



Equine Science Center

UPDATE

“Better Horse Care through Research and Education”

FALL 2014

Upcoming Events

An Evening of Science and Celebration

Monday, November 10, 2014
G.H. Cook Campus Center
Rutgers, The State University of NJ
New Brunswick, NJ
hartmann@aesop.rutgers.edu

Documentary Screening and Panel Discussion: “Riding My Way Back”

Tuesday, November 11, 2014
The State Theater in New Brunswick
15 Livingston Ave,
New Brunswick, NJ 08901
hartmann@aesop.rutgers.edu

Horse Management Seminar

Sunday, February 08, 2015
G.H. Cook Campus Center
Rutgers, The State University of NJ
New Brunswick, NJ
kenny@aesop.rutgers.edu

A Lasting Gift

Gwendolin E. Stableford lived her life as an enthusiastic and passionate horsewoman until the very end. When she passed away in June 2014, at the age of 96, she was every bit as committed to her horses and the horse industry as she was when she first fell in love with horses as a girl. Considering she spent her life taking care of horses, it is fitting that her legacy is to support the Equine Science Center advance its mission of “Better Horse Care through Research and Education.”

Miss Gwen was an avid horsewoman and international traveler, known for her financial acumen, which resulted in her serving as treasurer for the New Jersey Horse Council, American Saddlebred Horse Association of New Jersey, and the Middlesex Horse Show for several decades.

She showed and won with her American Saddlebreds and Hackney ponies all over the country and was founder of the American Saddlebred Horse Association of New Jersey in 1968. She proudly represented the American Saddlebred Horse Association of New Jersey on the New Jersey Equine Advisory Board. She was also a member of the United States Equestrian Federation, the American Saddlebred Horse Association, the American Hackney Horse Society, and the United Professional Horsemen’s Association.

A great joy for Miss Gwen was showing her Hackney ponies, WC Ali and WC Heartland Elegant Touch. She showed WC Ali for 10 years and won many

regional and national titles including USEF National Pleasure Driving Pony of the Year, a title she earned four times. WC Heartland Elegant Touch won the World Championship Jr. Hackney Pleasure Driving Pony title and twice won the USEF National Harness Pony of the Year title.

“Miss Gwen was one of the most remarkable and unforgettable horsewomen in recent history,” said Karyn Malinowski, director, Equine Science Center. “In her early 90’s, she was still driving her Hackney ponies in competition, a feat not matched by others even approaching that grand age.”

She also firmly believed in the work and mission of the Equine Science Center. She demonstrated her enthusiasm for its programs by making annual gifts to the Center since its inception in 2001, and in her recent bequest to the Center, its work is sure to continue.

To honor the extraordinary memory of such a tireless horsewoman, an endowed fund in support of equine research is being established in Miss Gwen’s name.



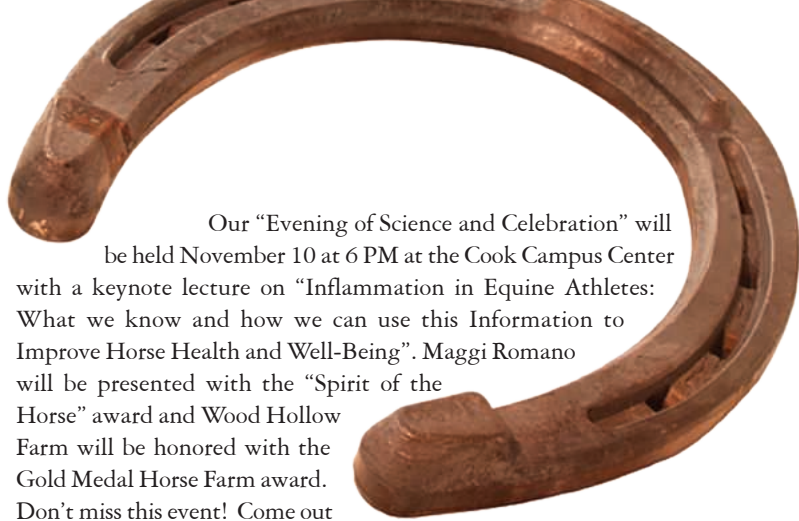
Go Green!
Join the email newsletter list! Text **“RUESC”** to 22828.
Message and data rates may apply.

RUTGERS
New Jersey Agricultural Experiment Station

Gwen Stableford driving her hackney pony ALI at one of many horse shows in which they competed.



From The Clubhouse



Our "Evening of Science and Celebration" will be held November 10 at 6 PM at the Cook Campus Center with a keynote lecture on "Inflammation in Equine Athletes: What we know and how we can use this Information to Improve Horse Health and Well-Being". Maggi Romano will be presented with the "Spirit of the Horse" award and Wood Hollow Farm will be honored with the Gold Medal Horse Farm award. Don't miss this event! Come out in support of your colleagues and hear the latest in equine science coming out from the Center.

The following evening the Center, in partnership with Special Strides, the Rutgers Office of Veteran and Military Programs and Services, and the State Theater, will be presenting a private screening of an upcoming documentary by academy award winning producer Robin Fryday, about the importance of Equine Assisted Therapy for veterans returning from war. The screening of "Riding My Way Back" just happens to coincide with Veteran's Day and will take place at the State Theater in New Brunswick at 7:30 PM followed by a panel discussion with the producer and cast of the film. Information on all of these events and registration forms can be found at these links:

Evening of Science and Celebration: <http://goo.gl/Mjw8Nt>

"Riding My Way Back": <http://goo.gl/z6k3ZL>

Finally, the Center is investing in its future by doing a complete redesign of its website. I hope that you will find it easier to navigate, attractive and searchable for the information you crave from us. Look for this happening in the beginning of 2015! A preview will be showcased at our event on November 10. See you there!

Best,
Karyn

Dear Friends,

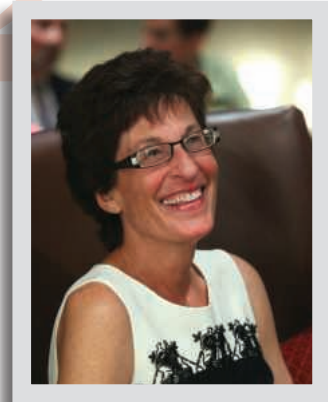
Once again we begin another new academic year and the beginning of my 37th year as a faculty member at Rutgers. Where has all of the time gone? Being extremely busy is part of the reason time seems to be flying by!

We, at the Rutgers Equine Science Center have been busy since we "spoke" last. Our "Summer Showcase" in July was again a big

hit with people of all ages and levels of horse management/science skills. In August we participated in the annual Hambletonian Veterinary Conference where we were treated to a fabulous evening of good food and friends at the New Meadowlands Racetrack. Jeff Gural and crew have done a fantastic job at making the new venue a "happening" place and have successfully attracted a younger crowd to the track. The first week of September we joined Mike Campbell from the New Jersey Thoroughbred Breeders Association at Monmouth Park to participate with Center educational materials in celebration of the New Jersey Festival of the Thoroughbred.

We concluded our summer outreach activities with a full court press at the third annual Open Space Pace. I was honored to serve as the parade Grand Marshal riding my trusty steed Could Be Magic.

We have a full plate for the fall. Our annual Stakeholder meeting was held on the evening of October 16 in conjunction with the regular New Jersey Equine Advisory Board meeting at Rick's Saddle Shop in Cream Ridge. This evening meeting was made possible due to the persistent efforts of the Equine Leadership class alumni who have repeatedly requested a change in time of these meetings so that people working in the horse industry can attend.



Partners



Established in 1961, the Standardbred Breeders & Owners Association of New Jersey [SBOANJ] has a membership comprised of horse breeders, drivers, trainers, owners, and backstretch personnel, and its mission is to support and promote the standardbred industry in New Jersey. The Board of Directors authorizes stallion, mare and foal registrations, negotiates with track management, actively oversees and administers a benefits program, and advances legislation favorable to the horse racing industry. For more information, please visit www.sboanj.com.



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.

Alumni Voices

Name: Loree Flora-Talbot
Class Year: Cook College, 2002
Degree(s): Bachelor of Science –
Animal Science
Minor(s): Equine Science

I have always been obsessed with horses, but my experience with them was limited to riding. When I asked if I could spend time in the research barn, I was assigned a practicum with Dr. Malinowski. I also was in the George H Cook honors program since freshman year. I was lucky enough to work with Dr. Malinowski and Dr. McKeever's grad students on their own individual projects and eventually co-author a paper with them and defend my G.H. Cook thesis (The Effect of Exercise Training on Age-Related Changes in Insulin Sensitivity in Standardbred Mares). I spent a lot of time in the treadmill barn and with the Equi-ciser learning how to work on a study with live animals. I was very happy to learn how to handle horses in a non-recreational setting. I also was lucky enough to observe some minor medical procedures on horses and perform some myself, such as placing IV catheters and taking blood samples. The Equine Science Center gave me the confidence to eventually become an equine veterinarian.

Drs. Malinowski, Ralston, and McKeever were very encouraging and happy to share their immense knowledge of equine physiology with me. Dr. Malinowski guided us through the process of submitting a

paper for publication, from study design to execution to data analysis. She also made a point of having us do literature reviews and learn to critically read journal articles. This knowledge is still useful to me in my present occupation as a small animal veterinarian.

My most memorable experience at the Center was an experiment, which involved one day of 24-hour blood sampling and I was due to draw some samples from the mares overnight. During that night, there was a hurricane (Hurricane Floyd), which prevented us from leaving the barn. The wind and rain were so bad that we couldn't open the doors, so we were stuck there until everything quieted down. Fortunately, our research mares were quiet and not too impressed. We got our samples as planned. Much of the campus (and local area- Bound Brook especially -was flooded)- I remember seeing people wading across the fields by Perry Dorm. Anyway, after that fun night, I was told that there was a freezer malfunction and our hard-earned samples were lost!

The Equine Science Center and the Department of Animal Science were extremely crucial in aiding me in my quest to become a veterinarian. Faculty went out of their way to help me find summer jobs, scholarships, and write me excellent reference letters. Also, I believe that having my name on an actual published article was a big help in getting into vet school!

In 2014, I made my first donation as an alum to Rutgers and the Equine Science Center. I have always appreciated all the efforts of the Department of Animal Sciences' faculty and staff and in particular, the Equine Science Center has done for me. I have never donated prior to this because I was unsure where my money would actually go. I had this horrible fear I would be funding Snooki's speaking engagement or the football team. When the letter I received about the 10K Alumni Challenge specifically promising me that my donation would go to the Equine Science Center and NOT the football team, I was happy to donate what I could.

Continued on page 7.



Loree with one of the Horse Hero mares in the equine exercise lab.



NEW JERSEY
DEPARTMENT OF AGRICULTURE
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/index.shtml

No More Newsletters?!

Beginning with the Spring 2015 edition, the Equine Science Center will NO LONGER **PRINT** newsletters. In an effort to significantly reduce print production and postage costs, we're transitioning to e-newsletters and strongly encourage you to opt-in to receive your copy via email.

Signing-up for the e-newsletter is as easy as 1-2-3! You can either
1) Click or type the following URL into your browser
<http://goo.gl/yt9Wj> 2) Text "RUESC" to "22828" or 3) email us at hartmann@aesop.rutgers.edu with your name and preferred email address. It's that simple!

Forward this e-newsletter to all of your horse-loving friends and encourage them to sign-up as well! They will thank you. And so will we!

News you can Use!

HSP70 and HSP90 in whole blood and skeletal muscle in young and aged Standardbred mares

Approximately 15% of the equine population in the United States is over the age of 20 years and many horses continue to participate in athletic activities. Understanding the molecular mechanisms behind the adaptive response to exercise will aid in the development of strategies to preserve the health and well-being of this socio-economically important species. Heat shock proteins (HSPs) are important mediators of cellular response to disturbances in homeostasis, but little work has been done to investigate HSPs in horses. We hypothesized that HSP expression in whole blood and skeletal muscle are altered by age and acute exercise. Young ($n=6$; 5.5 ± 2.8 years) and aged ($n=6$; 22.6 ± 2.25 years) Standardbred mares underwent an acute submaximal exercise test until fatigue. Whole blood and gluteus medius biopsy samples were collected and analyzed for *HSP70* and *HSP90* expression via RT-PCR. Young and aged horses had increased *HSP70* expression in whole blood following acute exercise, with young horses exhibiting 3-fold greater *HSP70* expression than aged mares at 2 hours post-exercise. *HSP90* expression in whole blood was increased only in young horses. Both young and aged horses had increased *HSP70* and *HSP90* expression in skeletal muscle following exercise, but there was no difference due to age. In conclusion, the magnitude and timing of the HSP expression following acute submaximal exercise is altered by age in horses.



Grazing mare at the Equine Science Center.

Quantification of HSP expression in whole blood may be a useful biomarker, with implications for cellular adaptation and survival in aged horses.

Lab notes courtesy of:

R. C. Avenattil, K. Malinowski¹,
D.W. Horohov² and K. H. McKeever¹

Article Highlights

- Heat shock proteins assist in cell repair
- Age impacts HSP expression after exercise.
- HSP expression may serve as a marker for cellular adaptation

¹ Rutgers Equine Science Center, Rutgers, the State University of New Jersey

² Gluck Equine Research Center, University of Kentucky

Doris C. Murphy Scholarship

Congratulations to Rachel Walter, recipient of the Doris C. Murphy Endowed Scholarship in Equine Science for academic year 14-15.

Rachel, a senior in the School of Environmental and Biological Sciences, is studying Animal Science with a minor in Equine Science. She has been a regular volunteer for the Equine Science Center throughout her academic career and completed the Developing Future Leaders for the Equine Industry short course led by Karyn Malinowski in January 2014.

"As Rachel prepares for her final semester at Rutgers, I am proud of all of her accomplishments and achievements, including being awarded the Doris C. Murphy Scholarship for the past three consecutive years," said Malinowski. "Rachel exemplifies exactly what Ms. Murphy envisioned when she established the scholarship many years ago: an intellectually curious young woman who is equally passionate about her academic career and the health and well-being of horses and the equine industry."

The annual application period for the scholarship begins in mid-February and closes the first week in May. Criteria for the scholarship include New Jersey residency, acceptance or current enrollment at the School of Environmental and Biological Sciences, academic merit and financial need. It is offered to women students majoring in Animal Sciences with an equine science interest.

Doris C. Murphy Scholarship 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 Smith Barney, and expressed a 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 Thus, the scholarship reflects Doris C. Murphy's love of animals and her deep interest in encouraging young women to complete their academic studies.

For more information, please contact Kyle Hartmann at hartmann@aesop.rutgers.edu or 848-932-9419.



NELSON'S CORNER



Guest Appearances!

Notice anything different about my blog, "Holy Hoofprints!" lately? The Horse Hero mares at the Equine Science Center have been making guest appearances on my blog! These girls are very knowledgeable and have lots to say!

Le Cheesecake, AKA "CC", and Snowdrift did an awesome job writing about equine behavior and scratches. If you haven't had a chance to read their posts, you can catch up here: "Herding Equine Behavior" & "Scary Scratches!"



As Horse Hero mares on campus at Rutgers, these girls have a first-hand (first-hoof?!) perspective on A LOT of research. They get to run on that fancy exercise treadmill in the Red Barn. Here's a quick video of my buddy Frankie showing us all how it's done: njaes.rutgers.edu/equinesciencecenter/treadmill-general.html



These lucky mares also get to work with the expert faculty members and students who are learning all about the science of horses. Did you know that faculty members were the advisors and lead consultants who helped me create Equine Science 4 Kids? If you haven't been to the site yet, drop everything that you're doing right now and go to the site immediately! A few of the mares show up in Equine Science 4 Kids too. You can hang out with all of us at: esc.rutgers.edu/kids

Since a few of the girls show up in Equine Science 4 Kids, it made sense to ask them to join me as featured bloggers on Holy Hoofprints! They're going to post once a month to start. You definitely want to keep an eye out to see if your favorite mare is going to be the next one to write for the blog. Let us know what you think by commenting on the post! Don't forget to join my Fan Club at: LordNelson@aesop.rutgers.edu.

Your pal,
Lord Nelson



THE EQUINE SCIENCE CENTER INVITES YOU TO AN EVENING OF...

Science & Celebration

MONDAY, NOV. 10, 2014

Cook Campus Center, 59 Biel Rd.,
New Brunswick, NJ 08901 • (848)- 932-7617

OPEN TO ALL HORSE ENTHUSIASTS!

*Event highlights the
Equine Science Center's
work in advancing
equine health,
horse management practices,
and solutions to
equine industry
issues.*

Schedule:

5 to 6 p.m.- **Optional Tour:**

- Treadmill demonstration!
- Meet the "Horse Heroes!"
@ the Red Barn on College Farm Road

6 to 7 p.m - Light supper

7 to 9 p.m - Program Highlights

- "Preparing for Disaster"
-Angela Howard, Eastern National
4-H Roundup
- "The Inflammatory Response to
Exercise..."
-Dr. David Horohov
- Equine Center Presentations
- Spirit of the Horse Award
-Margret Romano
- Gold Medal Farm Award
- Wood Hollow Farm



EVENT REGISTRATION CLOSES!

FRIDAY, NOVEMBER 7TH, 2014

To register, please go online to <http://goo.gl/Mjw8Nt>

Event fee: \$30 for adults & \$15 for full-time students

Please remit payment & mail to: Rutgers Equine Science Center

57 US Highway 1, New Brunswick, NJ 08901-8554

Phone (848)- 932- 9419 • Fax (732)- 932- 2658



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Thomas Gianfagna
PASTURE
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Tiffany J. Cody
WEBSITE
PREVIEW

New Additions to the Equine Science Center

The Equine Science Center is pleased to welcome new faculty and staff members, Kyle Hartmann and Kathleen Rahman, Ph.D. Kyle will be working in the Center office as the new Administrative Assistant. Kathleen joins the team as the new Associate Director for Teaching at the Equine Science Center.

By adding highly qualified members to our faculty and staff, we are able to further advance our mission of 'Better Horse Care through Research and Education.'

— Dr. Malinowski

"I am excited to see our staff and faculty expanding with the addition of Kyle and Kathleen," said Karyn Malinowski. "Each brings a unique set of skills and valuable experience that will be a great asset to the Center. Please be sure to greet our new team members at an upcoming event or program."

In his role at the Center, Kyle will have many responsibilities including, bookkeeping, assisting with managing special events, updating and creating marketing material, and helping with graphic design projects.

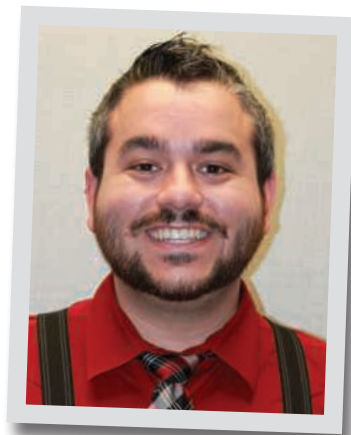
In his previous role as Special Project Coordinator in the Office of the Dean of Students, Kyle helped plan successful events such as "Dancing with the Deans." He also played a major role in several development initiatives.

Kathleen Rahman is a recent Ph.D. graduate of the Endocrinology & Animal Biosciences program where she worked in Carol Bagnell's lab. In her new role at the Center, Kathleen will be tasked with increasing the interaction between the Center and Rutgers undergraduate students.

"It is amazing how much work comes out of such a small staff," added Malinowski. "By adding highly qualified members to our faculty and staff, we are able to further advance our mission of 'Better Horse Care through Research and Education.' I look forward to seeing new projects and initiatives from both Kathleen and Kyle."



Kathleen Rahman



Kyle Hartmann

Alumni Voices (continued)

Over the last few years, I have lost touch with fellow alumni, but with the Center's Facebook page (esc.rutgers.edu/fb), I have been able to reconnect with old friends. I even went to vet school (Cornell) with Elsa Schock, a Cook College classmate and fellow Equine Science Center person. It's pretty interesting to me that the only two people accepted to Cornell's veterinary school that year were Equine Science Center alumnae. We also both received the two NJ "state seats" which meant we only had to pay in-state tuition at Cornell.

I have also noticed that the Center is taking on many more projects and running events. I would like to have more alumni involved in helping out. I manned a table at Ag Field Day and thoroughly enjoyed talking the Center up and recruiting future SEBS students. Unfortunately, I am not very involved with the equine industry at the moment due to time constraints with family and work, but I wish I was.

In closing, I just would like to say the Equine Science Center is an incredible resource for horse owners and SEBS students. I was very lucky to be part of it and feel privileged to have worked so closely with Drs. Malinowski, Ralston, and McKeever. They were always so

approachable and available for me. I was a pretty shy student, so the fact that I found them approachable means a lot. Also, just a funny memory – I used to work out at the Cook gym, and it always seemed that whatever time I went there, Dr. Malinowski was there running. My schedule was completely random, and most of the time, I would see her there. It always made me wonder if she ever slept at all...



esc.rutgers.edu

Equine Science Center

Better Horse Care through
Research and Education



IMPORTANT ANNOUNCEMENT

Beginning in 2015, we will not be using the Pony Express (postal mail!) to deliver your newsletters. Don't miss out on future newsletters and messages from the Center – Join our email list TODAY!"

- Text "**RUESC**" to 22828.
Message and data rates may apply.

Or

- Sign up at <http://goo.gl/yt9Wj>

Karyn Malinowski
Director
Equine Science Center
Phone: 848-932-9419
Email: malinowski@aesop.rutgers.edu

Kelly Lankau Watts
Associate Dean and Director of Development
School of Environmental and Biological Sciences
Phone: 848-932-3576
Email: watts@aesop.rutgers.edu

Kyle Hartmann
Administrative Assistant
Equine Science Center
Phone: 848-932-9419
Email: hartmann@aesop.rutgers.edu



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