Funding Research To Build Better Equine Health Since 1940



2021 Annual Report







66

If the research foundations do not generate the research knowledge we don't make the diagnosis, know how to treat or know the prognosis. Research is the fuel that drives equine clinical practice whether you are a racehorse or performance horse owner, trainer or veterinarian.

Grayson-Jockey Club Research Foundation is the leading funder of equine research worldwide. We need your help to help the horses."

"

—Dr. Larry Bramlage

Rood & Riddle Equine Hospital

# **Table of Contents**



Directors & Officers	2
History	3
Year in Review	4
Research Advisory Committee	6
Funded Projects in 2021	8
Focused Research	11
The Cycle of a Grant	12
A. Gary Lavin Chair	13
Donors	14
Membership Levels	17
Tax Status	17
Historical Funding Review	18

## **Directors & Officers**

## **Board of Directors**

Dell Hancock Chairman

Kevin Lavin Vice Chairman



Rick M. Arthur

Perry R. Bass

Larry R. Bramlage

**Charlsie Cantey** 

Louis Cella

Adele B. Dilschneider

Donald R. Dizney

Ben Haggin

**Lucy Young Hamilton** 

Stuart S. Janney III

**Braxton Jones Lynch** 

Leverett S. Miller

John M. B. O'Connor

J. Michael O'Farrell

John C. Oxley

**Daisy Phipps Pulito** 

Hiram C. Polk Jr.

**Geoffrey Russell** 

Virginia Guest Valentine

Vinnie Viola

## **Officers & Staff**

Jamie S. Haydon

President

Resia L. Ayres

Secretary, Operations Manager

Laura Barillaro

Treasurer

Holly E. White

Director of Development

Shannon Kelly

Development Manager

Johnny Mac Smith, DVM

Veterinary Consultant

## **History**

The original Grayson Foundation was formed in 1940 and named in honor of Admiral Cary Grayson who was the personal physician to President Woodrow Wilson and the chairman of the American Red Cross, as well as a horseman himself. The foundation's first grant was made as a \$1,000 donation to the University of Pennsylvania School of Veterinary Medicine to continue its work on periodic ophthalmia.

From the beginning, the aim was to support research at existing institutions through funding rather than carry out the research itself. William Woodward Sr, chairman of The Jockey Club, stated that the formation of the foundation is "the result of the conviction of a large number of persons devoted to the raising and breeding of horses that there is a positive need for further research in veterinary medicine and in the breeding, raising, and handling of horses." In 1940, the horse and mule were still deeply involved in military defense, and the scope of the foundation's efforts went far beyond the Thoroughbred, to all breeds, although the impetus came from leaders in Thoroughbred racing. Over nearly a half century, the Grayson Foundation operated as a separate entity, fulfilling the purposes of its founders despite constant limitations on available funding.

The Jockey Club created a research foundation in 1984, and five years later this was merged with the Grayson Foundation, to be known since then as the Grayson-Jockey Club Research Foundation, Inc. (GJCRF, the Foundation). The merger has been fruitful in the funding of scientific advancements and the fundamental health of horses and in recent years it has been able to disperse more than \$1 million annually in grants.

Over the years there have been several major donors who were instrumental in enhancing the success of the foundation in fulfilling its mission. In 1991, the Robert J. Kleberg and Helen C. Kleberg Foundation donated \$2 million to Grayson-Jockey Club Research Foundation. Mr. Kleberg had studied genetics and as head of King Ranch, developed the Santa Gertrudis breed of cattle. He also was instrumental in development of the American Quarter Horse and the list of many excellent Thoroughbreds he bred includes 1946 Triple Crown winner Assault.

In 1993, the foundation received another major gift when Paul Mellon donated the \$1 million bonus that his Kentucky Derby winner Sea Hero won in the Chrysler Triple Crown Challenge. Mr. Mellon requested that double that amount be raised in response, and this endowment drive was successfully concluded during the 1995/96 fiscal year. The \$1 million was double-matched, as members of The Jockey Club and other contributors donated more than \$2 million. Mellon passed away in 1999, leaving \$2.5 million to the foundation's endowment. In 2000, the foundation created the Rokeby Circle as the designation for those who contribute \$10,000 or more in a given year. Rokeby is the name of Mr. Mellon's beloved Virginia estate.

In 2004, the Oxley Challenge was initiated. Under the direction of foundation board member John C. Oxley, his family's Oxley foundation pledged \$1 million over four years contingent on the foundation's raising a like amount from new income sources. The Foundation was successful in that match, and so received \$250,000 from the Oxley Foundation in each of four years.

In collaboration with The Jockey Club, the foundation coordinated and underwrote the first Welfare and Safety of the Racehorse Summit (summit) in 2006. That meeting, and a second gathering of industry experts in 2008, generated a number of recommendations that the industry has embraced to a large extent. The Jockey Club's Thoroughbred Safety Committee endorsed recommendations of the summit, and the National Thoroughbred Racing Association's Safety and Integrity Alliance program is based in part on those recommendations. Also, the Equine Injury Database, which is designed to provide the industry much needed epidemiological analysis of trends, aimed at improving injury rates nationally, evolved from the summit. All additional summits have been held at Keeneland, in 2010, 2012, 2014, 2015, 2016 and 2018. In 2020 the summit was held as a webinar.

Grayson reached a milestone for funding more than \$1 million in research for the first time in 2007, and 2021 is the seventh-straight year that more than \$1 million has been approved.

### **RESEARCH HIGHLIGHTS SINCE 1940**

First Equine Influenza Vaccine
Virus Abortion Vaccine
Equine Infectious Anemia Study
Development Of The Field Of Biomechanics
Defined The Cause Of Colitis X
Control Of The Shaker Foal Syndrome
Defined Nature Of Wobbler Syndrome
Equine Viral Arteritis Vaccine
Study Of Risk Of Injury From Front Toe Grabs
Equine Protozoal Myeloencephalitis Study
Gene Therapy For Equine Arthritis
Cause And Diagnosis Of Placentitis In Mares
New Vaccination Approaches Against R. Equi Pneumonia

Muscular Factors Influencing Airway Size In Exercising
Dietary Implications For Colon Impaction
Equine Viral Arteritis Vaccine
New Protocols For Alleviating Buck Shins
Study Of Bacteria Associated With MRLS
Studies Of Immunity To EPM
Developing "Physiological Trim" Promoting Healthy Hooves
Laminitis Study Leading To Cryrotherapy Treatment Protocols
Initiated Primary Work On Piroplasmosis
EIPH Study
PET Scan Project
Messenger RNA Molecule to Treat Rhodococcus equi
Bisphosphonate Research

## Year in Review

Since 1940, Grayson-Jockey Club Research Foundation has been a leading charitable organization that any horse lover can join. We exist to help all horses by funding excellent and significant veterinary research at universities throughout North America and beyond and are committed to the advancement of horses of all breeds.

### Research

Continuing its success as a leading international source of funding for equine research, in 2021 Grayson-Jockey Club Research Foundation funded a total of \$1,648,386 to fund 13 new projects at 12 universities, 12 continuing projects, and two career development awards worth \$20,000 each. This marks the seventh straight year that more than

\$1 million has been approved.

The foundation received several video updates posted to the website from the principal investigators describing the purpose of their current projects.



Asthma, Performance and Omega-3s in Racing Thoroughbreds Dr. Laurent Couetil, Purdue University

Hyperthermia and Acidosis in Exertional Muscle Damage Dr. Michael Davis, Oklahoma State University

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

Diagnosis Of Incipient Condylar Stress Fracture Dr. Peter Muir, University of Wisconsin—Madison

**Equine Recurrent Uveitis, or Moon Blindness** *Dr. Joseph Larkin, University of Florida* 

Environmental Origins of Equine Antimicrobial Resistance Dr. Brandy Burgess, Dr. Erin Beasley, and Dr. Emily Herring, University of Georgia

Understanding and Preventing Supporting Limb Laminitis Dr. Andrew Van Eps, University of Pennsylvania

## **Membership and Development**

The Corporate Partners program continued in 2021 with 10 partners sponsoring or co-sponsoring \$416,000 on research projects. Our corporate sponsors in 2021 included Churchill Downs, Great American Insurance, the John William Pope Foundation, the Keeneland Foundation, Oak Tree Racing Association, Thoroughbred Charities of America, United States Eventing Association, USA Equestrian Trust, Inc., the Viola Foundation, and WinStar Farm.

Through the Horsemen's Bookkeeper at any track, jockeys can donate \$1 from each mount to the foundation. More than \$18,000 in support came from jockeys who participated from these tracks: Del Mar Thoroughbred Club, Emerald Downs, Gulfstream Park, Keeneland, Monmouth Park, Oaklawn, Prairie Meadows, Remington Park, Ruidoso Downs, and Santa Anita Park.

The Tribute program received donations from 48 tributes totaling more than \$3,200 in contributions. The Equine division of Sterling Thompson Insurance has partnered with the foundation and recognizes their clients who have lost a horse with a donation to the program.

## **Sponsorship and Education**

Grayson was able to participate in many onsite events and horse shows this season including: The Land Rover Kentucky Three-Day Event, The United States Dressage Festival of Champions, The Premier Sires Show, The Retired Racehorse Project, the Thoroughbred Incentive Program Championships, The Junior League Charity Show, The United States Eventing Association American Eventing Championships, The National Horse Show, The AQHA Kentucky Fall Classic, and more.

To increase youth outreach and awareness, campaigns were continued through sponsorship, and educational events supported by the foundation, including the United States Pony Club Research Fair, United States Pony Club Championships, USEF Pony Finals, American Quarter Horse Association Small Fry Classes at the All-American Quarter Horse Congress, National Horse Show Barn Night, and Palomino Horse Association programs.



The foundation also found ways to promote our message by continuing our VET Chat series. The hour-long webinars this year featured the following:

Dr. Aileen Rowland, Texas A & M University
The 2021 Elaine & Bertram Klein Development Award Career
Development Award winner discussed her project.

Dr. Noah Cohen, Texas A & M University and Dr. Jeroen Pollet, Baylor University of Medicine Discussion of how to treat Rhodococcus equi with inhalation therapy.

*Dr. Arthur Frampton, University of North Carolina Wilmington* Reviewed treatment protocol and advancements within the equine herpesvirus.

## **Marketing and Awareness**



To further our mission and expand awareness of the foundation, Grayson engaged our ambassadors who continue to assist in awareness campaigns by assisting with social media promotion. In 2021, Grayson secured world champion jumper rider Alex Matz and international Olympic

eventing rider Daniela Moguel as ambassadors.

Jockey and veterinarian Ferrin Peterson has provided a most valuable asset to the program. Staff also branched out and added two amateur riders that have strong social media followings and are influencers not only in the horse racing industry, but are also competitive in the show arenas on second-career Thoroughbreds: Megan Devine and Bri Mott. The Professional Circle continues thanks to a generous donation by Mrs. Jacquelyn Mars.

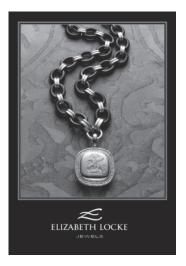
The Research Spotlight was produced three times in 2021, with the spring newsletter published in the April edition of BloodHorse magazine. Grayson also continued to contribute articles to the magazine's Health Zone. The foundation's online newsletter, Equine Research News, published the 13th annual Stallion Durability and Soundness Statistics.

Grayson also produced the Equine Handbook, which is a printed, pocket-size handbook aimed at introducing and explaining common issues faced by horses. It has been of benefit to many of our partner associations' youth and local hunt clubs.

Grayson also engaged in a relationship with The PlaidHorse magazine this year. We were a featured charity in the Health Care issue of their magazine with an article titled "The Grayson Jockey Club Research Foundation: Benefiting the Health of ALL Horses." We also sponsored a series of 12 of their podcasts called The Plaidcast, which reach many participants in the sport horse community.

Other events included a series of handicapping events in 2021 to raise donations and awareness. The "Grayson Grass Challenge," sponsored by Horseshoe Indianapolis was a five-week handicapping contest whereby participants in the challenge submitted selections on two specified turf races each week at Horseshoe Indianapolis. Each contestant was given a \$500 bankroll provided by Horseshoe Indianapolis that was used for win, place, show, exacta, trifecta, and superfecta wagers. At the end of the five weeks, all remaining bankroll plus winnings from the contestants went to Grayson, totaling more than \$5,000. Likewise, 1/ST Bet repeated their Charity Handicapping Challenge, generating a \$4,000 donation to the foundation as well as raising awareness of Grayson's mission.

The Elizabeth Locke jewelry trunk show was held at Keeneland, with a percentage of the proceeds donated to Grayson. The sale was held during the Keeneland September Yearling Sale. Additionally, Amy Lavin, wife of Grayson board member Kevin Lavin, hosted a jewelry show at their residence in Louisville that helped Elizabeth Locke provide a donation from proceeds of more than \$61,000 for the foundation.



## **Research Advisory Committee**



The Research Advisory Committee evaluates research proposals and advises the Foundation's board of directors on the basis of the needs of the industry and scientific quality of each project. For the 2021 grants allocation, the committee was composed of the following persons who served the Foundation without compensation.

#### Chairman

### Stephen Reed, DACVIM

Internal Medicine & Shareholder, Rood & Riddle Equine Hospital;
Emeritus Professor, The Ohio State University and
Adjunct Professor, Gluck Center, University of Kentucky
Rood & Riddle Equine Hospital • Lexington, KY
Graduate - The Ohio State University

### Members of the Board of Directors

#### Rick Arthur, DVM

Equine Medical Director
California Horse Racing Board • Sierra Madre, CA
Graduate - University of California, Davis

#### Larry Bramlage, DVM, MS, DACVS

Surgeon and Shareholder Rood & Riddle Equine Hospital • Lexington, KY Graduate - The Ohio State University

### Consultant

#### Johnny Mac Smith, DVM

Founding Partner
Peterson & Smith Equine Hospital • Ocala, FL
Graduate - Auburn University

#### **Committee Members**

#### Emma Adam, DVM, PhD, DACVIM, DACVS

Assistant Professor
University of Kentucky • Lexington, KY
Graduate - Royal Veterinary College, University of London

#### Scott Bailey, DVM, DACT

Associate Professor, Theriogenology

North Carolina State University • Raleigh, NC

Graduate - Kansas State University

#### Jeff Blea, DVM

Racetrack Practitioner

Von Bluecher, Blea, Hunkin Inc. • Sierra Madre, CA

Graduate - Colorado State University

### Daryl Bonder, DVM

Private Practice Equine Surgery and Sports Medicine
Toronto Equine Hospital • Toronto, ON Canada
Graduate - Ontario Veterinary College, University of Guelph

#### Etta Bradecamp, DVM, Dipl.ACT, Dipl, ABVP

Theriogenology and Equine Practice
Rood & Riddle Equine Hospital • Lexington, KY
Graduate - Auburn University

### Claire Card, DVM, PhD (Physiology), Dipl.ACT

Professor
University of Saskatchewan • Saskatoon, SK
Graduate - New York State CVM

### Ryan Carpenter, DVM, DACVS

Racetrack Practitioner
Private Practice • Sierra Madre, CA
Graduate - University of California, Davis

#### Jonathan Cheetham, VetMB, PhD, DACVS

Associate Professor
Cornell University • Ithaca, NY
Cornell University

#### Carol Clark, DVM, Dipl, ACVIM

Private Practice
Peterson & Smith Equine Hospital • Ocala, FL
Graduate - Texas A & M

#### Michele Coleman, DVM, ACVIM, PhD

Epidemiology, Infectious Disease, Clinical and Research Texas A & M • College Station, TX Graduate - University of Georgia

#### Thomas Divers, DVM, DCVIM, DACVECC

Professor

Cornell University • Ithaca, NY

Graduate - University of Georgia

### Michele Frazer, DVM, Dip. ACVIM, ACVEMC

Private Practice Hagyard Equine Medical Institute • Lexington, KY Graduate - Auburn University

#### Katherine Garrett, DVM, Dipl. ACVS

Private Practice
Rood & Riddle Equine Hospital • Lexington, KY
Graduate - Cornell University

### Liara Gonzalez, DVM, PhD, DACVS

Assistant Professor

North Carolina State University • Raleigh, NC

Graduate - Cornell University

#### Kelsey Hart, DVM, PhD, DACVIM (LAIM)

Associate Professor, Large Animal Internal Medicine
University of Georgia • Athens, GA
Graduate - Cornell University

#### Jorge Hernandez, DVM, MPVM, PhD

Epidemiologist- Disease Diagnostics University of Florida • Gainesville, FL Graduate - University of Baja California

#### Jennifer Janes, DVM, PhD, Dipl. ACVP

Assistant Professor of Anatomic Pathology
University of Kentucky • Lexington, KY
Graduate - University of Tennessee

### Christopher Kawcak, DVM, PhD, DACVS

Professor of Orthopedics Colorado State University • Fort Collins, CO Graduate - Colorado State University

#### Heather Kynch, DVM, PhD, DACVCP

Associate Professor of Clinical Veterinary Pharmacology University of California-Davis • Davis, CA Graduate - University of California-Davis

#### Sara Langsam, VMD

Private Practice
Teigland, Franklin, and Brokken • Elmont, NY
Graduate - University of Pennsylvania

### Mathilde Leclère, DVM, PhD, DACVIM (LAIM)

Assistant Professor
University of Montreal • Montreal, QU Canada
Graduate - University of Montreal

#### Kristina Lu, VMD, DACT

Private Practice
Hagyard Equine Medical Institute • Lexington, KY
Graduate - University of Pennsylvania

#### James MacLeod, VMD, PhD

Professor, John S. & Elizabeth A. Knight Chair, Gluck Equine Research Center University of Kentucky • Lexington, KY Graduate - University of Pennsylvania

#### Heidi Reesink, VMD, ACVS, PhD

Comparative Biomedical Sciences Researcher Former Storm Cat Award Recipient Cornell University • Ithaca, NY Graduate - University of Pennsylvania

### Lauren Schnabel, DVM, PhD, Dipl. ACVS, Dip. ACVSMR

Assistant Professor North Carolina State University • Raleigh, NC Graduate - Cornell University

#### Jennifer Sones, DVM, PhD, DACT

Assistant Professor Louisiana State University • Baton Rouge, LA Graduate - Louisiana State University

### Brett Sponseller, DVM, PhD, Dipl. ACVIM

Associate Professor Iowa State University • Ames, IA Graduate - Cornell University

### Ramiro Toribio, DVM, MS, PhD, ACVIM

Clinician/Researcher, Endocrinology and Internal Medicine
The Ohio State University • Columbus, OH
Graduate - Universidad Nacional de Rio Cuarto (Honors)

### Andrew Van Eps, BVSc, PhD

Associate Professor
University of Pennsylvania • Kennett Square, PA
Graduate - The University of Queensland

## **Funded Projects in 2021**

In 2021 the foundation funded \$1,648,386, the most 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.

## **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 exerciseassociated 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

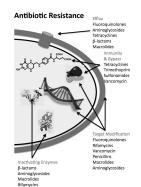


This project seeks to design a topical eye drop, using a natural protein, which helps to prevent pain and blindness associated with equine recurrent uveitis.

## **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

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



# Predicting Exercising Arrhythmias With Resting ECGs\*\* 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.

\*\* These projects have been funded in whole or in part by our Corporate Sponsors

# 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.

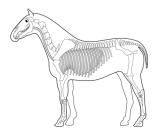
### **SECOND YEAR PROJECTS IN 2021**

# 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.

## **Funded Projects in 2021**

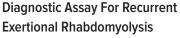
## Bisphosphonate Effects on Biomarkers and Bone Metabolism\*\*

### Heather Knych, University of California- Davis

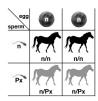
This study will allow for development of sensitive and alternate methods for detection of bisphosphonates.

## 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.



### 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).





The Storm Cat Career Development Award, inaugurated in 2006, is a \$20,000 grant designed as an early boost to an individual considering a career in equine research. It has been underwritten annually by Mrs. Lucy Young Hamilton, a GJCRF board member whose family stood the champion stallion Storm Cat at Overbrook Farm. The 2021 winner was:

## Callum G. Donnelly, *University of California-Davis*Proteomic Investigation Of Equine Spinal Ataxia

Faculty Supervisor: Dr. Carrie Finno, Associate Professor of Veterinary Genetics

The project is expected to identify novel protein biomarkers that differentiate normal horses from those with spinal ataxia, with high sensitivity and specificity. Further, we expect to demonstrate that the proteome will differ depending on the prevailing spinal ataxia etiology, thereby allowing for the discovery of biomarkers unique to each disease. The impact of this work will be profound, enabling the rapid screening of proteins that can readily be transitioned into diagnostic tests. Ultimately, it will propel equine neurologic disease diagnosis into the precision medicine age.

The Elaine & Bertram Klein Development Award is a competitive program intended to promote development of promising investigators by providing a salary supplement of \$20,000 for one year. This program is restricted to one award per year and is named in honor of Elaine & Bertram Klein. The grant is funded by the Klein Family Foundation. The 2021 winner was:

# Aileen Rowland, *Texas A & M University*Efficacy Of Xenogen-Free MSCs For Osteoarthritis

Faculty Supervisor: Dr. Ashlee Watts, Associate Professor

The objective of this study is to use a randomized clinical trial, for the treatment of naturally occurring osteoarthritis, to test the effectiveness of MSCs prepared with autologous xenogen-free culture media (XFREEMSCs) against industry-standard, FBS supplemented MSCs (FBS-MSCs) as the control treatment. The expected outcome of this clinical trial will have extreme value to the equine sports medicine community, and will also be directly applicable to human regenerative medicine.

<sup>\*\*</sup> These projects have been funded in whole or in part by our Corporate Sponsors

## **Focused Research**

The 2021 slate of research brings the Foundation's totals since 1983 to more than \$30.6 million to underwrite 397 projects at 45 universities.

Auburn University
Baylor University
Case Western Reserve
Colorado State University
Cornell University
Harvard University
lowa State University
Kansas State University
Louisiana State University
Ludwig Maximilians University/Germany
Massachusetts Institute of Technology
Michigan State University
North Carolina State University

The Ohio State University

Oklahoma State University
Oregon State University
Purdue University
Southern Illinois University
Temple University
Texas A&M University
Tufts University
University of California/Davis
University of Bristol/UK
University of Edinburgh/UK
University of Florida
University of Georgia
University of Glasgow/UK
University of Guelph/Canada
University of Illinois

University of Kentucky
University of Maryland
University of Melbourne/Australia
University of Minnesota
University of Mississippi
University of Missouri
University of N.Carolina-Wilmington
University of Oklahoma
University of Pennsylvania
University of Queensland/Australia
University of Saskatchewan/Canada
University of Tennessee
University of Wisconsin
Virginia Tech University
Washington State University

### 11 Projects in Canada





### 374 Projects in the United States

1 Alabama 52 California Minnesota 24 Colorado 3 Mississippi 18 Florida 3 Missouri 16 Georgia 24 New York 6 Illinois North Carolina 12 4 Indiana 20 Ohio 2 Iowa 3 Oklahoma 2 Kansas Oregon 50 Kentucky 26 Pennsylvania 15 Louisiana Tennessee 1 Maryland Massachusetts 19 Texas 5 Virginia Michigan Washington 17 11 Wisconsin

3 Projects in United Kingdom

1 Project in Germany





8 Projects in Australia

Research results are published in peer-reviewed journals.

All funded projects are scheduled for additional publications, including those still with ongoing research, with 230 eligible projects for publication and 334 papers produced.

# The Cycle of a Grant

Drs. Gary Lavin and Larry Bramlage reorganized the foundation's process of evaluating grants in 1999. Instead of having separate committees of academicians and practicing veterinarians, a single Research Advisory Committee (RAC) was created. The RAC includes 32 individuals representing various research specialties and veterinary practices from across North America. The RAC convenes in January to evaluate all proposals submitted by the research community, spending three days poring over the projects, rating them and recommending the best to the board of directors who determines how many projects can be funded in that year.

## **Application**

Since 1999 the foundation has funded 397 grants, averaging more than \$1.33 million annually in awards for the last five years. For 2021, the foundation received 51 applications from 32 different institutions across seven countries.

All applicants must comply with the regulations pertaining to animal use in the proposed study, which is overseen by the INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE (IACUC). The IACUC must review and



approve the research project prior to funding.

## **RAC Scoring**

The RAC is a mix of 32 equine scientists and practitioners capable of judging the merit of the most sophisticated proposals with clinical specialists from university clinics and private practices. The group includes representation of the major clinical disciplines such as surgery, internal medicine, and reproduction, along with the academic disciplines of pathology, immunology, microbiology, etc., with geographic diversity to reflect the importance of various local problems.

There is a multi-layered review process for each grant starting with the identification of experts on the subject matter and potential conflicts of interests within the RAC. Each grant is initially assigned four reviewers. The reviewers individually score the grant based on:

- (a) scientific approach
- (b) overall impression
- (c) impact
- (d) feasibility
- (e) budget

Each grant is scored numerically and given a written review. The RAC members assess and read all applications prior to the review meeting.

## **Final Review**

During the RAC meeting, the essential activities are to discuss each proposal with the entire committee and to rank the order for all acceptable proposals. The group endeavors to reconcile mean scores between specialties to ensure that one discipline does not score significantly higher or lower than another discipline. Once grants are ranked numerically to ensure that each grant is ranked correctly for its strengths and weaknesses, each grant is then compared to its neighboring

grant. If a grant is moved in the ranking it must be reassessed at each placing, compared toits higher and lower neighbor, to ensure that the placing is correct within the consensus of the group.



## **Funding**

The recommendations of the RAC are presented to the board of directors for final review, with announcement of awards typically near the first week of March. The funding cycle commences April 1, with three equal payments made through the year.

A timeline is incorporated into the application document so that all investigators are aware of the schedule. The applicant in the original application predicts a schedule of progress. A progress statement is required on November 1 of the original funding year so that any problems with the investigation are identified early and adjustments can be made. Satisfactory progress must be documented in order to continue receiving funding.

Second-year funding must be approved by the foundation board following recommendations from the foundation office.

# The "Dr. A. Gary Lavin Chair"

In 2021, the Foundation announced the creation of an endowment to support a full-time position, the "A. Gary Lavin Chair," in recognition of Dr. Gary Lavin's contributions to the foundation and equine health. Dr. Lavin passed away at the age of 83 in February, 2021.

Dr. Lavin made innumerable contributions to Grayson over the last 40 years, including time spent as a valued member of both our board of directors and research advisory committee (RAC). He was instrumental in the reorganization of our research approval process, which resulted in the development of the research advisory committee we use today. Dr. Lavin believed that the veterinary community should be involved in Grayson's work, and we are proud to honor him with this position, which will facilitate a veterinary relationship with the foundation that he believed was so important.

Responsibilities of the A. Gary Lavin Chair will include RAC member recruitment, orientation, and management; management of grant applications, reviews, deadlines, and conflict eliminations; fundraising; and publicity.

## We are pleased to recognize the following donors who have contributed to this endowment in 2021:

Helen C. Alexander Anonymous John E. Anthony Laura Barillaro Perry Bass,

The Perry R. Bass II Foundation

Ramona & Lee Bass John G. Beam John & Kate Beam W. B. R. Beasley Nancy I. Bishop

Elizabeth Bleakley

Biszantz Charitable Foundation

Cornelia W. Bonnie Mr. & Mrs. Edward L. Bowen Morton & Anne Boyd Dr. Larry R. Bramlage Dorothy R. Brotherton Eleanor & Marshall Brown

Laura Lee Brown Mike & Meg Buckley

Nancy Bush Charlsie Cantey &

William Douglas Davidson

CFP Thoroughbreds
Stephanie Church
Beatrice Clay
Lucy Hart Close
Bard & Rod Cooper
Mr & Mrs. Charles Corley

E. Neal Cory II

Patrick & Lynne Costello Bill & Mary Lou Cravens

Margaret Cregor

Robert & Sally Cregor Jr. John & Elaine Crockett Gordon & Lori Dabney

Linda Dabney

Paul & Stacey Darr Stuart Davidson

William & Amy Dishman III Rosemary Drybrough Bob & Laura Duane Rankin Dumesnil

Mr. & Mrs. C. S. Duncker Robert S. Evans Priscilla Fallon Edward Garber

Nicola C. Graddy

Great American Insurance

Amy Gregory

Richard & Betty Griffin Karen Gunnison Ben & Mary Wis Haggin

Nina Hahn

Mr. & Mrs. Arthur Hancock III

Dell Hancock Lee & Jack Hancock Mr. & Mrs. Seth W. Hancock Heyward & Briggs Harrison Terry & Bill Harrison Jamie Haydon

Bill & Martha Hemminger

Hermitage
Dr. William T. Hill
Barbara & Albert Horton
David Houghlin

David Houghlin
Donna Hubrich
Jule & Bryan Hudson
Cheryl & Larry Hughett
Dr. Bruce & Leslie Isaacs
J. Mark Jackson M.D.
Dr. Ronald C. Jensen
The Jockey Club
Beth & Brad Jones
Brereton & Elizabeth Jones

J. Douglas Kannapell Keeneland Association

Nancy C. Kelly

Klein Family Foundation Inc Dinwiddie Lampton III Nancy Lampton William Landes

Mike & Penny Lauer Allan G. Lavin Jr. Betsy Lavin

Kevin & Amy Lavin, FLS, LLC

R. Gwyn Lavin Edwin Levis Anne Lewis Bruce Lunsford William G. Lussky Jr. Ryan Mahan Dr. Merritt W. Marrs Jr.

Robert & Elizabeth Martin Thomas & Liz Maybank Dr. Wayne McIlwraith Mr. & Mrs. Kiaran McLaughlin

Sheila Mehaffy Judy P. Miller Anne H. Moore

Mt. Brilliant Family Foundation

Pat & Becky Murphy Austin & Janie Musselman

Rick Nichols

Mr. & Mrs. Nick Nicholson

W. Allen Northcutt

Oak Tree Racing Association
Oaklawn Jockey Club

J. Michael O'Farrell Jr., Ocala Stud

Pin Oak Stud LLC Dr. Hiram C. Polk Jr. & Dr. Susan Galandiuk R. Alex Rankin Ken Reed

Ken Reed

Mike & Alice Reid Stephen R. Reily

Barton Reutlinger

Kenneth & Marianne Reutlinger Jr.

Sarah & Keith Robbins Barbara & Lee Robinson

Embry Rucker Noel Rush II

Roger & Joyce Schipke Dr. Mary Scollay Ward

A. C. Scott Shelby Productions Dr. Johnny Mac Smith David & Judy Snowden Llewellyn P. Spears III

Powell Spears Hans J. Stahl Franklin F. Starks III Mr. & Mrs. Jospeh Stevens

David L. Switzer Angela & Daniel Tafel Ida May & James Tafel Taylor Made Charitable Fund

**Becky Thomas** 

Mr & Mrs. John Thomas William W. Thomason Jr. Dr. Thomas S. Trotter V.M.D.

Virginia G. Valentine

Hugh Walker Louise Wall

Thomas & Betsy Wall Charlotte C. Weber Patty & Bill West

William Stamps Farish Fund

Maida Wood Gary L. Zwerling

## Donors

Donors whose contributions or portions thereof are designated as dues for membership shall have the privilege of participating in the annual election of directors. At the end of 2021, membership stood at 228 compared to 265 at the end of 2020. An "\*" notes membership beside the name. Names and addresses of members are maintained in the foundation's office at 821 Corporate Drive, Lexington, Kentucky 40503.



## Special Friends of Grayson

Recognizing donors whose generosity has created a profound impact on the Foundation over the years and an extraordinary benefit to the horse.

Fargo Moorhead Area Foundation The Robert J. Kleberg, Jr. & Helen C. Kleberg Foundation Paul Mellon

The Oxley Foundation William Stamps Farish Fund



Churchill Downs\* Great American Insurance\* John William Pope Foundation\* Keeneland Foundation\*

Oak Tree Racing Association\* Thoroughbred Charities of America United States Eventing Association\* USA Equestrian Trust, Inc\*

The Viola Foundation\* WinStar Farm\*



Honoring the generosity of the late Paul Mellon, GJCRF designates inclusion in the Rokeby Circle for those donors at the \$10,000-plus level within the year. The honor is named for Rokeby Farm, Mr. Mellon's estate in Virginia.

Joseph Allen, Allen Foundation\* Barbara Banke, Stonestreet Farm\* Perry Bass,

The Perry R. Bass II Foundation\* Ramona & Lee Bass\* The Brunetti Foundation\* Alexander G. Campbell Jr.\* Isabelle H. de Tomaso\* Adele B. Dilschneider\* Donald R. & Irene Dizney\* Elizabeth Locke Jewels\* Robert S. Fvans\* Hugh A. Fitzsimons Jr.\*

Mr. & Mrs. Seth W. Hancock\* Jockey Check-off Donations\* Mr & Mrs. Summerfield K. Johnston Jr., The Tucker Foundation\* The Kingsbury Foundation\* Klein Family Foundation Inc\* Beau & Gail Lane\* Dr. & Mrs. A. Gary Lavin\* Kevin & Amy Lavin, FLS, LLC\* Jacqueline B. Mars\* Robert E. Meyerhoff\* Miller Charitable Lead Annuity Trust\* Raymond & Elizabeth Montgomery\*

Mr. & Mrs. John M.B. O'Connor\* Mr. & Mrs. Paul F. Oreffice\*

Audrey W. Otto\* Mr. & Mrs. John C. Oxley, Mary K. Oxley Foundation\* Dr. Hiram C. Polk Jr. & Dr. Susan Galandiuk\* Carl Pollard\* Amanda Pope, John William Pope Foundation\* Mr. & Mrs. Barry Schwartz\* Virginia Guest Valentine Charlotte C. Weber\* William M. Backer Foundation\*

The William T. Young Foundation Inc.\* Woodland Foundation\*

## Platinum Circle

Lucy Young Hamilton Dell Hancock\*

Jaime Roth, LNJ Foxwood Stables\*

## Gold Circle

Josephine E. Abercrombie, Pin Oak Charitable Fund\* Helen C. Alexander\* Mr. & Mrs. Samuel Boyte\* Peter Brant\*

The Brian Ratner Foundation\* Denali Stud. Inc.\* Frankel Family Charitable Foundation\* Richard and Sue Ann Masson\* Anne P. McDowell\*

Newstead Foundation\* Daisy Phipps Pulito\* Samantha Siegel\* Mr. & Mrs. Michael Simpson\*

## Silver Circle

John & Jerry Amerman\* Thomas W. Bachman\* Darrell & Lendy Brown\*

Dean Dorton\*

Dobson Family Foundation\* Mr. & Mrs. C. S. Duncker\* Eddie Woods Stables\* Dr. Claire Latimer Embertson & Dr. Rolf M. Embertson\*

Equine Medical Associates, PSC\*

Carl Hamilton\*

Hinkle Family Foundation\*
Ambassador Earle I. Mack\*

Roxy Nickels\*

Pavla Nygaard\*

The Quaker City Foundation\*

Geoffrey G. Russell\*

Secretariat Foundation Inc.\*

Nancy C. Shuford\*

### **Patron**

Dr. Rick M. Arthur\* Madeline Auerbach\* Mark E. Bivins\*

Frank Brothers\*

Michael K. & Joan K. Burke\*

Bill & Susan Casner\*

Dr. & Mrs. Mark W. Cheney\*

Kyle W. Cooper\* Irving Cowan\* Sandy Z. DuBose\* Merritt P. Dyke\* Linda C. Elliott\* Peter Fluor,

Speedway Stables\*

Mr. & Mrs. Joe T. Ford\* Helen K. Groves\*

Susan T. Harris\* Jamie Haydon\*

Hidden Brook Farm\* Clement Hirsch Jr.\*

Steven & Diana Holland\* G. Watts Humphrey Jr.\*

Orrin Ingram, The Community

Foundation of Middle Tennessee\* Stuart S. Janney III\* Dr. Ronald C. Jensen\*

William M. Lear Jr.\*

J. Michael O'Farrell Jr., Ocala Stud\* Patricia & Ed Pavlish\*

The Perkins Charitable Foundation\*

Dr. Frederick B. Peterson\* Dr. Stephen M. Reed\* J. Kirk & Judy Robison\*

Mr. & Mrs. Alexander C. Scovil\* George Strawbridge Jr.\* William & Shanna Sullivan\*

Jack Swain\*

Temple Gwathmey Steeplechase Foundation, Inc.\*

Robert Tufts\* Arnold B. Zetcher\*

## Supporting

John H. Barr\*

Christiana Stables LLC\* Delehanty Stock Farm\*

Susan Earl\*

Dr. William D. Fishback Jr.\*

George Grayson\*
Nina Hahn\*
Walker Hancock\*
Charles Hayward\*
Hope 4 All\*
Jane E. Howard\*

Jody & Michelle Huckabay\*

Gretchen Jackson\* Ann L. Jones\*

Hope H. Jones\*

Braxton J. Lynch\* Robert E. Maclin III\*

Dr. Margo MacPherson\* Mr. & Mrs. Michael R. Matz\*

Chris McCarron\* Tim McMurry\*

Joe Browne Nicholson\*

Mr. & Mrs. Nick Nicholson\* Margaret Palomino\* Tom and Missy Robbins\*

Walt Robertson\*

Mr. & Mrs. Peter G. Schiff\*

Joe Seitz\*

Beverly R. Steinman\*
William W. Thomason Jr.\*
William B. Thompson Jr.\*
Mr. & Mrs. D. G. Van Clief Jr.\*

## Sustaining

Thomas Albertrani\*

Mr. & Mrs. Clifford Barry\*

Dr. Chet Blackey DVM\* Edward L. Bowen\*

Donna Brothers\*

Darrell & Lendy Brown\*
Cambus-Kenneth Farm, LLC\*

John Crowe\*
Neil Drysdale\*
Robert Fabbricatore\*
Mr. & Mrs. James E. Friess\*

Curtis C. Green\* Sam Harte\* William L. Hedrick\* Dr. David T. Lamb\*

 ${\sf Tom\;Lazenby}^*$ 

Charles Martyn III\*

John McCormack\*
Morgan's Ford Farm LLC\*

Deborah O'Kain\*

Louis Ottrando\* Dr. & Mrs. Scott E. Palmer\*

Catherine J. Parke\*

Mr. & Mrs. William Parsons Jr.\* James & Priscilla Potter\*

Bitsy Ruch\* Cooper Sawyer\* Edgar Scott Jr.\* Mark & Susan Solow\*

John Sondereker\*

Hans J. Stahl\*

John Stuart\*

Julie A. Tackett\*

Bruce Tallisman\*

Michael K. Tivnan\*

Donna Ward\* Sally Warner\*

Sally Wallier

Cheryl A. Weeks\* Ian Wilkes\*

Dr. Anne Wooldridge\*

## Donors

### Annual

Mary Kay Adams\* Elke Ahlmann\* Rollin Baugh\*

William Bishop & Allison Bishop\* Gary Biszantz, Cobra Farm\*

Thomas Caminiti\*
Marsha Dammerman\*
Karen Dardzinski\*
Joseph Di Rienzi\*
Robert Donati\*
William duPont III\*
Monica & Jeff Egger\*
Marette Farrell\*
Dr. Ben Franklin Jr.\*

Full of Run Racing LLC\*
Jim & Emily Gladden,
Genesis Racing\*
Dann & Mary Glick\*
Linda Griggs\*
Ashley Hill\*
Sharon Hudon\*
Illinois TBOF\*
Vanessa S. Jenkin\*
Russell B. Jones Jr.\*
Bruce Levine\*

David & Martha Martin\*
Judith McDermott\*

Peter Link\*

Mr. & Mrs. R. Shannon McDonald\*

Mrs. Dudley L. Millikin\* Elizabeth S. Millikin\* Kerry T. Millikin\*

William & Carolyn Rainbow\*

Barbara Rehbein\* Right Time Racing III LLC\*

Dennis Rowan\*

Dr. Elizabeth K. Stanley V.M.D.\*

Leslie Thomas\* Halina Warren\* Hester Whitcher\*

## **General Donations**

General donations include gifts made in memory or honor of an individual, tribute donations remember or honor a special horse, donations made through the registration check off program or donations made by members in addition to their membership.

Dr. Jay Addison

Lester & Linda Allison III

Amazon Smile Nina Andrews Anonymous

Joseph Appelbaum

Austin Lang Testamentary Trust Mr. & Mrs. Kenneth E. Ayres

Rory Babich Lisa Bailo Laura Barillaro Ramona & Lee Bass Betsy E. Bayha Randy Blackhurst The Brady Family Fund

Brian Burnap Wade & Lisa Caldwell Charlsie Cantey &

William Douglas Davidson Anastasie Christiansen-Croy

Elizabeth Cino Claiborne Farm Anne Clancy Pamela Clark Dr. Laurent L. Couetil

Mark Curran Adele B. Dilschneider Sarah & Bill Doerr Sharon Doherty Alyce Dubno Aisling Duignan Ciaran & Amy Dunne Equiology Concepts
Priscilla Fallon
Margaret Fiore
Mr & Mrs. Bill Freed
Mr. & Mrs. James E. Friess

Lisa Frieze
Shane Gallion
Deborah Gourman
Curtis C. Green
Mary Griffin
Diana Grunloh
Megan Guilliams
Nina Hahn

John R. & Donna S. Hall

Dell Hancock Walker Hancock Hardscuffle Inc.

Harrah's Louisiana Downs

David Harris
Mary Henley
Peter Hirschman
James Hiser
Page Hodson
Brian Hytrek
Indiana Grand
Gretchen Jackson
Kelly Jackson
The Jockey Club
Annie Johnson

Mr & Mrs. Summerfield K. Johnston Jr.,

The Tucker Foundation

Jill Jones

Keeneland Association Ellen K. Kelley

Sharlene Kenny, Bergen Stables Kentucky Downs, LLC

Kentucky Thoroughbred Farm Managers Club

Karen Kerlin Mary Kerr-Jude Elizabeth A. Koch Nancy Lampton Irving Langill Karole & John Lloyd Michael Loughry Sally Low

Janice MacKenzie Marcy Jo Mandel Laura Manzari Chris McCarron Sarah McCarthy Patricia McDermott Robert McMichael Tim McMurry

Tim McMurry Elizabeth Merryman Julie Mickler Judy P. Miller Estate of Linda Miller

Leslie Mills Jennifer Montfort Louise & Gary Moss Don Mullineaux Susan Mullineaux Clarke Ohrstrom

## **General Donations**

Thomas C. Phipps The PlaidHorse Magazine Dr. Hiram C. Polk Jr. & Dr. Susan Galandiuk Stephanie Quilichini

Alexa Ravit
Ali Rawles
Walt Robertson
David Rogers
Bitsy Ruch
Santa Anita Park
Edgar Scott Jr.
Dr. Frederick C. Shiery

Charles Snyder Keith Stafford

Sterling Thompson Equine

Lindy B. Street David L. Switzer

Taylor Made Charitable Fund Texas Thoroughbred Association

Betty Thomas DVM
William W. Thomason Jr.
Ralph J. Tramantano
Rosalind Triplett
Roy and America Vargas
Marian R. Wahlgren

Russell & Janis Welch Richard G. Wells Wells Fargo Ronyld Wise Mary Wyper

## **Membership Levels**

Rokeby Circle	\$ 10,000
Platinum Circle	\$ 7,500
Gold Circle	\$ 5,000
Silver Circle	\$ 2,000
Patron	\$ 1,000
Supporting Member	\$ 500
Sustaining	\$ 200
Annual	\$ 100

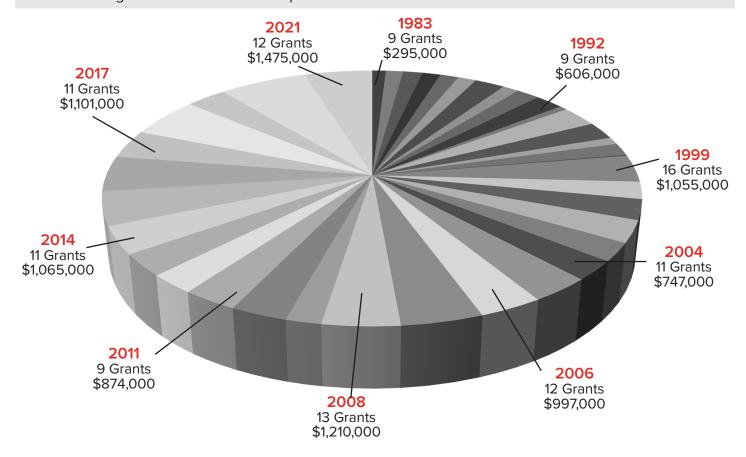
## Tax Status of Grayson-Jockey Club Research Foundation

Grayson-Jockey Club Research Foundation is exempt from Federal income tax under section 501(c) (3) of the Internal Revenue Code of 1986 (the "Code") as an organization operated exclusively for educational and scientific purposes. Contributions made to the Foundation are deductible by donors in computing their taxable income in the manner and to the extent provided by section 170 of the Code. Bequests, legacies, devices or transfers are deductible in computing the value of the taxable estate of a decedent for Federal estate tax purposes in the manner and to the extent provided by section 2055 of the Code. Gifts of property are deductible in computing taxable gifts for Federal gift tax purposes in the manner and to the extent provided by section 2522 of the Code.

Provisions to approximately the same effect appear in the tax laws of most states.

## **Historical Funding Review**

This chart illustrates the dollars given in support of research by the Foundation since 1983 and the rising cost associated with equine research.



The foundation supports the best equine research focusing on all health issues and responding to impact and current issues facing all breeds and disciplines. The research funded since 1983 to 2021 breaks down into the following health categories.





66

It is an amazingly persistent fallacy that universities have abundant "internal" funding. There simply is no such thing.

The Grayson-Jockey Club Foundation is one of the very few agencies that critically evaluates the essence of a research project looking for qualities that will specifically benefit the equine species.



—Dr. Dean Richardson *University of Pennsylvania* 



## **Grayson-Jockey Club Research Foundation**

821 Corporate Drive • Lexington, KY 40503 • (859) 224-2850 40 East 52nd Street • New York, NY 10022 • (212) 371-5970 grayson-jockeyclub.org • contactus@grayson-jockeyclub.org