

Foundation supports six impactful equine research projects

The Foundation for the Horse has awarded \$110,277 for six innovative equine research projects conducted by AAEP-member graduate students, residents or postdoctoral fellows. Over the last four years, The Foundation has provided \$436,675 to support meaningful equine research by up-and-coming investigators as it continues to help pioneer medical advances in equine health.

For the third consecutive year, The Foundation was joined by the Thoroughbred Education and Research Foundation in helping make these research projects possible. This year TERF, whose mission is to make racing safer through research and education, increased its support by funding three important research projects with the potential to impact the health and safety of Thoroughbred athletes.

The supported research projects with researcher names and brief summaries follow:



Dual licensing of mesenchymal stem cells to enhance tendon healing (TERF sponsored)

Dr. Drew W. Koch, North Carolina State University

Utilize in vitro co-culture assays to determine if IL-1b and/or TGF-b2 licensed mesenchymal stem cells (MSC) positively affect equine superficial digital flexor

tendon tenocyte growth, function, and expression of tendon-relevant genes and proteins to support future in vivo studies examining licensed MSC therapy for equine tendon injury.



In vitro analysis of the optimization of stem cell therapy for the treatment of osteoarthritis using equine synovial fluid derived from mesenchymal stem cells with a soluble epoxide hydrolase inhibitor (TERF sponsored)

Dr. Alexandra Carlson, University of Tennessee

To determine if using soluble epoxide hydrolase inhibitors (sEHi) with stem cell therapy can improve stem cell activity by reducing inflammation in the joint while also eliminating adverse effects on the stem cells that typical anti-inflammatory treatment can have.



Clinical evaluation of a rapid test strip, PCR, and enriched-aerobic culture for the detection of salmonella enterica in equine feces

Dr. Emily Herring, University of Georgia

Evaluate the rapid test's performance, compared to culture and PCR, for the detection of salmonella in equine fecal

samples by performing all three tests in parallel on the same samples to assess their ability to determine whether a horse is infected with salmonella correctly.



Short-term oil dietary supplementation affects oocyte and cumulus cell metabolism in old mares

Dr. Giovana Di Donato Catandi, Colorado State University

Investigate how oils rich in omega-6 or omega-3 fatty acids affect the metabolic function of the oocyte and ovarian follicle cells and determine if additional

dietary supplements can optimize fatty acid use in the ovarian follicle while reducing potential side effects.



A pilot study on an experimental model for Palmar Osteochondral Disease (POD) in horses (TERF sponsored)

Dr. Lauren Smanik, Colorado State University

To develop an experimental model of Palmar Osteochondral Disease (POD) that would allow researchers to study the progression in a controlled, prospective manner that will allow for future studies on variables that may affect lesion severity and facilitate the development of an optimized treatment plan.



Investigation of MARCKS protein as a novel therapeutic target to decreased neutrophil extracellular traps (NETs) in equine asthma

Dr. Bethanie L. Cooper, North Carolina State University

To identify novel treatment alternatives to steroid therapy for horses with equine asthma through neutrophil

extracellular traps, released by airway neutrophils, as potential therapeutic targets.

Equine research is one of three pillars of impact—along with education and horses at risk—supported by The Foundation. The 2023 application window for this research grant program will open next spring. To learn more, visit <https://tinyurl.com/ffthgsrrg>.