



Grayson-Jockey Club Research Foundation Funded Projects

The board of directors of Grayson-Jockey Club Research Foundation has authorized expenditure of \$1,515,764 to fund 18 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 \$29.1 million to underwrite 384 projects at 45 universities.

NEW PROJECTS

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.

additional funding for this project from **Klein Family Foundation**

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 MSCs 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 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.

SDFT 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 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.

Bisphosphonate Effects on Biomarkers

Heather Knych,

University of California-Davis

This study will allow for development of sensitive and alternate methods for detection of bisphosphonates



Effect Of NSAIDs 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.

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

Molly McCue,

University Of Minnesota

Sponsored by 

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 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).

Nocardioform Placentitis

University Of Kentucky

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

CONTINUING PROJECTS

Training Programs For Prevention Of

Fetlock Injury

Sue Stover,

Sponsored by



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 MSCS

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,

University of Pennsylvania

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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.