

Grayson-Jockey Club Research Foundation

2019 Funded Projects

The 2019 allotment of \$1,338,858 will fund eight new projects at seven universities, nine continuing projects, and three career development awards. The 2019 slate of research brings Grayson-Jockey Club Research Foundation's totals since 1983 to more than \$27.5 million to underwrite 366 projects at 44 universities.

NEW PROJECTS

Training Programs For Prevention Of Fetlock Injury *sponsored by* **KEENELAND**

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.

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.

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.

Intrauterine Antibiotics May Augment Placentitis Therapy

Christopher Bailey, North Carolina State University

This proposal will explore the potential for intrauterine antibiotic treatment to improve foal survival and health in mares with ascending placentitis.

Robotic CT For Assessing Of Bone Morphology *sponsored by*

Kyla Ortved, University of Pennsylvania



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

Uncovering The Blood B Cell Immune Response To EHV-1

Tracy Stokol, Cornell University

By sequencing individual blood B cells, we will identify changes in B cell immunity after EHV-1 vaccination and will generate a sequencing database that will uncover new antibodies against EHV-1.

Racehorse Stride Characteristics| Injury And Performance *sponsored by* **WINSTAR**

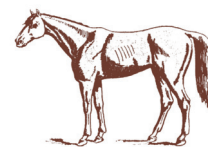
Chris Whitton, University of Melbourne

By identifying changes in stride characteristics of racehorses over time we can identify those parameters that can be used as an early indicator of injury or that are key to injury development.

Standing Pet Of The Racehorse Fetlock

Matthew Spriet, University of California-Davis

Validation of a PET technology for early detection of fetlock lesions in standing horses to prevent catastrophic breakdowns in racehorses.



CONTINUING PROJECTS

Host-directed Control of R. equi Foal Pneumonia- Part II

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

Thoroughbred Sales Radiology-Ultrasonography Study

C. Wayne McIlwraith, Colorado State University

This study will improve the industry's understanding of the significance of sesamoiditis, ultrasonographic suspensory branch changes, and stifle lucencies in sales yearlings and 2-year-olds.

Effects Of Low-Dust Forage On Lung Health Of Athletic Horses

Laurent Couetil, Purdue University

This proposal seeks to provide a non-pharmaceutical solution to the widespread problem of equine asthma by evaluating the benefits of low-dust forage for horses engaged in athletic activity.

Investigating Metabolic Stress And Viral Hepatitis

Sabine Mann, Cornell University

We will study metabolic pathways and hepatic viral infection to find a relationship with maladaptation to training syndrome/high GGT to help improve the health and performance of race-horses.

Ampk Agonists And Insulin Dysregulation In Horses

Teresa Burns, The Ohio State University

This project directly impacts the treatment of equine metabolic syndrome by assessing the efficacy of two drugs, metformin and acetylsalicylic acid, in the treatment of equine insulin dysregulation.

Host Factors Involved In EHM Pathogenesis And Latency

Gisela Soboll Hussey, Michigan State University

The development of tools to protect horses from EHV-1 infection, compare the immune responses in old and young horses to identify the mechanisms causing clinical EHM.

Unraveling Complex Traits By Defining Genome Function 2

Carrie Finno, University of California-Davis

Developing an atlas of gene regulation in the horse.

Development Of Limited View 3D Imaging

Chris Kawcak, Colorado State University

The goal of this proposal is to develop a point-of-care, 3-dimensional imaging technique that can be used to better characterize and prevent injuries in racehorses.

Epidemiology Of Drug-Resistant R. Equi At Horse Farms

Kelsey Hart, University of Georgia

We will determine if isolates of *Rhodococcus equi* highly resistant to antibiotics are widespread at horse breeding farms in Kentucky.