Grayson-Jockey Club Research Foundation
2024 Funded Projects

Grayson-Jockey Club Research Foundation has authorized expenditure of $2,455,164 to fund 11 new projects and thirteen continuing projects at 14 universities as well as three career development awards. The 2024 slate of research brings Grayson's totals since 1940 has provided more than $42.3 million to underwrite more than 437 projects at 48 universities.

NEW PROJECTS

Diet Nonstructural Carbohydrates Alter Ovarian Functions

Elaine Carnevale, Colorado State University

This study will review how feeding nonstructural carbohydrates (grains and sugars) to older mares can alter cell function and metabolism in ovarian follicles, impairing ovulation, oocyte and embryo viability, and fertility.

Equine Tendinopathy: Advanced Imaging and Tenex Efficacy

Brad Nelson, Colorado State University

This study will enhance our knowledge of equine tendon repair by comprehensive clinical imaging, while simultaneously assessing a novel tendon therapy, improving veterinary and industry understanding.

Shining a Light on the Black Box of Early Pregnancy Loss

Amanda de Mestre, Cornell University

This study will determine how common genetic disorders of the early equine embryo occur as well as identify how they present to veterinarians and key factors that increase their risk.

Ketodoxapram as a Treatment For Atrial Fibrillation

Annelies Decloedt, Ghent University

This study is to determine if Ketodoxapram is a promising novel treatment method for horses with atrial fibrillation.

Adiponectin as a Clinical Biomarker For Laminitis Risk

Melody A de Laat, Queensland University of Technology

The aim of this project is to improve early detection of the painful foot disease laminitis, this project will evaluate the value of a promising biomarker for the condition called adiponectin.

Role of C1q in Rhodococcal Infection
Angela Bordin, Texas A&M AgriLife Research
Examining the effects of complement in preventing Rhodococcus equi infection,
a cause of severe pneumonia in foals, for future design of vaccines and
more efficacious hyperimmune plasma products.

Novel Protein Targets for R. equi Serology and Vaccines
Noah Cohen, Texas A&M AgriLife Research
This study will use a novel method for the first systematic evaluation of a large number
of proteins to identify targets for developing a simple blood test and vaccines for
rhodococcal foal pneumonia.

Insulin Dysregulation: Placental Changes and Foal Health
Elaine Norton, University of Arizona
This study investigates the role of equine metabolic syndrome on placental function
and foal health and metabolic outcomes in order to develop effective treatment
and management regimens.

Polyacrylamide for Joint Therapy–Critical Things Unknown
Bruno C. Menarim, University of Kentucky
Examining the osteoarthritis treatment, polyacrylamide hydrogel and how the treatment
characterizes the changes in the inflammatory response within the joints.

Novel Method for Diagnosis of Nocardioform Placentitis
Shavahn Loux, University of Kentucky
This project is designed to create a sensitive and specific diagnostic test for
Nocardioform Placentitis.

Risk Assessment for Proximal Sesamoid Bone Fracture
Peter Muir, University of Wisconsin–Madison
This study will save the lives of racehorses by establishing screening using fetlock
standing computed tomography for diagnosis of horses with a high risk of
serious injury for personalized care.

CONTINUING 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.

Additional Funds Provided by USEA

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.

Sponsored by
St. Elias Stables

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.

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.

Additional Funds Provided by GREAT AMERICAN INSURANCE GROUP

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.

EHV-1 PROJECTS

A Novel DNA Vaccine Platform To Control EHV-1 and EHV-4

Bettina Wagner, Cornell University

The goal of this project is to develop an effective DNA vaccine for equine herpesvirus to protect horses against infection and disease and to prevent EHV outbreaks in the US.

Use Of Nucleic Acid Vaccines To Protect From EHV-1/EHM

Gisela Soboll Hussey, Michigan State University

This proposal is to develop a novel mRNA-based equine herpesvirus (EHV) vaccine that protects horses from EHV-1 myeloencephalopathy and will also likely cross-protect against other equine herpesviruses.

CAREER DEVELOPMENT AWARD WINNERS

Storm Cat Career Development Award: Rebecca Bishop, University of Illinois Urbana-Champaign
Faculty supervisors: Dr. Annette McCoy, and Dr. Pamela Wilkins
"Multiomic Investigation of Peritoneal Fluid in Colic"

Elaine and Bertram Klein Career Development Award: Rebecca Legere, Texas A & M University
Faculty supervisor: Dr. Noah Cohen
"Passive immunization against Rhodococcus equi using MRNA"

Special Career Award Honoring Nancy C. Kelly: Lauren Hughes, University of Minnesota
Faculty supervisor: Dr. Molly McCue
"Genetics of Pituitary Pars Intermedia Dysfunction Risk "