Grayson-Jockey Club Research Foundation
2023 Funded Projects

Grayson-Jockey Club Research Foundation has authorized expenditure of $1,498,077 to fund 12 new projects and nine continuing projects at 13 universities as well as two career development awards. The 2023 slate of research brings Grayson's totals since 1983 to more than $34.1 million to underwrite 426 projects at 45 universities..

NEW PROJECTS

Transcriptomic Response To Osteoarthritis

Lynn Pezzanite, Colorado State University

This study will highlight the role that cells of the immune system play to contributing to disease progression of osteoarthritis toward the goal of developing treatments for each stage of disease.

Efficacy of Recombinant Equine Lubricin for Osteoarthritis

Heidi Reesink, Cornell University

This study will assess efficacy of recombinant equine lubricin (rEqLub) in mitigating equine joint disease and identify gene and protein pathways affected by rEqLub in equine joints.

Treatment Of Meniscal Injury With Mesenchymal Stem Cells

Aimee Colbath, Cornell University

This study will determine whether intra-articular mesenchymal stem cells lead to improved meniscal healing, providing an immediate impact on how veterinarians treat equine meniscal disease.

Stem Cell Neotissue Implants for Equine Tendon Healing

Mandi J. Lopez, Louisiana State University

This study will determine if viable neotissue implants generated from stem cells will augment current therapies to treat debilitating tendon injuries in equine athletes and companions.

Gallium Nitrate to Treat Bacterial Endometritis in Mares

Dale Kelley, Oklahoma State University

This study proposes to develop new, safe, and efficacious antimicrobial strategies to treat antimicrobial resistance.

A VapA mRNA Vaccine for R. equi Pneumonia

Noah Cohen, Texas A&M University

This grant evaluates an mRNA vaccine administered intramuscularly to foals to protect against pneumonia caused by the bacterium Rhodococcus equi, a major cause of disease and death in foals worldwide.

Genomics of Thoroughbred Stallion Subfertility

Terje Raudsepp, Texas A&M University

The proposed project aims to identify candidate genes and regulatory variants underlying impaired acrosome reaction and subfertility in Thoroughbred stallions using multi-platform genomics.

PET MRI Sport Horse Fetlock

Mathieu Spriet, University of California-Davis

This study will compare 18F-NaF Positron Emission Tomography (PET)with Magnetic Resonance Imaging (MRI) for assessment of fetlock injuries in sport horses.

Validation of Biomarkers for Equine Neurodegeneration

Carrie J. Finno, University of California-Davis

It is expected that this study will improve the diagnosis of spinal cord disease in horses.

Antibiotic Effects On Uterine Microbiome And Resistome

Igor Canisso, University of Illinois

This is a study of uterine microbiome and resistome of mares resistant and susceptible to endometritis treated with post-mating antibiotics.

Nanoparticle Vaccines for Equine Rotavirus B

Feng Li, University of Kentucky

The vaccine candidate developed from this project will help the equine industry to control and prevent equine rotavirus B infection in future foaling seasons.

An Efficacious EPM Vaccine is on the Way

Sharon Witonsky, Virginia Maryland CVM

This study plans to identify potential MHC class I CD8 and MHC class II CD4 protective epitopes for an efficacious vaccine against EPM, due to Sarcocystis neurona.

CONTINUING PROJECTS

Persistence Of Antimicrobial Resistance In Horse Farms

Laura Huber, Auburn University

This project will determine the effect of antimicrobial pressure on multidrug resistant -R. equi persistence in the soil of horse breeding farms in a 5 year period.

Immunomodulation And Exosomes To Enhance Tendon Healing

Sushmitha Durgam, The Ohio State University

This study aims to characterize M1 and M2 macrophage-derived inflammatory factors and assess their impact on superficial digital flexor tendon tenocyte activities while examining the potential of extracellular vesicles/exosomes to enhance tendon healing.

Trained Immunity In Foals

Angela Bordin, Texas A&M University

This project will study how giving oral live bacteria protects foals against infection by Rhodococcus equi, the cause of severe and debilitating pneumonia in foals, for future development of a vaccine.

Does Antibiotic Treatment Change The Microbial Resistome

Paul Morley, Texas A&M University

This research will compare four antibiotic treatments to these protocols that can be selected to treat bacterial infections while also lessening the risks for promoting antibiotic resistance.

Equine Placentitis: New Approaches To An Old Problem

Funded by JOHN WILLIAM POPE FOUNDATION

Pouya Dini, University of California-Davis

The goal of this study is to identify pathogens involved in placentitis and investigate their interaction with the placenta using bioinformatics and in vitro studies to develop better diagnostic and treatment methods.

Motion Of The Proximal Sesamoid Bones On Uneven Footing

Funded by

Susan Stover, University of California-Davis

This study proposes to determine how hoof conformation, shoeing, and uneven racetrack surfaces could contribute to fetlock breakdowns.

Influence Of Vitamin D And Cortisol In R. Equi Infection

Kelsey Hart, University of Georgia

This study will investigate how blood levels of cortisol and vitamin D are related to the development and progression of Rhodococcus equi pneumonia in foals after natural exposure.

Fentanyl Matrix Patches In Horses

Rachel Reed, University of Georgia

The aim is to show that fentanyl administered via patches placed on the skin is well absorbed and represents a promising means of providing clinically relevant continuous pain relief to horses.

Sirolimus For The Control Of Insulin Dysregulation

Andrew Van Eps, University of Pennsylvania

This study will evaluate the drug sirolimus (a potent suppressor of insulin production) for the treatment of insulin dysregulation (the most important cause of laminitis) in horses.

CAREER DEVELOPMENT AWARD WINNERS

Storm Cat Career Development Awards

Shun "Shune" Kimura, *University of Georgia, mentor - Dr. Kelsey A. Hart*

"Immune and Metabolic Targets in Equine Systemic Inflammatory Response Syndrome"

Elaine and Bertram Klein Career Development Award

Bethanie L. Cooper, North Carolina State *University, mentor - Dr. Mary Katherine Sheats*

"MARCKS Protein as a Therapeutic Target in Equine Asthma."