevant and critical research, *said Dell Hancock, chairman of Grayson-Jockey Club Research Foundation.* However, some projects are extremely time-sensitive, such as the one for nocardioform placentitis, which is affecting our foals in Central Kentucky right now. We urge farms to participate by donating tissue samples to the University of Kentucky.

“Given that we see nocardioform placentitis only on a sporadic basis, it is essential we are able to act quickly and acquire samples during an outbreak. We are extremely grateful to Grayson for their support of this effort. It is only through the collection of samples for further analysis and continued screening of the identified bacteria for antibiotic sensitivity and resistance that we will be able to improve our understanding of this disease,” *said David Horobov, PhD, chair of the Department of Veterinary Science and director of Gluck Equine Research Center, University of Kentucky.*



One thing the Coronavirus is teaching us is the importance of research -research of all kinds- to the advancement of precaution and treatment.
This IS what Grayson does.

-Dell Hancock,
 Chairman, Grayson-Jockey Club Research Foundation



Passive Immunization Of Foals With RNA-AB Against R Equi

Jeroen Pollet, Baylor College of Medicine

By inhalation therapy, we intend to deliver the genetic code for a protective antibody against rhodococcus equi into the lung cells of newborn foals, to rapidly protect them against infection.



Improving Fungal Diagnosis In Horses

Soon Hon Cheong, Cornell University

Developing a diagnostic test that can rapidly detect, identify, and determine the antifungal susceptibility profile of clinical equine samples to improve treatment outcomes of fungal infection in horses.

Bisphosphonates And Fatal Musculoskeletal Injury

Heidi Reesink, Cornell University

Determining the prevalence of bisphosphonate use in racehorses and whether bisphosphonates are associated with fatal musculoskeletal injury is essential to equine welfare and the future of racing.

Novel Treatment For Recurrent Exertional Rhabdomyolysis

Stephanie Valberg, Michigan State University

Determining if a potent antioxidant coenzyme q10, not subject to withdrawal times, can benefit horses with tying up by replenishing diminished muscle coq10 levels and decreasing oxidative stress.

Enhancing The Efficacy Of Mesenchymal Stem Cells For Tendon Healing

Lauren Schnabel, North Carolina State University

This proposal examines the tendon inflammatory environment following acute injury and the effect of such an environment on mesenchymal stem cells (MSCs), with the goal of improving MSC treatment efficacy.

AMPK (5' AMP-activated protein kinase enzyme) Agonist Combination Therapy & ID In Horses

Teresa Burns, The Ohio State University

By completing this work, we hope to characterize a combination therapy to improve equine insulin resistance that is administered orally and well tolerated.

Superficial Digital Flexor Tendinitis Adaptation In Thoroughbred Racehorses

Sushmitha Durgam, The Ohio State University

The impact of training and racing on (mal)adaptations in superficial digital flexor tendon hierarchical structure will be evaluated to delineate the pathophysiology of this common injury in racehorses.

Dynamics Of Vitamin D In Hospital Foals

Ramiro Toribio, The Ohio State University

Critically ill foals often have low blood levels of vitamin D; our goal is to investigate if their levels over time are associated with the severity of their disease and mortality.

Asthma, Performance And Omega-3s In Racing Thoroughbreds

Laurent Couetil, Purdue University

Investigating the variability of asthma severity in horses racing across the us, its effect on performance and determine if omega-3 pufa supplementation is beneficial.



Anti-PNAG (Antibody to Poly-N-acetyl Glucosamine) Plasma For Preventing R. Equi Foal Pneumonia

Noah Cohen, Texas A&M University

Transfusion of plasma is the only licensed product for preventing rhodococcus equi pneumonia, and demonstrate that we have developed a plasma product superior to that available currently.

Effect Of Nebulized Lidocaine In Treating Equine Asthma

Melissa Mazan, Tufts University

Evaluating the efficacy of inhaled lidocaine in equine asthma in reducing airway inflammation and hyper-responsiveness by promoting an anti-inflammatory lung environment.



Effect Of NSAIDs (Nonsteroidal anti-inflammatory drugs) On Anion Transport In The Equine Colon

David Freeman, University of Florida

This proposal is designed to improve management of horses with right dorsal colitis, an insidious life-threatening form of colic for which all horses on phenylbutazone are at risk.

Protein Based In Vivo Diagnostic For Endometrial Biofilm

Mats Troedsson, University of Kentucky

Successful management of bacterial biofilms in the uterus requires an accurate diagnostic in vivo assay that we propose to develop.

Nocardioform Placentitis

University of Kentucky – One Year Grant

Sample collection and storage of tissue for future research and testing for nocardioform placentitis.

Novel Delivery Of Antimicrobials Into Equine Joint

Simon Bailey, University of Melbourne

The development and testing of, a novel (gel) carrier formulation for the antibiotic Cefuroxime, injection into horses' joints for application as a treatment of joint infections.

Diagnostic Assay For Recurrent Exertional Rhabdomyolysis

sponsored by **WINSTAR**

Molly McCue,

University of Minnesota

Identify a comprehensive set of genetic markers that allow RER risk prediction before horses tie-up and preemptive management to decrease the frequency and severity of clinical disease.

Inhibiting EHV-1 (Equine Herpesvirus 1) With Anti-Inflammatory Drugs

Arthur Frampton, University of N. Carolina Wilmington

Using a tissue culture model system to test the ability of specific drugs to reduce the damaging hyper-inflammatory response that is observed in EHV-1 infected horses suffering from equine herpesvirus myeloencephalopathy (EHM).



Training Programs For Prevention Of Fetlock Injury

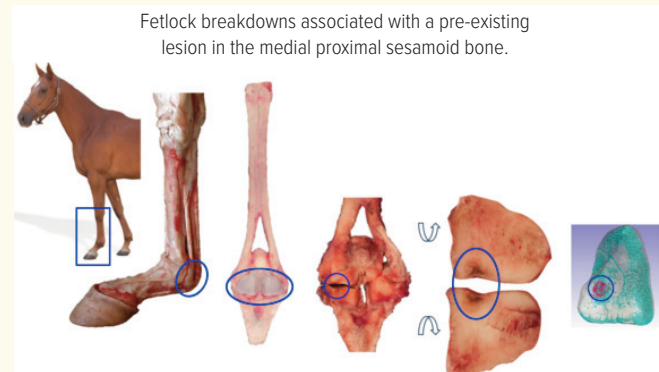
sponsored by

Sue Stover,

University of California-Davis



Predicting proximal sesamoid bone fracture in racehorses from a calibrated computational model that incorporates training programs, track surface properties, and bone's reparative processes.



Antimicrobial Properties Of Equine Mesenchymal Stem Cells

Laurie Goodrich, Colorado State University

This study is expected to impact the equine industry by validating TLR activated equine mesenchymal stem cells as an effective, novel therapy in treating multi-drug resistant infections.

Robotic CT For Assessing Of Bone Morphology

Kyla Ortved,

sponsored by

University of Pennsylvania



Preventing catastrophic injuries in the Thoroughbred racehorse: screening fetlock joints using standing robotic CT and biomarker analysis.

Non-Invasive Evaluation Of Host-Microbiota Interactions

Canaan Whitfield-Cargile, Texas A&M

This study aims to develop a non-invasive platform to serve as a diagnostic test for gastrointestinal inflammation prior to severe disease and to reveal how bacteria in the gut influence horse health.



Storm Cat Career Development Award



I am deeply humbled and honored to be the 2020 recipient of the Storm Cat Career Development Award presented by the Grayson-Jockey Club Research Foundation. This award is special to me for so many reasons. Not everyone necessarily understood my desire to complete a PhD program following my residency and board-certification in Equine Sports Medicine & Rehabilitation. The reality is that orthopedic injuries we consistently see on the front lines of horse shows and then later in the rehabilitative setting inspire me to dig deeper and try to come up with better solutions for our equine athletes. My ultimate goal is to come at historic injuries with fresh perspective through translational orthopedic research that can eventually be used in the clinical setting - and it has certainly been a journey! I have a long way to go – but this is super cool.

Thank you Grayson-Jockey Club for the amazing support!

Sherry A. Johnson
Colorado State University

Dr. Johnson completed her Sports Medicine and Rehabilitation Residency in conjunction with her Master’s Program and now is in the second year of her PhD program.

During Dr. Johnson’s residency she began her research in tendon disease by validating an optimized model of equine translational tendon injury that was found to simulate naturally occurring equine tendon disease. The study she performed is the most comprehensive longitudinal equine tendon healing investigation to date that simultaneously incorporated all of the clinically relevant non-invasive imaging modalities with histology, functional and bio-mechanical outcomes.

Dr. Johnson continued her research, which involved stepping back and looking at the use of a translational murine model of tendinopathy to explore and validate rehabilitation variable as a significant factor in tendon healing and return to function.

Through this initial grant, she is investigating the therapeutic role of exercise in tendon repair. Specifically, Dr. Johnson aims to develop tendon-sparing exercise prescriptions that may eventually be extrapolated to equine and human patients.

Her project, “Validation of Blood Flow Restriction Training in Horses,” continues her passion of researching soft tissue injury and rehabilitation. Dr. Johnson’s PhD is focusing on blood flow restriction (BFR) training.

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. Dr. Johnson is the 20th recipient of this award. The majority of past recipients have continued with a career in research, while three others are in private practice.

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