The Rutgers University Foundation is responsible for bridging the gap between donors and the University’s programs, faculty, and students. Donor generosity is highly valued as it allows the University to continue enhancing its core disciplines and reaching a broader audience through discovery and community engagement.

The private funds are used to further develop experiential learning, interdisciplinary research, and academics to address problems at the local, state, and national levels.

As one of the proponents for extension and community outreach, the Equine Science Center has actively participated in two fundraising projects this year offered through the University Foundation.

The first was a university wide campaign called “Giving Day.” Starting at midnight on March 21st, Rutgers alumni, staff, faculty,
On May 1 our federal work study student Carolayn Munoz received one of the Chancellor Student Leadership awards at a lovely reception and ceremony. Carolayn was recognized in the student staff excellence category. She has been an exemplary role model for others. Way to go Carolayn!

The Center was also represented at two events since the last newsletter. We attended the ribbon cutting ceremony at the Horse Park of New Jersey on May 10th during Jersey Fresh International to celebrate the new arena footing, and visited Fair Winds Farm to kick off the Month of the Horse on June 8. Photos of both events can be found on Page 19.

Our Summer Showcase earlier in the month had an exuberant crowd of over 110 attendees, which included special guests from Start Rite Day Care Center and Middlesex County Freeholder Director Ron Rios! RUBEA co-chairs Amy Butewicz and Warren Zimmerman welcomed our visitors, and Randy was her usual show-off self when performing on the high-speed treadmill. For the full story please visit Page 20.

Elena Rizzo and I had the pleasant experience of speaking with Dr. Amanda Suzick for our alumni story which you can find on Page 8. It is wonderful knowing that you can make a difference in students’ lives and that they always “return home” at some point.

Next on our agenda is the Hambletonian Veterinary Conference. 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.

We will be at Freehold Raceway on September 15 for the Open Space Pace, and be sure not to miss our annual Evening of Science and Celebration on November 8. Our featured speaker will be Dr. Burt Staniar from Penn State who will address the importance of chewing and forage in a horse’s diet!

Keep an eye on our events page for all of our upcoming events!

All the Best,

karyn

Dear Friends,

Saturday, April 28 turned out to be an absolutely GORGEOUS day! People turned out in droves to visit us at the Red Barn for the Ag Field Day Horse Show and to visit Center staff and students at the Equine Exercise Physiology Lab for Ag Field Day at Rutgers Day.

Giving away 1,000 horse sports bags, the Equine Science Center’s presence was displayed all over the G. H. Cook Campus on the backs of these future equine enthusiasts. Ag Field Day at Rutgers Day is always a great time to connect with former students, and this year was no different. I was pleasantly surprised by a visit from my former student, Dr. Christopher Puzio. An alum of the Cook College class of 1992, Christopher was accompanied by his husband Peter, and son Noah with his friend Liz. For pictures from the day visit Page 16.

The Center was VERY busy, in concert with members of the Rutgers University Board for Equine Advancement (RUBEA), conducting two fundraising campaigns. Our feature story, on Page 1, provides details about both Rutgers Giving Day and the crowdfunding project. Thanks to our board members who actively took part in both, as well as everyone who donated and participated! Our students and horses thank you!


Ag Field Day is always a great time to reconnect with former students, and highlight the value of equine research.
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.

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

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

In addition, they own 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 you find your dream home today.

For more information about UMH Properties, Inc., please visit: 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

For more events, visit our website @ esc.rutgers.edu
parents, students, and friends had the opportunity to give back to the causes of their choice through the online Foundation portal.

Months of preparation went into assembling online posts in pursuit to win multiple social media challenges offered through the Rutgers University Foundation, as well as raise awareness of the work of the Equine Science Center.

Public Relations Specialist Kyle Hartmann took the lead in organizing, as he developed an entire excel spreadsheet to prepare the captions and photos of each staff member and student, the times they would be posted, and the social media channels on which they would be posted.

Center staff and students worked diligently to plan their posts, which included setting aside work days to photograph and write “witty” captions to win over the competition judges.

For 24 hours, Center staff was busy posting about the assets of the Center, and the portal to give to the Equine Science Center of Excellence Fund. Ironically during the university-wide “Giving Day” campaign, Rutgers was closed because of the March nor’easter.
Despite not being in the office, Center staff and students made sure to remain in contact and encourage each other through the 24-hour social media frenzy. Many of them had alarms set on their phones to remind them to make their post every hour, on the hour.

By maximizing the amount of notifications on social media, the Center had multiple opportunities to win the competition. In fact, Center staff member Elena Rizzo won the “Scarlet Swag” and “Give From Your Desk” social media challenges.

She dressed Dreamer, one of the foster horses from the Rutgers University Teaching Herd, in Equine Science Center apparel as they posed for candid pictures! She also simulated having her office desk in one of the horse pastures! Both of her challenges totaled a $1,000 award for the Equine Science Center.
Public Relation Specialist Kyle Hartmann, Student Staff Manager Carolayn Munoz, and Rutgers University Board for Equine Advancement (RUBEA) co-chair Dr. Amy Butewicz all participated in the “Keep on Giving” challenge totaling an additional $400.

The Center won the “Lucky 21” challenge, meaning one of the donations was the “21st” (so donation number 21, 121, 221, etc.) adding another $100 towards the Center’s Excellence fund. In the end, the Center was awarded $1,500 from winning various challenges.

Due to the poor weather conditions on the 21st, it was decided that “Giving Day” would be extended for an extra 24 hours. Although exhausted from the constant notifications of hourly online postings, Center staff and students continued to fundraise throughout the following day.

One of the challenges even called for the creation of a snowman, so Elena Rizzo put on her mud-boots, trekked out to the Ryders Lane horse pastures, and built a snowman decked out in Center apparel.

The Rutgers University Foundation reported that Giving Day 2018 was the most successful one yet, with 6,545 donors giving $2,494,498.

The Equine Science Center alone had 35 donors who generously gave, totaling $16,837. This sum was the largest amount raised from any group within the Rutgers School of Environmental and Biological Sciences and New Jersey Agricultural Experiment Station!

More recently, the Equine Science Center hosted its own crowdfunding campaign through the University Foundation to highlight faculty, staff, students, and alumni, as well as the research that takes place at its world-renowned facilities.

Since the horse was formally designated as the state animal in 1977, Center Director, Karyn Malinowski figured there was no better time to fundraise than during “New Jersey’s Month of the Horse” in June.

As part of the campaign, the Center designated certain giving levels to help provide examples of the types of programs donor contributions would go towards.
These included examples such as “Care For A Horse For A Day, Week,” “Care for A Horse For A Month,” “Care For An Acre For A Year,” “Support a Student For A Week,” and “Graduate Research Equipment.”

Donors were also provided with the option to donate an amount of their choosing, similar to the portal on “Giving Day.” This option provided everyone the opportunity to give and make a difference, at any level.

In addition, the crowdfunding page included a new promotional video, which highlights the goals of the Center, as well as the benefits of the research facilities on campus.

The Center was active DAILY on all of its social media channels to highlight its human, equine, and research assets. Similar to “Giving Day,” Kyle Hartmann, Elena Rizzo, and Jennifer Weinert prepared all of the social media posts in a mass excel spreadsheet to ensure the Center revealed a new post every single day from June 1st to June 30th.

RUBEA members decided to host a telethon in order to help contribute to the campaign. On June 18th at their semi-annual board meeting, they reached out to personal connections in an effort to continue to solicit donations, as well as talk about the exciting research and opportunities happening at the Center.

Before the launch of the campaign, it was decided that the crowdfunding goal would be set at $5,000. With the success of Giving Day nearly three months earlier, it was a challenge that seemed obtainable.

With exactly one week left in the month, the Center hit the $5,000 goal on Saturday, June 23rd. The final campaign push was a success, as the Center raised 208% of its goal, with 50 donors contributing a total of $10,407.

The Center staff, volunteers, and students are extremely appreciative of everyone who took part in both campaigns. Whether it was making a donation, or taking the time to share a social media post, everyone was able to help make these initiatives a success.

The Center looks forward to hosting more campaigns in the future to continue raising awareness and funds focusing on its goals.
Born in Trenton, Dr. Amanda Szucsik has always had ties to New Jersey. Although she primarily lived in Massachusetts, where her parents worked, she spent the majority of her summers in New Jersey visiting extended family. Starting at a young age, Szucsik knew that she wanted to have a career involving animals; she entertained many ideas, ranging from dolphin trainer to veterinarian.

As an assistant at an animal boarding facility, one of her first jobs as a teenager, she worked with approximately 100 dogs and 50 cats. It was at this point that Szucsik became serious about pursuing a career in veterinary medicine.
Holly-Johnson-Modaferri, Dr. Karyn Malinowski, and Amanda Szucsik prepare for the 2000 Ag Field Day Horse Show, as they discuss the upcoming events of the day.
Continuous vs. Rotational Grazing: Recovery of Pasture Production Following Winter Rest

**Top 5 Facts About Continuous vs. Rotational Grazing**

1. Following winter rest, spring pasture yield was greater in rotational than in continuous pastures.

2. Prevalence of planted grass species (Kentucky bluegrass, orchardgrass, and tall fescue) was greater in rotational pasture after winter grazing exclusion.
One of the primary goals of pasture Best Management Practices (BMPs) is to minimize overgrazing of horse pastures, which typically occurs when pastures are not producing at a high enough rate to provide adequate available forage for grazing. Limiting overgrazing is important for good environmental stewardship.

This also helps maintain higher levels of pasture production and extends the life of your pasture, decreasing long-term costs associated with supplemental feed and pasture renovations.

One of the main BMPs that can be utilized to prevent overgrazing of horse pastures is rotational grazing. Correct management of rotational grazing systems ensures that pasture forage has adequate time to rest and recover before another grazing bout, thereby preventing the overgrazing commonly seen in more traditional, continuously-grazed pastures.

While resting pastures can help prevent overgrazing, rest alone may be insufficient to compensate for overgrazing in continuous pastures.

A recent study at Rutgers University evaluated the spring recovery of pasture production after a period of winter rest in continuous and rotational grazing systems. Pastures (continuous and rotational) had been committed to permanent grazing in their respective system for multiple years prior to the study, and thus the continuous pasture had been significantly overgrazed.

This study found that both the pasture yield and prevalence of originally planted grass species were greater in rotational pasture.

The results of this study indicate that implementing rotational grazing management may improve future pasture production for horse producers when compared to more traditionally utilized continuous grazing.

---

**#3**

The rotational pasture had a greater percentage of live leaf than the continuous pasture.

**#4**

Vegetative cover was greater in rotational pasture, with the largest differences observed in early spring when the continuous pasture remained below 70% cover for most of April.

**#5**

Nine months of complete rest (no grazing!) were required for the continuous pasture to reach a similar level of yield as the rotational pasture.
With her “Jersey roots,” and discovering Cook College’s strong pre-veterinary medicine program, Rutgers soon became the 1st choice for Szucsik’s undergraduate education. She enrolled in the Fall of 1997, and soon thereafter became a work study student assigned to the Poultry and Small Animal Research Facility (PSARF), as well as an assistant in the laboratory of Dr. Larry Katz under the supervision of Susan Becker. Becoming proficient in small ruminant handling, both of these opportunities provided her with experience that she would use in later years.

Through Dr. Katz’s lab, she was introduced to Dr. Bob Harris, a veterinarian who was the Director of Rutgers University Laboratory Animal Care. She admired Dr. Harris’ work, and started to see herself pursuing a career in lab animal medicine as opposed to private clinical practice.

She continued her undergraduate career pursuing challenging science courses and unveiling her professional passion.

Reflecting on one of her experiences during Systems Physiology Lab, she specifically remembers when her Teaching Assistant, Charlie Kearns, approached her after a glucose gut transport procedure. “What do you know about research?” he had asked. “Not that much,” she replied. Even though she wasn’t confident in herself, Kearns, a Ph.D. student at the time in Dr. Ken McKeever’s laboratory, saw potential and asked for her assistance in the equine exercise physiology lab.

Szucsik was hesitant to join the lab at first. Although she describes herself as the type of person to be eager to learn new things, she felt out
of her league due to her lack of horse experience. However, like many others who have witnessed it, she was enamored watching the horse run a graded exercise test on the treadmill for the first time.

Szucsik soon registered for research credit and relished in the experiences she gained in the treadmill laboratory. In fact, she pursued her George H. Cook independent honors research thesis under the direction of Dr. Ken McKeever, analyzing the effects of electrolytes on acid/base homeostasis in retired Standardbred mares.

As a senior, Szucsik was faced with the difficult decision of pursuing a vet degree (as originally planned), or a Ph.D. (with her new-found love of research).

A significant factor that played into her decision was finances, as the estimated price of attending vet school is often detrimental for new graduates. Deciding that she wanted to continue studying animal physiology with exercise as a stress factor, and Dr. McKeever’s advice to attend a different school than Rutgers for her graduate studies, she chose to attend the University of California Irvine to begin her Ph.D. work.

At UC Irvine, she analyzed exercise physiology in reptiles. Her project examined the effects of aerobic exercise training on skeletal muscle plasticity in reptiles.

Reptiles comprise the only vertebrate group that doesn’t respond to exercise training. This is surprising from an evolutionary perspective, as the capability to ‘train’ involves complex physiology.

It doesn’t make a whole lot of evolutionary sense for this capability to have evolved in ‘lower’ vertebrates (fish/amphibians), only to be lost in the reptiles and re-evolve in ‘higher’ vertebrates (birds/mammals).

Szucsik investigated the question as to why this is the case, and analyzed lizards at the whole animal level, as well as specific proteins/genes which produce muscle contraction.

This work began in the late 1990s. At the time, gene sequence information was non-existent for any animal species other than traditional laboratory models (i.e. rodents, flatworms, etc.).

It took her three years solely to develop the methods for her project, and an additional two years to complete the planned experiments and analyze the resultant data.

Approximately two-thirds of the way through her degree, Szucsik’s father developed terminal
cancer, during which she returned home to Massachusetts to care for him.

Although she ultimately returned to California to resume her graduate work, commitment to the work had waned. She departed graduate school with a Master’s degree, and pursued employment in private industry.

With such a unique skill set, Szucsik applied for nearly 70 jobs. With luck, she was contacted by a physiologist (who specialized in toxicology) at a private firm to perform in vivo work with rabbits and rodents. Due to economic difficulties in the late 2000’s, the company instituted a reduction in labor force and Szucsik had to find another position.

She then relocated to northern Utah, where she was employed by a boutique contract research organization conducting pre-clinical efficacy testing of novel medical devices in large animal models (swine and small ruminants).

After this, she relocated south to Salt Lake City where she managed the animal research program under the direction of a human cardiothoracic surgeon at the University of Utah.

Szucsik completed surgical modeling of heart failure in rodents, and investigated the effect of one molecule (NF-kB) on the heart’s ability to repair itself following injury.

She was also involved in studies of myocardial ischemia (heart attack) conducted in goats.

It was at this point she reflected on her experiences from Rutgers, and the time that she shared with her mentors, including Dr. Harris.

Szucsik redirected her career path, and chose to pursue a degree in veterinary medicine despite being a non-traditional student, and the economic challenges of attaining a degree in veterinary medicine.

She attended the North Carolina State University College of Veterinary Medicine, due in large part to it being the only school in the U.S. that offers a tracking curriculum in laboratory
animal medicine. It was the best of both worlds, as it allowed her to pursue her innate enthusiasm for veterinary medicine, as well as her passion for research which was unveiled at Rutgers.

“It takes a village to raise a student and encourage the pursuit of a career like mine,” she explained, “I have great love for the people and mentors I encountered during my time at Rutgers.” She expressed great appreciation for her mentors, as well as all of the connections she established at Rutgers.

In fact, Dr. Charlie Kearns was present at her graduation ceremony where she received her D.V.M. degree in 2018.

Dr. Szucsik’s favorite quote from “Tuesdays with Morrie” written by Mitch Albom exemplifies how she feels about the connections that she made at Rutgers.

“Have you ever really had a teacher? One who saw you as a raw but precious thing, a jewel that, with wisdom, could be polished to a proud shine? If you are lucky enough to find your way to such teachers, you will always find your way back.”

Dr. Szucsik feels blessed to have had the mentors she did while at the University, and has no doubt that Rutgers helped to set her on the path she is on today.
On Ag Field Day at Rutgers Day, students arrive to the farm by 6am to start preparing their animals for the competitions.

The Red Barn was full of activity, as the students from the Animal Handling and Fitting class put the finishing touches on their horses by braiding manes, polishing hooves, and show sheening coats, as well as memorizing their show patterns.

Center staff spent the early morning preparing Randy and Jolee for the High-Speed Treadmill Demonstrations, as well as setting up merchandise and apparel for attendees to purchase.

The doors to the Lab opened at 10am for tours and an opportunity to greet two of the research mares. The kids, some for their first time, enjoyed interacting with the "equine staff."

With over 1000 “Equine Science 4 Kids” Sports Bags given away by 1pm, the Center lost count of how many people stopped by to visit the Equine Exercise Physiology Lab.

Always a crowd favorite, the treadmill demos filled the Lab to capacity. The Center will have a surprise activity for Equine Science 4 Kids this upcoming year.
To see more of the pictures from the event, please go to: http://bit.ly/AgFieldDay2018
Pictured from left to right: Center intern Leena Roy, Center staff Elena Rizzo, Center student staff Carolayn Munoz, Dr. Karyn Malinowski, and Kyle Hartmann. The Equine Science Center was happy to help honor Carolayn Munoz as she received the Student Staff Excellence Award at the Chancellors Student Leadership Gala.
Horse Park’s 30th Anniversary and Ribbon Cutting

New Jersey Department of Agriculture Secretary Douglas Fisher, and other dignitaries from throughout the state, joined representatives from the Horse Park of New Jersey at Stone Tavern, Inc. to celebrate the Horse Park’s 30th Anniversary, and completion of the new Grand Prix Arena. The renovations to the arena were made possible by private funds and donors.

Proclamation of the Month of the Horse at Fairwinds Farm

Pictured from left to right: RUBEA co-chair Dr. Amy Butewicz, Center staff Elena Rizzo, Center intern Isabella Pierce, Fairwinds Farm owner Mark Mullen, NJDA Secretary Fisher. Equine Science Center staff and RUBEA co-chair Dr. Amy Butewicz visited Fairwinds Farm on June 8th to celebrate the Proclamation of the Month of the Horse. The event started with presentations by Secretary Douglas Fisher, as well as other state and local officials, and was followed by a tour of Dr. Hogan’s veterinary clinic. Attendees were allowed to observe one of her surgical procedures, and then proceeded to tour the facility, finishing with a presentation by the Harness Horse Youth Foundation.
On Wednesday July 11, the Rutgers University Equine Science Center presented its 2018 Summer Showcase with over 110 attendees, which was one of the largest groups of participants the Center has hosted!

People of all ages joined to see the current research being conducted by the Center, as well as participate in the educational and interactive activities that highlight the main focus areas of the Center.

The event opened up with a welcome from Center Director, Karyn Malinowski, followed by an exhilarating treadmill demonstration from Randy, one of our research mares.

It provided participants with a sneak peak of how the Center collects exercise physiology data in a safe and controlled environment. Attendees were then split into groups to rotate through the following sections of the Showcase.

The Center’s full size equine skeleton, RU Wishbone, was used by Dr. Carey Williams to teach anatomy, as well as detail the importance of conformation skeletal and muscle movement.

Participants also had their equine knowledge tested with a game of nutrition jeopardy presented by Ph.D. student Jennifer Weinert. With high competition stakes, participants had varied levels of questions ranging from water being the most important nutrient, to evaluating scenarios for body condition scores.

Finally, attendees learned how to age and sex horses based on dental patterns with the Center’s new “RU A Dental Expert?” interactive equine dentition activity by Center staff member Elena Rizzo.

The Summer Showcase is one of the Center’s most popular events, as it provides an opportunity for the staff to share their passion of equine science with others.

Special thanks to Freehold Director Ronald Rios, who joined us as a representative from Middlesex County NJ, and all of the participants from the Monmouth County 4-H Horse Project part of Monmouth County 4-H.
Karyn Malinowski  
Director  
Equine Science Center  
Phone : 848-932-9419  
E-Mail : karynmal@njaes.rutgers.edu

Kyle Hartmann  
Public Relations Specialist  
Equine Science Center  
Phone : 848-932-9419  
E-Mail : kylehart@njaes.rutgers.edu

Melissa McKillip  
Vice-Dean for Advancement  
School of Environmental and Biological Sciences  
Phone : 848-932-4214  
E-Mail : melissa.mckillip@rutgers.edu