

SUMMER 2014

Equine Science Center UPDATE

• • • • • *"Better Horse Care through Research and Education"*

Center's Summer Showcase a Success

The Rutgers Equine Science Center's annual Summer Showcase, held on Wednesday, July 9, was a major success as over 100 guests visited the Red Barn to learn all about the science of horses. Center faculty and staff were pleased to welcome long-time friends and supporters such as 4-H horse program groups and high school interns from the Public Health Research Institute, as well as new friends including NJ State Assemblyman Gilbert Wilson (5th district) and several members of the US Park Police based in Queens and Brooklyn, NY. Visit the Center's Facebook page for pictures from the event: esc.rutgers.edu/fb

The morning began with a brief overview of the Equine Science Center presented by Karyn Malinowski followed by a thrilling demonstration of the **high-speed equine exercise physiology treadmill**. Jolee, the Equine Science Center's **Horse Hero mare**, received a thundering round of applause after her exciting performance on the treadmill,

pace about 20 mph. After the demo, guests were divided into three groups to explore distinct program areas led by Laura Kenny and Drs. Kenneth McKeever and Carey Williams.

Kenneth McKeever provided an in-depth discussion and **behind-the-scenes tour of the exercise physiology laboratory**, which includes state-of-the-art research equipment such as a sub-zero -80° freezer, microcentrifuge, and other vital machines for processing and analyzing scientific data. He explained the history and significance of the equine treadmill as well as a description of some of the research trials conducted in the lab. McKeever then shared how the Equine Science Center's discoveries into horse health and well-being benefit all horses, regardless of breed and discipline. Further, he stressed the fact that the research yields important information that is of great value to horse owners and may often be easily implemented into dietary and exercise regimens.

Laura Kenny presented a barn safety scavenger hunt in the Red Barn. Guests grabbed their numbered lists and were turned loose in the barn in search of as many staged hazards and safety violations as they could find. After

approximately 15 minutes, they were gathered to report findings and discuss the importance of maintaining a safe, clutter-free barn. For more information on proper barn safety, check out the Equine Science Center's fact sheets: **"Accident-Proofing Farms and Stables"** and **"Safety Recommendations for the Stable, Barn Yard, and Horse/Livestock Structures."**

The third program area for Summer Showcase guests to visit was in the Round House. Carey Williams gave a presentation on equine anatomy using the extremely popular equine skeleton, RU Wish Bone, as an impressive teaching tool. Regardless of the age composition of visiting groups, there is always a collective gasp when Williams pops-off Wish Bone's head to explain skull structure and equine dentistry.

Ending the program on a high-note, all guests reconvened for closing remarks at the Center's Equi-Ciser™, which looks similar to a real-life merry-go-round.

Ultimately, the Summer Showcase was a huge hit as departing guests said they learned a lot of new information and that they had a great time exploring the Center's facilities and discovering the exciting world of equine science.

RUTGERS

New Jersey Agricultural
Experiment Station



Want to see more photos? Check out our Facebook page: esc.rutgers.edu/fb

From The Clubhouse

Karyn Malinowski, Ph.D., Director



Dear Friends,

Happy summer! All of us at the Rutgers Equine Science Center have been busy finishing up research projects, graduating students, and reaching out to all of you during the Center's continued celebration of the 'Year of the Horse'.

I'd like to start off by congratulating Ryan Avenatti who successfully defended his doctoral thesis in May. Many of you have met Ryan during his five years at the Center and we

wish him and his fiancée Allyson all of the best for continued success in their young careers as scientists and ambassadors for Rutgers University. Ryan and Allyson have moved to Oregon, where she began post-doctoral research at Shriner's Hospital. Ryan will be job hunting and preparing to present some of his work at this year's American Society for Animal Sciences annual meeting. I will be joining him in Kansas City and presenting a lecture for the animal health panel on "Ensuring the Well-being of an Aging Equine Population," and recruiting some new graduate students!

Ag Field Day was terrific, as usual. The weather was glorious and the crowds were overwhelming at times. Over 250 people witnessed one of two treadmill demonstrations and alumni Nettie Liburt and Loree Flora assisted in meeting and greeting guests while also drumming up business for the **\$10K Alumni Challenge** that you read about in the **spring newsletter**. Thanks to all who donated to this wonderful initiative.

Tiffany and I traveled to Minneapolis in March (BRRRRR!!!!) to present '**Equine Science 4 Kids**' at the American Youth Horse Council Convention. **Lord Nelson** made some new friends who have been sending him emails ever since.

We also have a reunion of the past four equine leadership classes at the end of March with the idea of compiling ideas from over 60 graduates and to maintain contact with them for the purpose of introducing young

people to our all breed industry groups, the New Jersey Equine Advisory Board and the New Jersey Horse Council. We outlined a calendar of Center events for the coming year where class alumni could help spread the word about the good work of the Center. 2014 classmates Cindy Gadek and Mica Scalia presented a 'vision' for the New Jersey horse industry to ensure sustainability at the May meeting of the NJEAB and 2008 first class graduate Wendy Hale joined us on June 29 for the excellent open house at Fair Winds Farm, celebrating the Month of the Horse. Congrats to Mark Mullen for hosting and to Maggi Romano for organizing this wonderful opportunity to teach the general public about the **socio-economic importance of horses to the Garden State**.

Our entire team has been having fun doing a monthly radio show entitled, "Horses in the Morning." Catch us live at around 9:30 on the last Wednesday of every month or go to our website to **hear a replay** of the show. Our annual "Summer Showcase" was held on July 9 and as always we had a good turnout of young people who just can't get enough of equine exercise physiology or of Dr. Williams' anatomy lesson with RU Wish Bone. Check out the photos from many of these events on our **Facebook** page or in a story from this newsletter.

I end this column on a note of sadness. A dear friend of the Equine Science Center, Gwen Stableford, passed away peacefully on June 16. Gwen will be deeply missed by all of us who loved and admired her. She was still driving her pony Ellie at age 94 and would have been 97 years old this month. Miss Gwen and Lord Nelson certainly are two of the most remarkable characters I have met during my lifetime. There are many stories to tell about both of them!

Finally, we will be hosting and participating in several **exciting events** this fall and hope that you'll come out to visit with us soon. Enjoy the rest of your summer!

Bestest,
Karyn



Partners



Established in 1961, the **Standardbred Breeders & Owners Association of New Jersey [SBOA NJ]** 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
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

Collaborative Research Initiative: Cobalt and the Athletic Horse

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Cobalt is a natural magnetic, metallic element related to iron and nickel. Similar to magnesium and mercury, cobalt occurs normally in the blood of both humans and horses. Given as a supplement, cobalt increases the number of red-blood cells in the body, essentially creating a "blood-doping" effect. Finding cobalt in testing is difficult as it is only detectable for approximately four to six hours. Further, chronic cobalt use can have severe and toxic side effects.

For some, the link between horses and cobalt may not be obvious. Similar to human athletes who intentionally consume cobalt to gain a competitive advantage, there have been recent instances of horses being given cobalt to enhance athletic performance, too.

Throughout the year, Drs. Kenneth McKeever and Karyn Malinowski have been assisting Dr. George Maylin, director of the New York Drug Testing and Research Program at Morrisville State College, to develop regulatory controls for the use of cobalt in race horses.

"We decided to participate in this research because it aligns perfectly with our mission of 'Better Horse Care through Research and Education to Advance the Well-Being and Performance of Horses and the Equine Industry,'" said Malinowski.

For Maylin, the principal investigator of the research initiative, the addition of Malinowski and McKeever provided both valuable resources and expertise.

"Dr. Malinowski has been very instrumental in getting access to control horses that I couldn't have gotten without her," said Dr. Maylin. "And,

Dr. McKeever will be looking at pharmacology. He was instrumental in EPO (erythropoietin) pharmacology and he will do the same with cobalt."

The research is funded by the United States Trotting Association (USTA) as a partnership with Dr. Maylin.

"It has become obvious that in all racing breeds the presence of cobalt is being detected," said USTA President Phil Langley. "Since it is a naturally occurring substance, the question that arises is when is the amount natural and when is it added to a horse's system to enhance performance. We believe this research will give all breeds a standard that will withstand any court challenges."

According to Maylin, specialized equipment is necessary to properly detect and analyze cobalt. In order to move forward with research, Maylin is leasing for five years a state-of-the-art instrument, the Agilent 8800 Triple Quadrupole Mass Spectrometer ICP-MS.

"We know what we have to do; we know how to do it; now we have to get a statistical analysis," added Maylin.

For more information about cobalt research at the Equine Science Center, please contact Tiffany Cody at cody@aesop.rutgers.edu or 848-932-9419.

This article contains experts from the United States Trotting Association's announcement in June about cobalt research with Dr. George Maylin and the Rutgers Equine Science Center: goo.gl/MEEJux.

Join Us!

New Jersey Thoroughbred Festival

Saturday, September 6
Monmouth Park Racetrack
Oceanport, NJ

Open Space Pace

Saturday, September 10
Freehold Raceway
Freehold, NJ

Stakeholder Meeting

Thursday, October 16
Rick's Saddle Shop
Cream Ridge, NJ

Evening of Celebration and Science

Monday, November 10
Cook Campus Center
New Brunswick, NJ

Contact **Tiffany Cody** for event information.

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



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.

**"RUESC"
to "22828"**

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 cody@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!

esc.rutgers.edu

Equine Science Center

Better Horse Care Through
Research and Education



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Summer Outreach

Fair Winds Farm Open House

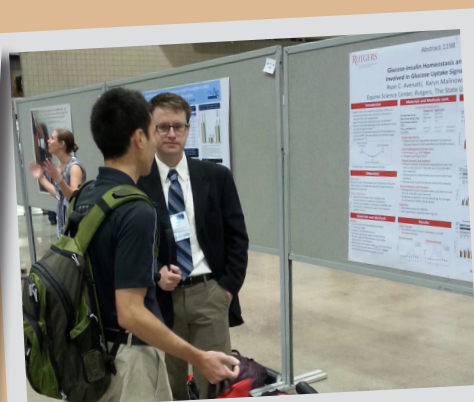
On Sunday, June 29, the Equine Science Center participated in the "Month of the Horse" Open House hosted by the EAB at Fair Winds Farm and Hogan Equine Clinic. The open house provided an excellent community outreach opportunity for the Center to spread the word about its youth program, Equine Science 4 Kids. Center Director, Karyn Malinowski, joined NJ State Assemblyman Ronald Dancer; Monmouth County Freeholder, Lillian Burry; former Millstone Township Mayor, Nancy Grbelia; NJ Farm Bureau President, Ryck Suydam; and Fair Winds Farm Owner, Mark Mullen; to welcome guests and share information about the importance of horses to the state of New Jersey.

Month of the Horse Panel Presentation

Carey Williams participated in a panel discussion at the Monmouth County Library in celebration of the Month of the Horse. Dr. Williams presented valuable information about best practices for care and feeding. She was joined by Harriet Honigfeld, Administrator with Monmouth County Planning Board, and the Farmland Preservation Program; Elden Klayman, DVM, CVA, Colts Head Veterinary Services; Brett Taft, Open Space Pace Festival and Parade of Horses; and Bill Sciarappa, New Jersey Agricultural Experiment Station. Outside of the library, Independent Act "Indy" greeted guests as they arrived for the panel presentation.

ASAS Sessions

Karyn Malinowski and recent Ph.D. graduate, Ryan Avenatti, gave two presentations during the recent American Society of Animal Sciences annual meeting in Kansas City, Missouri. The first talk, "Ensuring Good Health and Well-Being in the Aging Equine Population," given by Karyn Malinowski included data conducted at the Equine Science Center by faculty and student researchers, as well as from colleagues at academic institutions around the world. The second, "Glucose-Insulin homeostasis and characterization of proteins involved in glucose uptake signaling in equine skeletal muscle," was a poster presentation by Ryan Avenatti. For more information on aging horses, please contact the Center at 848-932-9419.



Check out our photo gallery at the Equine Science Center's [Facebook](#) page.