2021 Grayson-Jockey Club Research Foundation Funded Projects

$30.6 million
397 Projects
45 Institutions

The board of directors of Grayson-Jockey Club Research Foundation has authorized expenditure of $1,648,434, the most that the foundation has ever allocated in a year, to fund 13 new projects at 12 universities, 12 continuing projects, and two career development awards worth $20,000 each. The 2021 slate of research brings Grayson-Jockey Club Research Foundation's totals since 1983 to more than $30.6 million to underwrite 397 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, the intent is 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.

Hyperthermia And Acidosis In Exertional Muscle Damage
Michael Davis, Oklahoma State University

This project will identify an underlying cause of exercise-associated muscle fatigue and soreness and allow trainers to more precisely condition horses with fewer training days lost to muscle soreness.

Developing An Improved Serological Test For Strangles
Noah Cohen, Texas A&M University

This project proposes to develop a more accurate blood test to identify horses infected with the bacterium that causes strangles to improve control and prevention of strangles.

Mitigation Of Equine Recurrent Uveitis Through SOCS
Joseph Larkin, University of Florida

This project seeks to design a topical eye drop, using a natural protein, which helps to prevent pain and blindness associated with equine recurrent uveitis.

Environmental Origins Of Equine Antimicrobial Resistance
Brandy Burgess, University of Georgia

This study will elucidate how antimicrobial resistance and virulence determinants are shared among horses and hospital environment, as well as the role antimicrobial exposure plays at this interface.

Treatment Of Joint Injury With Mesenchymal Stromal Cells
Thomas Koch, University of Guelph

This project will be evaluating of equine umbilical cord blood-derived mesenchymal stromal cells to treat joint injuries in horses.

Optimizing Bone Growth To Reduce Equine Fracture
Mariana Kersh, University of Illinois Urbana-Champaign

The aim is to reduce distal limb fractures through exercise in young horses having a significant positive impact on horse welfare as well as, the economics and public perception of the horse industry.

New Generation Equine Influenza Bivalent VIP Vaccine
Thomas Chambers, University of Kentucky

The study proposes to create a novel, safe and effective vaccine for equine influenza based on the 21st-century technology of non-infectious virus-like particles produced in plants.

Expanding Knowledge of the Micro-Biome in Mares & Foals
University of Kentucky, Gluck Equine Research Center

This project will look to provide sampling and analysis including PCR, genomic and microbiology of the micro-biome in mares and foals.

Injury Prediction From Stride Derived Racing Load
Chris Whitton, University of Melbourne

Sponsored by
JOHN WILLIAM POPE
FOUNDATION

By studying patterns in bone fatigue accrual over time in racehorses, better and earlier,othe aim is to identify horses at risk of limb injury, facilitating timely evidence based preventative strategies.

Predicting Exercising Arrhythmias With Resting Eggs
Molly McCue, University of Minnesota

Using at rest ECGs to identify horses with irregular heart rhythms at exercise that can cause sudden cardiac death (SCD), to allow increased monitoring and improved understanding of SCD.

Understanding And Preventing Supporting Limb Laminitis
Andrew Van Eps, University of Pennsylvania

We aim to make supporting limb laminitis preventable through analysis of archived model tissues, a multi-center limb motion study of horses at risk, and development of a prototype therapeutic device.

Diagnosis Of Incipient Condylar Stress Fracture

Peter Muir, University of Wisconsin–Madison

This study will save the lives of racehorses by establishing screening using fetlock CT for diagnosis of horses with a high risk of imminent serious injury for personalized clinical care.

SECOND YEAR PROJECTS IN 2021

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.

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.

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 & Bone Metabolism   *Funded by*

Heather Knych, University of California- Davis

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

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).

Funding Equine Research... Today, Tomorrow and Into the Future.