

# RUTGERS UNIVERSITY EQUINE SCIENCE QUARTERLY



From Our Stable To Yours

Summer 2016

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## Summer Showcase Kicks Off a Year of Celebration for Our 15 Year Anniversary



**W**ith close to 100 people in attendance, the Rutgers Equine Science Center was ready to start its kickoff event at the Roundhouse.

Located on the Cook Farm at Rutgers University, the Roundhouse is primarily used as a lecture hall / demonstration lab, but today things would be a little different.

Instead of college students gathering for a lecture, the crowd gathered here to help the Center kick off a year of celebration and

events; The Equine Science Center is turning 15 years old.

Welcoming remarks were given by Dr. Karyn Malinowski, Director of the Equine Science Center. Dr. Malinowski has been working with horses at the University for longer than the Center has existed, and today was a moment of pride for her.

Today Center faculty, staff, and students would receive recognition for everything that they have done to accomplish their goal of "Better Horse Care through Research and

# From The Clubhouse



Looking forward to  
upcoming events -  
there are so many  
ways to visit with  
the Equine  
Science Center

Dear Friends,

Lots of things have been happening at the Equine Science Center this spring as we began our year-long celebration of the Center's 15th anniversary. When I think back of all that has been accomplished here in support of "Better Horse Care through Research and Education", by faculty, students and staff, my head starts to spin.

We kicked off our celebration on July 13 at the Summer Showcase. It was great to see over 100 board members, supporters and friends at this always popular event.

I'm proud to say that the Center was recognized for 15 years of excellence by a ceremonial resolution from Senator Bob Smith, a congressional certificate from U.S. Rep Don Norcross, and a proclamation from the Monmouth county Board of Freeholders in recognition of its 15 years of excellence. **See Cover Story.**

In April, I was busy at Special People United to Ride in Monmouth County conducting an off-site research trial investigating the impact of Equine Assisted Activities Therapy (EAAT) on veterans with PTSD and their equine therapists. Sessions were organized by Jenni Tevlin and the staff at SPUR.

While Jenni conducted the research with the veterans, we were responsible for investigating the impact of EAAT on stress and well-being in the horses. This is the G.H. Cook Honors Project of Chi (Michael) Yee.

We will be busy analyzing all of our samples in the coming months. **See story on page 8.**

On May 22, Lord Stirling Stable hosted a fundraiser hunter pace for the Center. Not only did alumna Wendy Hale and I have a great ride at a very well organized event, she and I won the pace with our trusty mounts, GW Burnt Toast and Hugme Christi. Thanks to all of our friends at LSS for a spectacular event!

In June, during the Month of the Horse, I attended the National Association of Equine Affiliated Academics (NAEAA) hosted by Centenary University and the American Horse Council's Annual Issues Forum in Washington, DC.

Both meetings were excellent and I was able to network with longtime associates and meet new faces, as well. I also had the pleasure of meeting the new AHC President, Julie Broadway. We spent a lovely last Sunday in June at Fair Winds Farm for its third annual open house on a picture perfect day.

Over the coming year, look forward to visiting with us as we continue our celebration. Next on our agenda is the **Hambletonian Veterinary Conference** on August 5 at the Meadowlands Hilton.

This has become an annual event for the Center as we share our knowledge with veterinarians from around the country. It's nice to also be able to witness the finest in harness racing at the Meadowlands Racetrack on Friday night and Saturday on Hambo Day.

If you visit the events page in this newsletter or on our website you will find that there will be plenty of opportunity to visit with us in the coming months.

We will be at Freehold Raceway on September, 17 for the **Open Space Pace**. Don't miss our second **Symposium on Legal, Business, and Insurance Issues Impacting the Equine Industry** on October 10 at The Palace in Somerset and our annual Evening of Science and Celebration on November 17 at the Cook College Campus Center.

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).



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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)



Merial recognizes that diseases pose a significant threat to the health and well-being of horses, and that's why Merial is at the forefront of supporting horse owners and veterinarians in their efforts to keep horses healthy.

In addition to providing a wide array of vaccines and pharmaceutical products for horses, Merial engages veterinarians and horse owners in educational programs and online tools to build a greater awareness of diseases and the importance of prevention.

These resources, along with industry-leading products enable us to help veterinarians and horse owners keep horses healthy.

## UPCOMING 2015 EVENTS

### 2016 Hambletonian Continuing Education Seminar: Wet Labs

Thursday, August 4, 2016

Meadowlands Racetrack  
1 Racetrack Drive  
East Rutherford, NJ 07073

[Gordon@firstchoicemarketing.us](mailto:Gordon@firstchoicemarketing.us)

### 2016 Hambletonian Continuing Education Seminar

Friday, August 5, 2016

Hilton Meadowlands Hotel  
2 Meadowlands Plaza  
East Rutherford, NJ 07073

[Gordon@firstchoicemarketing.us](mailto:Gordon@firstchoicemarketing.us)

### 5th Annual Open Space Pace and Festival of Horses

Saturday, September 17, 2016

Freehold Raceway  
130 Park Ave  
Freehold, NJ 07728

[BTaft@umh.com](mailto:BTaft@umh.com)

### Symposium on Legal, Business and Insurance Issues Impacting the Equine Industry

Monday, October 10, 2016

The Palace at Somerset Park  
333 Davidson Ave.  
Somerset, NJ 08873

[ESC@aesop.rutgers.edu](mailto:ESC@aesop.rutgers.edu)

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



# Summer Showcase (continued)

Education.”

The Center was first presented with a Congressional Certificate from U.S. Rep. Donald Norcross (NJ-01) by Ms. Sharon Ortepio, Chair of the New Jersey Equine Advisory Board. A part of the New Jersey Department of Agriculture, this advisory board works to market and promote the New Jersey horse industry.

A Joint Legislative Resolution, sponsored by N.J. Senator Bob Smith and N.J. Assemblymen Joseph Egan and Joseph Daniels, was presented by Ann Dorsett, the Vice-Chair of the NJEAB.

Finally the Center was honored with a ceremonial proclamation from the Monmouth County Board of Chosen Freeholders, sponsored by Lillian Burry. For this proclamation Stella Almeida, Mark Mullen, Taylor Palmer, and Maggi Romano (all members of the equine industry in Monmouth

County) came together to present the Center with the proclamation on behalf of their community.

Dr. Wendie Cohick, Chair of the Department of Animal Sciences, and Dr. Brad Hillman, Senior Associate Director of the New Jersey Agricultural Experiment Station (NJAES) and Director of Research, were next in giving their opening remarks about how the Center works within the Rutgers, Department of Animal Science, and NJAES community. Giving both a history of the Center and its time at the University, as well as thanking Dr. Malinowski and everyone who works at the Center, Drs. Cohick and Hillman spoke about the importance of having the Equine Science Center at Rutgers.

Once all of the awards and honors were presented, guests moved to the Equine Exercise Physiology Laboratory where they were treated to a high-speed equine treadmill demonstration.



One of the many mares that are a part of the Center herd, Randy, wowed the crowd with a big gallop. Surprise visitors from I Excel Child Care in Perth Amboy, NJ were in awe of the performance. Around 40 of these young visitors had come to the Cook Farm for a tour, and were invited to join in seeing how a horse goes from 0 to 24mph on the treadmill. Their faces said it all, as they were enthralled by how fast the horse was able to go.

Attendees then broke off into groups and visited each of three stations that highlight some of the work done at the Center.

The first station, Dr. McKeever's laboratory, was showcased by Dr. Malinowski and graduate students Dylan Klein and Kate Goodman who discussed the types of research currently underway. Dylan and Kate spoke about the effects of training on skeletal muscle at the cellular level and the testing of a new blood pressure drug designed to treat Exercise-Induced Pulmonary Hemorrhage in horses, respectively.

Next, groups learned all about the equine skeleton with "Wishbone," the center's life-size model. Dr. Carey Williams gave this tour and



Dr. Williams using "Wishbone" to teach some of the members of the Monmouth County 4-H Horse Program about equine anatomy.

spoke about the similarities between the equine and human skeletons.

The final station was all about fun and games with guests participating in "Equine Science Jeopardy," testing their horse knowledge. Dr. Nettie Liburt, a graduate of Rutgers for both her Masters and Ph.D., had questions from a horse 101 level to naming the five focus areas of the Equine Science Center.

The Center ended the showcase with some time for one-on-one conversations with the Equine Science Center Staff, and a goody bag for all attendees.



Members of the School of Environmental and Biological Sciences (SEBS) Educational Opportunity Fund (EOF) Summer Program join for a round of Equine Jeopardy, and learn about topics such as: Exercise Physiology, Nutrition, Pasture Management, Environment, and General Horse Knowledge.



Equine Exercise Physiology Lab

Lab Notes - McKeever

From The Lab:  
Winners never cheat,  
and cheaters never  
win!



**T**he illicit use of performance altering substances often puts the health of the horse at risk. Thus, it is imperative to understand the effects of any substances designed to go into a horse's body.

A part of the Center's mission is to prevent injury and illness, the study of such substances is an integral part of our work.

Our research has been used in court cases, and has helped to shape rules and regulations regarding the use of certain substances with regard to competition.

In addition, work at the Center has contributed to the development of new, accurate methods to test for the presence of illegal substances in horses.

There are some substances that have real, medical value and have a very important place in treating disease or injury, but these same substances have no place in competition.

It is essential to understand the balance in optimizing horse health while minimizing negative consequences on the body.



## #1: Preventive Research

The Center is one of two active equine exercise physiology labs in the country that is not connected with a veterinary school. As such, the Center's mission is to prevent injury and illness, not cure existing problems. A major area of research at the Center is on performance altering substances in racehorses. This information benefits horses in all disciplines as well!

## #2: Cobalt

The recent rise in the use of cobalt in horses has raised numerous questions, some of which are being answered right here at the Equine Science Center. Cobalt is a naturally occurring element that is present in the horse's body in minuscule amounts. Supplementing large doses of cobalt results in a "blood doping" effect. Cobalt toxicity can lead to blood thickening and thyroid toxicity, but are there other negative consequences?

How much is too much? What is a normal concentration of cobalt in a horse? Dr. McKeever's lab is addressing these very questions right now as you read this!

## #3: Clenbuterol

Clenbuterol is a bronchodilator used to treat breathing disorders. However, studies at the Center have discovered that clenbuterol acts as a repartitioning agent that actually decreases aerobic performance and potentially causes heart damage. Some athletes have misused clenbuterol to build muscle and decrease body fat, but the consequences for cardiovascular health can be dire. Studies at the Center have been at the forefront of discovery in this regard.

SCIENCE IMPROVES  
INTEGRITY OF  
EQUESTRIAN SPORT!

## #4: Erythropoietin a.k.a. EPO

EPO is another "blood doping" agent, designed to increase the number of red blood cells in circulation. More red blood cells means more oxygen can be carried to working muscles, and fatigue can be delayed. Unfortunately, this can also cause thickening of the blood, impairment of circulation, and potentially even anemia! But did you know that horses don't need drugs to increase red blood cells? A horse's spleen stores red blood cells, and naturally sends them into circulation when exercise begins and increases in intensity. Dr. McKeever's lab has helped develop tests for improper use of EPO.

## #5: Integrity of Sport

The Center continues its work on the forefront of issues challenging the integrity equestrian sport. Understanding the consequences of all substances on horse health is essential for injuries and serious health problems, as well as potential benefits. Asking questions and designing proper, scientific experiments to answer them produces unbiased data that helps to improve equine welfare and the credibility of the sport.





# Unique Therapy Trial Connects Horses with Veterans

In April, The Equine Science Center completed a five-day data collection trial involving Equine Assisted Activities Therapy (EAAT) to measure the physiological indicators of stress and well-being in humans and horses.

“The main reason for getting involved in this project was to investigate the effects of EAAT on horses” said Dr. Karyn Malinowski, Director of the Rutgers University Equine Science Center. “Many research studies have been conducted looking at the impact on humans but very few have looked at the horses” she added.

This trial marks the first time that oxytocin, an indicator of well-being, was measured in horses after interaction with humans.

“Since oxytocin is a universal indicator of well-being and bonding,” said Malinowski, “the results could be very interesting!”

In a partnership between The Rutgers University Equine Science Center, Special People United to Ride (SPUR), Sunnyside Recreation Area (a division of the Monmouth County Park System), Monmouth University, and the Lakewood Veterans Affairs, the aforementioned groups took samples and measurements of both horses and humans from April 19 - 23.

The horses were provided by SPUR, a non-profit organization dedicated to sustaining the Park System’s therapeutic riding efforts, which is housed at the Sunnyside Recreation Area.

Plasma samples will be processed over the next few months, correlated with other measurements taken (such as heart-rate in humans, and heart-rate variability in horses) to see if there is evidence of a positive impact of EAAT on both humans and horses.

The Center hopes to release its preliminary findings in the Fall during its “Evening of Science and Celebration on November 17th.





For pictures from the study, please visit our [FACEBOOK PAGE](#).





# NELSON'S CORNER

## HOW TO BEAT THE HEAT

Don't you just love the lazy days of summer? I sure am enjoying napping in the warm breezes and indulging in some carrots - with the green tops, of course - fresh from the farm stand. Do you know what else I love? Since my human friends won't allow me in the swimming pool (I can't imagine why), they at least give me my very own, personalized bath time in the wash stall. It's very refreshing, and my humans seem to love it when I splash them!

However, there are some days it is just too hot to ride, or do much else for that matter. Recently, there have been several "air quality alert" days. What that means is there is a high level of pollution in the air we all breathe, and exercising under these conditions can cause health problems. So if it isn't good for people, it's not good for horses either, especially seniors, youngsters, or horses with breathing problems.

On days that are very humid, it can be hard to cool off. Sweating helps heat dissipate from the body, but on humid days sweat doesn't evaporate off the skin as well as it would under drier conditions, making it harder to stay cool. Older horses, obese animals, and foals have a harder time regulating body temperature by nature, and when you factor in a hazy, hot and humid day, it can be even more difficult. Be sure to take extra precautions if you have a horse in any of those categories.

How else can we beat the heat? Besides a cool bath on a hot day, don't forget to drink plenty of water. Hydration is essential for helping to regulate body temperature and for proper sweating. Go ahead - put your own head under the hose after you've showered off your horse. It's fun, and it feels great! In addition, keeping horses inside while the sun is at its peak (usually between 10am-2pm) can be helpful. Commercial-grade fans in barns help circulate air and provide ventilation. Some folks like to turn their horses out in the early mornings, evenings or even overnight to avoid the hottest parts of the days. If you do go riding, these are also the best times to do so, but consider just skipping the ride on oppressive days.

I love summer, but make sure you have a strategy to beat the heat. Take note of the forecast and plan your activities accordingly. Stay safe, and enjoy the season!

Write to me at : [LordNelson@NJAES.Rutgers.edu](mailto:LordNelson@NJAES.Rutgers.edu)

I hope to hear from you soon!

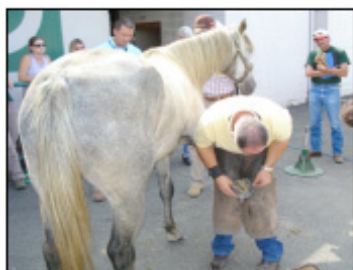
Your Pal,  
Lord Nelson





# 2016 CONTINUING EDUCATION SEMINAR

Presented by: **FIRST CHOICE**  
MARKETING LLC



## 11th Annual Hambletonian CE Wet Labs

**Thursday, August 4th**

**Meadowlands Racetrack, E. Rutherford, New Jersey**

**8:00 AM - 5:00 PM**

## 11th Annual Hambletonian CE Seminar

**Friday, August 5th**

**Meadowlands Hilton Hotel, E. Rutherford, New Jersey**

**7:00 AM - 6:00 PM**

Half-day sessions available; earn up to 8 CE credits. Veterinarians: \$400 for one half-day session (4 CE credit hours) and \$700 for two half-day sessions (8 CE credit hours). Technicians: \$200 for one half-day session (4 CE credit hours) and \$350 for two half-day sessions (8 CE credit hours). Includes complimentary luncheon and transportation from our host hotel, the Hilton Meadowlands. Participation is limited. [REGISTER HERE](#) to lock in your place.

### 2016 Wet Labs Selections

[Click here](#) to see full details in the [Wet Labs Agenda](#)

A complimentary Continental Breakfast, hot Buffet Luncheon, and all Seminar materials are provided each day. There will be 14 hours of CE to select from. Attendees will earn a total of 7 CE Credits for participating in this Seminar program. Registration fee: \$135 (veterinarians) and \$75 (technicians). The Seminar is free to veterinary students. [REGISTER HERE](#) for 7 classes.

### 2016 Seminar Selections

[Click here](#) to see full details in the [Seminar Agenda](#)



## 5th Annual Open Space Pace and Festival of Horses

The 5th annual Open Space Pace and Festival of Horses will be held on September 17, 2016. Come join our free all-day event consisting of a parade of horses, demonstrations by equine and agricultural non-profits, live harness racing, petting zoos, a concert and more!



The Open Space Pace is dedicated to the preservation and protection of open space in New Jersey.

They are currently looking for sponsors, support, volunteers, and any contribution that you are willing to make. They believe that if we combine our efforts we can successfully help to rejuvenate NJ's harness racing industry while preserving open space.



# Symposium on Legal, Business, and Insurance Issues Impacting the Equine Industry



Join Us:

Monday, October 10<sup>th</sup>  
9:30am - 5:00pm

The Palace  
At Somerset

333 Davidson Avenue  
Somerset, New Jersey 08873



Register for the event:  
<http://goo.gl/plAEP3>

facebook.com/RutgersEquineScienceCenter pinterest.com/RutgersESC twitter.com/RutgersESC youtube.com/c/RutgersEquineScienceCenter

Presented by: **The Equine Science Center**

**RUTGERS**

New Jersey Agricultural  
Experiment Station

General Admission: \$75 | Student Admission: \$50

*Registration fee includes catered breakfast and lunch,  
as well as all conference materials.*

To learn more about the Equine Science Center visit us at [esc.rutgers.edu](http://esc.rutgers.edu)



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