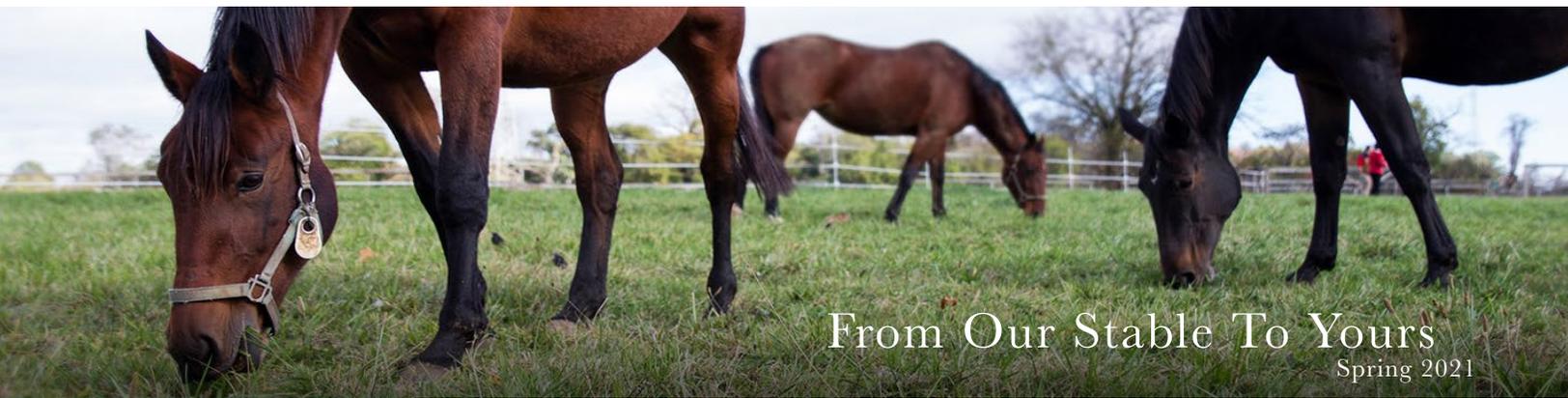


# RUTGERS UNIVERSITY

# EQUINE SCIENCE QUARTERLY



From Our Stable To Yours  
Spring 2021

## Inside the Issue:



Doris C. Murphy

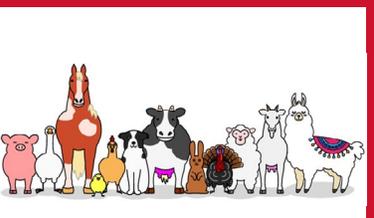
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## Equine Assisted Services For Veterans With PTSD Research Project Moves Into Recruitment Phase Thanks to Successful Fundraising

*Cover story originally a press release distributed April 1, 2021.*

**T**he Equine Science Center has announced the Recruitment Phase for its large-scale research project focusing on Equine Assisted Services (EAS) for veterans with Post-traumatic Stress Disorder (PTSD).

“We are excited to finally start the recruitment phase of

the project after having been postponed by the pandemic,” said Ellen Rankins, Ph.D. candidate in the Rutgers Endocrinology and Animal Biosciences Graduate Program.

“We are confident that by this summer we will be ready to start the research project, utilizing both Center for Disease Control

# From The Clubhouse



**We at the Equine Science Center have been busy, in spite of still being restrained by the current Covid-19 pandemic.**

Dear Friends,

Springtime is finally here and I hope you get to enjoy quality time with family, and both two-legged and four-legged friends!

Thanks to all of you who supported our fundraising efforts on Rutgers Giving Day on March 24. We were successful in raising over \$34,500; finishing in third place for total amount raised at Rutgers-New Brunswick and number one for the School of Environmental and Biological Sciences and the New Jersey Agricultural Experiment Station. Thanks to Sam Landy and UMH-Properties for their match challenge and the Rutgers University Board for Equine Advancement and our alumni for making this campaign so successful! Funds raised will be used to support the upcoming research of Ellen Rankins, a Ph.D. candidate in the graduate program of Endocrinology and Animal Biosciences; see the cover story on [Page 1](#).

In spite of still doing everything virtually, the Center has been delivering excellent programming. I'd like to share a few highlights with you since we last visited. In February, Carey Williams delivered a remote Horse Management Seminar over three consecutive Monday evenings very successfully. Attendees were from all over the world and folks continue to tell us that they like not having to drive to New Brunswick. This remote learning platform may be a keeper in the long-term. Check out the story on [Page 8](#).

On March 27, the Center participated in the virtual NJDA Jr. Breeder Livestock Symposium. For the full story, take a look at [Page 8](#).

I am especially proud of one of our students, Ph.D. candidate Ellen Rankins, who you might know is studying co-regulation and animal assisted intervention as it relates to equine assisted activities and its effects on symptoms of PTSD in veterans. (See the cover story on [Page 1](#)). What you don't know is that Ellen was selected as a recent recipient of the P.E.O. Scholarship which is awarded to women in the sciences in the last year of their Ph.D. programs. She is the first recipient of such an award in the Rutgers Endocrinology and Animal Biosciences program, bringing great recognition to Rutgers and the Department of Animal Sciences. Congratulations Ellen!

I also wanted to remind you of our upcoming virtual events, in case you haven't seen them yet. We will continue the highly successful "Equine Trivia Tuesdays 4 KIDS!" beginning on April 27 on consecutive Tuesday evenings through May 25. Please see the flyer on [Page 11](#) to register free of charge.

We also will be participating again in the virtual Rutgers Day, on Saturday, April 24. Look for an exciting new video about the EAA/veterans project to be included in our offerings that day. See the flyer on [Page 10](#).

On June 16, the Center will be honored with a proclamation from the state, courtesy of Assemblyman Ronald Dancer in celebration of its 20th anniversary. The ceremony will be held at 4PM at the Horse Park of New Jersey in conjunction with the annual NJDA Breeders Awards Ceremony. Stay tuned for details! We also ask you to hold the date of July, 14 for our annual Summer Showcase. We are hoping that this will be held live on campus but we will keep you updated!

We are very proud to be conducting the upcoming research project using equine assisted activities with veterans with PTSD. The research will be conducted over the summer at Special Strides, in Monroe, New Jersey. We have many undergraduate students participating in the project and are excited to get back to some normalcy of research. See you out there!

All the Best,  
karyn

# PARTNERS



New Jersey Farm Bureau's primary purpose is to represent the overall interests and improve the financial well-being of farmers and our \$800 million industry. NJFB activities are supported through voluntary membership and annual dues. Members have access to:

- Staff assistance on farming issues and regulatory problems.
- Educational workshops on topical issues such as farm labor, wildlife damage, and zoning.
- Weekly updates on legislation news and regulations affecting all aspects of farming.

It pays to be a NJ Farm Bureau member! For a full list of membership levels and benefits, or to sign up, visit: [www.njfb.org](http://www.njfb.org).



UMH Properties, Inc., is a real estate investment trust that owns and operates manufactured home communities in seven states throughout the northeast.

UMH has been in business since 1968, operating as a public company since 1985. Owning a portfolio of over 90 manufactured home communities, housing approximately 15,700 home sites.

In addition, owning over 810 acres of land for the development of new sites. It is our mission as a company to provide the best quality affordable home for the hard working residents of Pennsylvania.

UMH communities are perfect for residents of all ages, let us help up you find your dream home today.

For more information about UMH Properties, Inc., please visit: [www.umh.com](http://www.umh.com)



The New Jersey Department of Agriculture (NJDA) is an agency which oversees programs that serve virtually all New Jersey citizens. One of the Department's major priorities is to promote, protect and serve the Garden State's diverse agriculture and agribusiness industries.

In addition to the programs we offer to support production agriculture, NJDA also manages programs that feed schoolchildren, distribute surplus federal foods to soup kitchens and pantries that serve our needy citizens, conserve precious soil and water resources, protect farmland from development and preserve it for future agricultural use, expand export markets for fresh and processed agricultural products, and promote our commercial fishing industry, and administer the complete program of agriculture, food and natural resource education, which includes the State FFA Association.

For more information about NJDA, please visit: [www.nj.gov/agriculture](http://www.nj.gov/agriculture)

## UPCOMING 2021 EVENTS

### Virtual Rutgers Horse Show Best Patterns Announcement

Friday, April 23, 2021

Click Here To Visit The "Rutgers University Teaching Herd" Facebook Page

[esc@njaes.rutgers.edu](mailto:esc@njaes.rutgers.edu)

### Virtual Rutgers Day!

Saturday, April 24, 2021

Click Here To Visit The "Virtual Rutgers Day!" Facebook Page

[esc.rutgers.edu](http://esc.rutgers.edu)

### Equine Trivia Tuesdays 4 KIDS!

Tuesday, April 27, 2021

Click Here To Go To The Flyer With Details On Page 11

[esc@njaes.rutgers.edu](mailto:esc@njaes.rutgers.edu)

### Equine Science Center Summer Showcase

July 14, 2021

Stay Tuned For More Details On Our Facebook Page!

[esc.rutgers.edu](http://esc.rutgers.edu)

For more events, visit our website @ [esc.rutgers.edu](http://esc.rutgers.edu)

# Equine Assisted Services For Veterans With PTSD...

Continued from Pg. 1

and Rutgers Return to Research guidelines, with proper protocols to ensure the safety of everyone involved.”

Ms. Rankins is the study coordinator and will be conducting the research as her Ph.D. dissertation project under the mentorship of Drs. Karyn Malinowski and Kenneth McKeever. She will examine the horse-human interaction, and how EAS affects both humans and horses during these types of interventions.

The population that Ms. Rankins is currently recruiting are male combat veterans who served in the Iraq or Afghanistan theaters of operation. This group has been selected in order to reduce variability in the measured variables, which include hormones that differ between males and females, and selecting the most recent theatres of operation in order to remove variables that come with the passage of time.

While her research was postponed for a year, she has used that time to actively engage with potential partners, participants, and donors for both information sessions, as well as fundraising initiatives.

One of the biggest fundraising initiatives was Rutgers Giving Day, a daylong fundraising initiative to raise both money and awareness for the programs, services, and projects at Rutgers University.

“Thanks to the generous donations from people across the country, we believe that we will soon be able to fully fund Ellen’s research and be able to completely cover the cost for all veterans participating in the study” said

Center Director Dr. Karyn Malinowski.

This year, thanks to a generous challenge-match donation, the first \$10,000 raised was matched by UMH Properties, Inc., on behalf of Mr. Sam Landy, a member of the Rutgers University Board for Equine Advancement.

In total, the Center raised over \$34,000 in support of equine-related research, the highest amount raised by the Center in any of the previous Rutgers Giving Day initiatives.

Other donors and allocations over the last year include funding from a budget line-item allocation from the State of New Jersey; a donation from Boehringer Ingelheim, one of the world’s largest pharmaceutical companies; and supplies in the form of a donation-in-kind from Becton, Dickinson and Company, a multinational medical technology company.

The project is a partnership with statewide stakeholders including: the New Jersey Department of Military and Veterans Affairs; Special Strides located in Monroe, New Jersey (where the sessions will be conducted); the Graduate School of Applied and Professional Psychology at Rutgers University; the Office of Veteran and Military Programs and Services at Rutgers; and the Rutgers Business School - Military and Veteran Engagement Programs.

**For additional information  
about the project please visit:  
<https://esc.rutgers.edu/eas-ptsd/>**



# Doris C. Murphy

## Endowed Scholarship in Equine Science

**The Equine Science Center has extended the application due date for the Doris C. Murphy Scholarship until June 1st, 2021 for this year.**

The scholarship(s) will be awarded for the following academic year. Please see the application form on the right and scholarship details below.

Rutgers Equine Science Center and the Department of Animal Sciences at the School of Environmental and Biological Sciences at Rutgers, The State University of New Jersey, are pleased to announce the availability of financial assistance to undergraduate women who are New Jersey residents majoring in Animal Sciences with a concentration in Equine Science.

Scholarships will be awarded annually to full-time undergraduate Rutgers University students (including at least one incoming student).

Criteria include New Jersey residency, acceptance or current enrollment at the School of Environmental and Biological Sciences, academic merit, financial need, and demonstrated interest in equine science. Scholarships may be renewed annually with the approval of the scholarship selection committee.

The Doris C. Murphy Endowed Scholarship in Equine Science was created to honor the memory of a woman who loved animals. Ms. Murphy was born in Jersey City, moved to Dumont, and worked for the Ford Motor Company in Newark.

She and her husband had no children, and shortly before her death in 1998, she contacted her financial advisor, Kate Sweeney of Morgan Stanley and expressed her desire to support animal studies.

Ms. Sweeney, a Cook College alumna, suggested the equine science program as an appropriate beneficiary, and as Ms. Murphy was also very supportive of women's education, the endowed scholarship is offered to women students majoring in Animal Sciences with an equine science interest. Thus, the scholarship reflects Doris C. Murphy's love of animals and her deep interest in encouraging young women to complete their academic studies.

To Apply for the scholarship, please go to:

<http://bit.ly/DCMScholarship>

For Release



Camille Duchamp and Yassin Salah conducting research as a part of their George H. Cook Scholars research project.

Lab Notes - McKeever

## From The Lab:

"Clenbuterol Plasma Concentrations After Therapeutic Administration In Fit Standardbred Horses: Threshold Recommendations" study is published.



THE TOP 5  
TAKE-A-WAYS

#1

This study was performed to delineate the terminal elimination of clenbuterol after administration at the low end of the therapeutic dose range of 0.8ug/kg, twice daily to Standardbred horses for three days followed by a 96-hour withholding period.

#2

These data suggest that a 41 pg/mL plasma threshold following 96-hours of withholding of clenbuterol is a practical threshold to regulate the use of a three-day, twice daily 0.8 ug/kg administration protocol in harness racing where the horse may race again 96 hours after the last administration.

Inflammatory airway disease (IAD) is a widespread condition in horses resulting in impaired gas exchange and interference with optimal performance.

This respiratory condition can affect as many as 80% of all 2-year-old racehorses, and 14% of racehorses of all age groups.

Clenbuterol is an FDA approved oral Beta 2-agonist used for the management of IAD and airway obstruction in horses.

Administration above the dose currently recommended by the manufacturer produces repartitioning effects which have led to restrictions on its use in Quarter Horse and Thoroughbred racing.

The goal of this study was to identify a withdrawal time guideline for its use at dose levels recommended by the

manufacturer and the Association of Racing Commissioners International (ARCI) for harness racing.

Eight healthy, moderately fit Standardbred horses were administered 0.8ug/kg of clenbuterol as Ventipulmin syrup twice daily for three days.

Blood samples were collected prior to dosing and at 1, 24, 48, and 96 hours after administration.

There were no effects of clenbuterol on any of the measures including fat mass and fat free mass and thus no repartitioning effect was observed.

Pharmacokinetic data for the 96-hour data set support the therapeutic use of clenbuterol in harness horses at the ARCI recommended 0.8ug/kg twice daily dose for three days and suggest a 41pg/mL regulatory threshold for a 96-hour withdrawal time.

**#3**

**This low dose three-day administration schedule was without effect on the fat free mass (muscle mass) or fat mass of the horses studied, consistent with the effects of this therapeutic administration schedule being limited to the respiratory system.**

**#4**

**Clenbuterol has been shown to induce repartitioning effects, a decrease in fat mass and increase in fat free (muscle) mass, starting in the middle of the recommended dose ranges (2.5ug/kg, twice daily). Those changes do not translate into improved equine performance.**

**#5**

**These changes actually have been shown to cause a decrease in markers of aerobic and anaerobic performance**

# The 2021 Horse Management Seminar: A Virtual 3-Day Event!

February saw a very different Horse Management seminar. For the first time ever, the seminar was completely virtual and took place over the first three Mondays of the month.

Topics included: Equine Health, Behavior & Training, and Equine Nutrition.

The seminar series was a huge success which included outstanding attendance, with over 200 participants for each of first two installments and over 150 attendees at the final webinar.

Attendees joined the series from 39 states across the United States, and also reached an international audience, with participants from

countries including Canada, Australia, Mexico, Peru, and Brazil.

For the first webinar in the series, over 70% of participants completing the post-event evaluation indicated that it was their first time attending any event (either virtual or in-person) hosted by Rutgers Cooperative Extension or the Equine Science Center!

For recordings of the series,  
please visit:  
<https://go.rutgers.edu/HMS21Recordings>

## Junior Breeders Livestock Symposium: Why Horses Do What They Do!

On Saturday, March 27 Rutgers University hosted the New Jersey State 4-H Junior Breeder Livestock Symposium in partnership with the New Jersey Department of Agriculture's Junior Breeder program.

This annual event is normally held at the G.H. Cook Campus Farm at Rutgers University, but due to the pandemic it was held over Zoom this year.

This educational symposium is for both adults and children who are interested in learning more about agricultural topics; and has a variety of presentations with different tracks focusing on equine, dairy, goats, sheep, and rabbits.

The equine track had three presentations that each proposed a question, and dove into the explanation as a way to teach the participants about the topic.

### “Why Does My Horse Do That?” Presented by Dr. Sara Malone

The first presentation was given by Dr. Sara Malone. Dr. Malone started her presentation surveying the audience on how they define behavior, and then provided her own definition.

Dr. Malone defined behavior as, “The way in which an animal or person acts in response to a particular situation or stimulus.”

The reason why Dr. Malone defines behavior first is to introduce the audience to think about what situations or stimuli make their horses engage in certain behaviors.

Dr. Malone then tackled the question “why does my

horse roll?” She explains that horses roll for a variety of reasons but the most common is, they are itching or scratching, drying themselves, and in some cases, due to abdominal pain.

The next question Dr. Malone posed to the audience was, “Why does my horse swish its tail?” After various answers from the audience, Dr. Malone revealed that “Tail swishing is often used as a behavioral indicator that the rider is cueing the horse to do something.”

Dr. Malone continued to go over other questions such as, “why does my horse smile?”, “why does my horse wear shoes?”, and “why does my horse eat poop?”

Dr. Malone closed her presentation covering a question that many horse owners have, why does my horse crib?

“Cribbing is a stereotypical behavior meaning that it is repetitive,” said Malone. Horses start cribbing for a variety of reasons such as high degree of stalling, high concentrate and low forage diet, stressful weaning and/or a stressful competitive life.”

Overall, Dr. Malone’s presentation provided the audience with an interactive, fun, and informative way to learn the reasons behind certain horse behaviors.

### **“What’s In A Connection: Measuring And Understanding The Human Horse Interaction” Presented by Ellen Rankins**

The next presentation was given by Ms. Ellen Rankins. Rankins started her presentation by proposing two questions to consider. The first one being “Why do we want to learn more about human-horse interaction?”

The explanation Rankins provided included examples such as injury prevention, a benefit to the human, a benefit to equine-assisted services, and equine welfare.

She then posed her second question, “What tools can we use to understand human-horse interactions?” She explained that physiological co-regulation, or the syncing of systems between horse or human, can provide us data about this relationship. This can be

measured by looking at a horse’s heart rate and heart rate variability, and taking a look at how this syncs with the humans interacting with them.

Rankins then provided a list of hormones and neurotransmitters that might help discover any underlying medical issues a horse may have, as well as how they deal with stress.

She further discussed the behavior of a horse and human relationship with an observation activity and showed a video to get the audience thinking.

Overall Rankins’ presentation was a mixture of an interactive and informative experience for the audience to enjoy.

### **“Kahoot! – Equine Behavior Trivia Game” - Presented by Jennifer Weinert**

The final presentation was a quiz game hosted by Ms. Jennifer Weinert. Weinert provided a recap of all of the equine presentations from throughout the day via trivia questions.

Each attendee was able to play along using their phone or other device, and compete against one another to see who learned the most during previous presentations.

Overall the competition was fierce, but everyone had a good time and enjoyed the activity as a way to close out the day.

### **Ending The Day On A High Note!**

The Junior Breeder Livestock Symposium was a huge success this year, even with being held virtually.

The event finished with a raffle of some goodies from the New Jersey Department of Agriculture Junior Breeder program.

This event had participants focused and engaged as well as eager to learn. Everyone hopes that next year the event will be held in person again, and participants will be able to meet some of the animals throughout the day (something that everyone looks forward to).

The hosts hope to see another amazing turn out again next year!

Join Us On  
APRIL 24th For

# RUTGERS DAY

We've Gone Virtual!

Join Rutgers as we showcase research, live performances, interactive presentations, and activities for kids!

Starting on Saturday at 10:00 a.m., go to the [Virtual Rutgers Day](#) event page, on the Rutgers Day Facebook Page!



**RUTGERS**

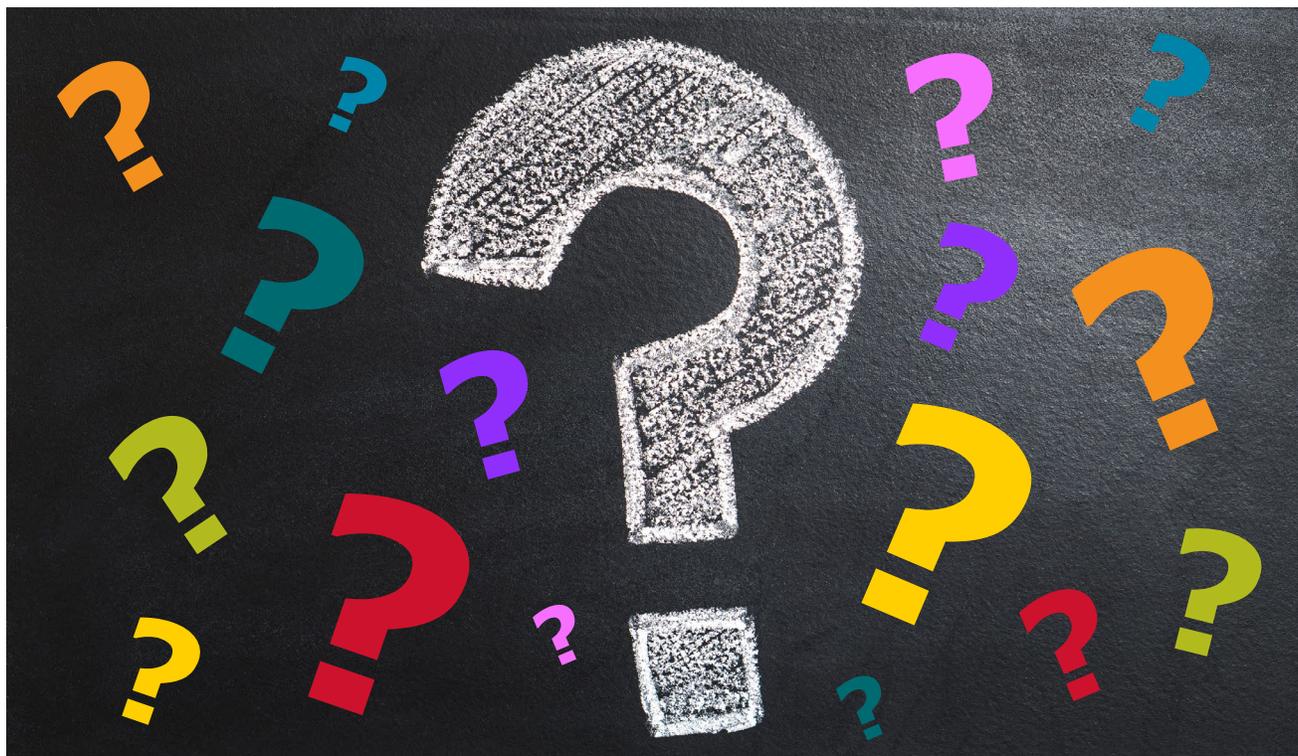
New Jersey Agricultural  
Experiment Station  
EQUINE SCIENCE CENTER



The Equine Science Center Presents:

# Equine Trivia Tuesdays

## 4 KIDS!



**RU between the ages of 8-16?**

**Join Us at 7:00PM on April 27 - May 4 - May 11- May 18 - May 25!**

**Topics Include:**

**COLORS AND MARKINGS - BREEDS - PERFORMANCE DISCIPLINES  
REPRODUCTION - EXERCISE PHYSIOLOGY**

**And The Best Part ... There Will Be Prizes!!!**

***To REGISTER GO TO: [HTTPS://GO.RUTGERS.EDU/TRIVIA TUESDAY S21](https://go.rutgers.edu/triviaTuesdays21)***

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