

# Grayson-Jockey Club Research Foundation 2025 Funded Projects



Grayson-Jockey Club Research Foundation has authorized expenditure of \$2,693,312 to fund 16 new projects and ten continuing projects at 17 universities as well as two career development awards. The 2025 slate of research brings Grayson's totals since 1940 has provided more than \$44.4 million to underwrite more than 453 projects at 48 universities.

## NEW PROJECTS

### Can Smartphone-Based Sensors Provide Reliable And Repeatable Lameness Data

*Melissa King, Colorado State University*

Additional Funds  
Provided by



This project will test the reliability and repeatability of body-mounted and smartphone IMU sensors with machine learning and computational algorithms in lame and non-lame horses.

### Chimeric VP7-VP4 MVA-Vectored Equine Rotavirus Vaccines

*Mariano Carossino, Louisiana State University*

In this study novel chimeric vaccinia-vectored vaccines against equine rotavirus A G3 and G14, the leading cause of foal diarrhea, will be designed and evaluated in mice (proof-of-concept) and mares.

### Ex Vivo DFTS Adhesion Model To Evaluate Therapies

*Lauren Schnabel, North Carolina State University*

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This project will advance our understanding and treatment of adhesions that occur in the digital flexor tendon sheath of horses following injury and result in improved prognosis for performance.

### Effects Of SGLT2i On Triamcinolone-Induced Equine ID

*Teresa Burns, The Ohio State University*

This proposal will evaluate the degree to which joint injections with triamcinolone worsen insulin dysregulation in horses with ID and if use of canagliflozin at time of injection mitigates it.

### Finite Element Analysis Of SDFT Microdamage

*Sushmitha Durgam, The Ohio State University*

This proposal will study the multi-scale finite element models (FEM) that predict equine superficial digital flexor tendon (SDFT) mechanical behavior that are essential to delineate microdamage mechanisms preceding clinical injury.

### A Molecular Study On Hemorrhagic Anovulatory Follicles

*Eduardo Gastal, Southern Illinois University Carbondale*

This study investigates gene and hormone levels in HAFs, the leading cause of ovulation failure in mares, using a novel technique (Follicle Wall Biopsy-Trinity) to collect multiple follicular samples.

### Improving a VapA mRNA Vaccine For R. Equi In Foals

*Noah Cohen, Texas A&M University*

The aim of this study is to improve the design of a mRNA vaccine for foals to provide stronger, longer immunity against *Rhodococcus equi*, a leading cause of disease and death in foals worldwide.

## **Organoid Model For Equine Placentitis Research**

*Pouya Dini, University of California-Davis*

This project's aim is to develop an in vitro model of equine placentitis to advance the study of this condition, ultimately improving diagnostics, treatments, and pregnancy outcomes.

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## **Genetics Of Cervical Spine Malformations In The Horse**

*Carrie Finno, University of California-Davis*

This study will identify genetic causes for abnormal formation of the cervical spine in horses.

RESERVED

## **Pharmacokinetics And Efficacy Of Pregabalin In Horses**

*Heather Knych, University of California-Davis*

The study seeks to investigate the behavior of an analgesic agent approved for use in humans for the treatment of persistent pain, as a first step in assessing the utility of this drug for pain control in horses.

## **Characterization of Antibodies against Equine IL-31**

*Rosanna Marsela, University of Florida*

This proposal aims to develop a new treatment for equine insect bite hypersensitivity (IBH) by targeting a key itch mediator, providing an alternative to steroids.

## **Characterization Of Laminitis Using PET**

*Dianne McFarlane, University of Florida*

This study will validate the use of PET scans for identifying disease pathology and progression in insulin associated laminitis in horses.

## **Effects of Inflammatory Cytokines on MSC Homing**

*John Peroni, University of Georgia*

This study will investigate how mesenchymal stem cells traffic to injuries after delivery to the bloodstream to inform the best time to deliver cells relative to initial injury in future animal models.

## **Racehorse Stride Changes And Workload During Training**

*Peta Hitchens, University of Melbourne*

By determining whether the workload and changes in stride characteristics associated with injury during racing are also present during training, this project may identify injuries prior to race-day.

## **Synthetic Proteoglycan Replacement For Osteoarthritis**

*Kyla Ortved, University of Pennsylvania*

This proposal seeks to establish a new class of injectable, cartilage-penetrating compounds made from synthetic polyelectrolytes that replace proteoglycans that are critically lost in osteoarthritis.

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## CONTINUING PROJECTS

### **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.

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### **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.

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### **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.

Funded by



### **Novel Method for Diagnosis of Nocardioform Placentitis**

*Shavahn Loux, Louisiana State University*

This project is designed to create a sensitive and specific diagnostic test for Nocardioform Placentitis.

### **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. more efficacious hyperimmune plasma products.

### **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.

## **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



## **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.

*EHV-1 Projects Funded by*



**FM Area Foundation**

## **CAREER DEVELOPMENT AWARD WINNERS**

### **Storm Cat Career Development Award**

**Erica Secor**

*Cornell University*

*Faculty supervisor:*

Dr. Heidi Reesink

*“Immune cells in Equine Osteoarthritis and Response to Therapeutics”*



### **Elaine and Bertram Klein Career Development Award**

**Shannon Connard**

*North Carolina State University*

*Faculty supervisor:*

Dr. Lauren Schnabei

*“Harnessing Stem Cell Licensing to Enhance Tendon Healing”*

