

Stepping Forward

Dr. Samantha Brooks



Dr. Samantha Brooks is the principal investigator of the Brooks Equine Genetics lab at the University of Florida (UF) Cancer and Genetics Research Center. Her research is centered on studying how certain genes express behavioral patterns within horses, particularly in how they trot, or in other words, their gait. Although completely in love with horses since her youth, she did not see herself becoming a researcher originally.

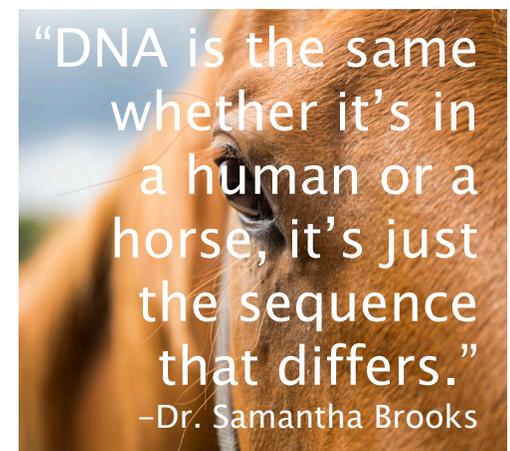
Dr. Brooks began her journey after graduating with a bachelor's degree in Agricultural Biotechnology from the University of Kentucky, believing that she wanted to become a veterinarian. However, she soon discovered that many of the questions that deeply inspired her and made her curious about biology would not be explorable to her in applied science. This budding passion for research

spurred her to shift courses and dive into working at an Equine Genetics lab throughout her graduate years.

Today, Dr. Brooks' work focuses on the extraction, sequencing, and analyzing of hundreds of DNA samples from the horses housed within the UF/IFAS Horse Teaching Unit, along with competitions from around the state. With those samples, Brooks and her team analyze a specific section of the code that correlates with their walking pattern. Then they cross-reference their DNA analysis with videos of the same horses running on a track with motion-tracking software.

What has come out of this research is an impressive tool for the horse industry to identify which horses can provide a more efficient or smooth experience for the rider, and detect future problems like arthritis or injuries

However, for Dr. Brooks, the work does not end there. "Any tools we can develop to help the horse community are great, but as a geneticist, what I want to learn are what are the genes that help us move our bodies?" Brooks says. "That is my end goal, to apply the work and progress we've made studying the horse genome to the human genome."



**STREAMING
SCIENCE**