

RUTGERS UNIVERSITY EQUINE SCIENCE QUARTERLY



From Our Stable To Yours
Winter 2018

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Society of Animal Science members judging a class of sheep for the livestock evaluation portion of the 2017 NESA competition. Teams have ten minutes to judge conformation, purpose, and breed characteristics.

Every year students from the Society of Animal Science at Rutgers University participate in the annual Northeast Student Affiliate (NESA) competition.

This event is a part of the American Society of Animal Science and American Dairy Science Association. Rutgers, which last hosted the event in 2013, is excited to again be hosting this academically rigorous competition.

The schools that generally participate in the competition include Delaware Valley University, Pennsylvania State University, Rutgers University,

the University of Connecticut, the University of Delaware, the University of Maine, the University of Maryland, the University of Massachusetts-Amherst, the University of New Hampshire, the University of Rhode Island, and the University of Vermont.

Last year Rutgers had 27 students and 6 teams (4-5 students/team) compete in the three phases of the NESA competition.

The three phases include livestock judging, animal science quiz bowl, and scientific paper presentations.

From The Clubhouse



**Join us on
Sunday,
February
11, 2018 for
the Horse
Management
Seminar!**

Happy New Year!

Dear Friends of the Rutgers Equine Science Center,

*Here's to hoping 2018 will be a fabulous year for our human and equine friends alike! We certainly were spoiled with unseasonably warm weather right up until Christmas Day, before things took a turn for the worst with the recent arctic blast. Please check out **Lord Nelson's recent Blog Post** on whether or not you should blanket your horse this winter season. We just completed our 2016-2017 Annual Report. It is our gift to you for the New Year! Please take a moment to review the latest research and outreach efforts from Center faculty, students, and staff. Feel free to view it on our website in the coming weeks.*

I was busy during the fall semester writing up research results from some past work. The research conducted by Ryan Avenatti for his Ph.D. dissertation in Dr. Ken McKeever's and my lab on "The Effect of Age and Exercise on Heat Shock Proteins" was recently accepted for publication in Comparative Exercise Physiology.

*I also submitted the manuscript for the effects of equine assisted therapy on horse stress parameters after interaction with humans diagnosed with PTSD. The paper is currently under external review for Journal of Equine Veterinary Science. The annual Evening of Science and Celebration was held on November 9 at the Cook Student Center. The evening is truly a blur since I served as emcee and presented the keynote lecture. Prior to the dinner, the Rutgers University Board for Equine Advancement members hosted an intimate VIP reception for friends and potential donors. For pictures from the event, please visit the **Facebook Photo Album**.*

*We had an all-time record crowd with lots of young people in attendance. The date we picked fell on a night when there was no school the following day, due to the NJEA convention, so many 4-Hers and Pony Clubbers came out to support our event. See the story on **Page 18**.*

I hope to see you all on Sunday, February 11, 2018 for the upcoming Horse Management Seminar hosted by the Rutgers Equine Science Center and Rutgers Cooperative Extension. The over-arching theme is "Gastrointestinal Health and Management" and will feature presentations by several equine experts.

In addition to the educational presentations, the seminar will feature informational displays, networking opportunities with industry companies and area organizations, and ample time for one-on-one discussions with the day's presenters.

*Complete program, registration information, and seminar brochure can be found at:
<https://goo.gl/2ZNHR2>.*

*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.



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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



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

2018 EVENTS

Horse Management Seminar

Sunday, February 11, 2018

Cook Student Center
Rutgers, The State
University of New Jersey
New Brunswick, NJ

esc@njaes.rutgers.edu

Junior Breeders Symposium

Saturday, April 7, 2018

Cook Farm
Rutgers, The State
University of New Jersey
New Brunswick, NJ 08901

carey.williams@rutgers.edu

Ag Field Day Part of Rutgers Day

Saturday, April 28, 2018

Red Barn - Cook Farm
Rutgers, The State
University of New Jersey
New Brunswick, NJ 08901

esc@njaes.rutgers.edu

Equine Science Center's Summer Showcase

Wednesday, July 11, 2018

Red Barn - Cook Farm
Rutgers, The State
University of New Jersey
New Brunswick, NJ 08901

esc@njaes.rutgers.edu



At a local goat and sheep farm in the Cayo District of Belize, students from the CELA “Large Animal Veterinary Practices in the Tropics” class perform hoof trimming and maintenance shots on a group of “kids.” (Pictured from left to right: Giulia Arpino from Rutgers University, Adrianna Sniezek from the University of Maryland, Leena Roy from Rutgers University, and Amanda Sutton from the University of North Carolina.

A WINTER BREAK SPENT IN

Belize

WITH THE CENTER FOR ENGAGED LEARNING ABROAD

By: LEENA ROY

This winter break I had the opportunity to study large animal medicine on a two-week study abroad trip to Belize with CELA (Center for Engaged Learning Abroad).

After spending Christmas and the first week of the year in Belize, the other students from Texas, Florida, Utah, Michigan, and North Carolina, and I became a close-knit family, and could not imagine a better way of ringing in 2018!

When I first stepped off the plane in Central America, I was immediately in paradise. The culture shock of dirt roads and villages were foreign to other students, but were something familiar to me. After traveling to other places like India, the eighty-degree weather and city of San Ignacio made me feel right at home.

Although English is the official language of Belize, we were greeted with Spanish and Creole, and I made sure to try and learn the languages to be as close to assimilating into Belizean culture during my stay.

Throughout the trip, we were guided by the program coordinator, Cynthia Reece, who was responsible for helping us prepare our accommodations and classes during the months prior to the trip.

She introduced us to our teachers: Ruben Tesecum, Dr. Edwardo Tesecum, Dr. Stephanie, and teaching assistant, Lorena, a 2nd year veterinary student at Tuskegee University.



Dr. Edwardo Tesecum, the Belizean supervising doctor for the trip, administers an I.V. sedative to prepare the patient for surgery while student Stephanie Duno restrains and comforts the patient.

As soon as we exited the airport, our instructors guided and mentored us as we “hit the ground running” handling animals and practicing our technical skills.

On the very first day we learned how to perform physical examinations. My first patient was a horse named Terra Bella.

I conducted my exam from head to tail, administered vaccines, an oral dewormer, and a vitamin B complex injection.

We continued to treat a variety of species, one in particular being an entire herd of Brahman cattle. With this breed being fairly skittish and aggressive, it put into perspective the realities of the physical labor

involved with the varying breeds in large animal medicine.

At the beginning of my trip, it felt like I was “playing” the role of doctor. However, as the days continued I quickly realized I WAS the doctor; I felt myself become more confident and comfortable with the idea of fulfilling the roles and duties of a veterinarian.

This was apparent by day three, when Dr. T let my friend, Mariah, and me assist in a surgical procedure! We were gloved up to help neuter a rancher’s one-year-old Rhodesian Ridgeback/Pitbull mix puppy. “Mariah hold here, Lena cut here,” he instructed.

I could not believe I was performing part of a surgery; it was a unique experience that I would not have in the United States.

After Dr. T removed both testicles, he showed me how to suture, and before I knew it I was holding the needle and forceps suturing the incision site closed. Through this opportunity, Dr. T's trust encouraged me to believe in myself.

My favorite day of the course was when we held a free spay and neuter clinic for the small village of Arenal. It was a jam-packed day of 19 back to back surgeries from 9:00am-5:00pm. Although intensive and exhausting, it was extremely rewarding.

Owners had started lining up before we even arrived at the location, and there was a steady influx of people throughout the day.

At first I was surprised, because most of the dogs were in better condition than some pets I have worked with in America, despite the amount of luxuries in first world medicine.

Our makeshift clinic put into perspective the differences between animal health care accessibility in the United States and Belize.

Without fancy fences, gates, pasture, or access to state of the art medical facilities, we were still able to treat the animals successfully. In addition, the residents of Arenal were very appreciative and grateful for the services we performed.

I specifically handled the suturing and post-operation care of three patients, and am confident in saying their procedures went smoothly.

I was thankful to have had the opportunity to care for the patients in a country that was giving me an unforgettable experience!

In addition to the course, the other students and I were able to experience the culture and integrity of Belize.

We explored ancient Mayan ruins, went cave canoeing and cliff jumping, attempted bat trapping, toured the local markets, traveled to an iguana reserve,

and swam at various beaches.

At every location, you could feel the positive energy emitting from the citizens; it truly resembled a tropical paradise!

I am confident in saying my trip to Belize was unforgettable, and a transformational experience. Every animal procedure, and long talks with my TA Lorena reassured me to never back down despite hesitation, and give every situation all of my effort.

I hope to take the lessons I have learned to strive and serve as a role model for my colleagues. I will never forget the feeling of Ruben, Dr. T, Dr. Stephanie, and Lorena trusting in my abilities, and providing insight for the wonderful veterinarian I will be in the future.



Students Leena Roy and Stephanie Duno are joined by green iguanas from the Green Iguana Conservation Project, a non-profit organization that was created to protect these endangered lizards.

Rutgers Society of Animal Science to host the Northeast Student Affiliate (NESA) Competition (Continued from page 1)



Members of the Rutgers livestock judging teams gather at the beef heifers pen in preparation for evaluation. (Pictured left to right are Bobby D'Albora, Vipa Patel, Kirsten Jeansson, and Audrey Ghanian).

During the livestock evaluation portion, six different classes are judged: horses, dairy cows, beef, sheep, swine, and a surprise class.

The surprise class has no rules or limitations; in the past students have judged oysters, tobacco leaves, goat sperm, local honey, and German Shepherds.

The quiz bowl phase covers all aspects of animal science and agriculture including animal physiology, husbandry, anatomy, metabolism, diseases, barn management, breeds, and show regulations.

During paper presentations, one student from each team is evaluated on his or her ability to prepare and deliver an eight-minute PowerPoint presentation reviewing an animal science research topic of their choice.

The top six paper presenters then present a second time in front of the entire audience to be placed 1st through 6th overall.

The scores from each phase are combined for a total team score, and then combined for an overall university score.

Last year, Rutgers' NESA team finished 3rd

place overall for the university score. One of the six Rutgers teams placed 10th overall, and two teams placed 4th and 6th in quiz bowl out of 52 teams.

The 2017 competition also had strong paper presenters, with three Rutgers students placing in the top 10: Dana Tsuchida placing 2nd, Grace Seeds placing 6th, and Anna Tyryllo placing 8th.

Another part of the NESA competition includes independent research presentations, which are original studies conducted by individual students during their undergraduate careers.

These students' scores are not counted towards the university score, but are awarded a cash prize for 1st through 3rd place.

Last year, Rutgers student Vipa Patel placed 2nd with her research project, "The Effects of Flame-retardants on Mouse Energy Balance," and Elena Rizzo placed 3rd with her research project, "The Effects of Continuous versus Rotational Grazing on Forage Soluble Carbohydrate Content and Blood Glucose and Insulin Concentrations in Horses."

The 2018 competition will take place on Saturday, February 24th.

With the help of the NESA advisors Carey Williams and Barry Jesse, and large animal unit supervisor Joanne Powell, students will run and organize the competition.

This includes assembling a team of volunteers, holding animals during livestock judging, organizing lunch, tallying scores, and arranging the awards banquet at the end of the competition.

The quiz bowl and paper presentations will be held on campus in Hickman Hall, and the livestock judging phase of the competition will be held at Cedar Lane Farm in Califon, New Jersey.

Faculty, with the help of graduate students, will moderate and judge the presentations and quiz bowl rounds. Williams commented, "After last hosting the competition in 2013, we received multiple complements from attending universities in regards to organization, professionalism, and the overall quality of the event."

The animal science department is finalizing sponsors, quiz bowl questions, and breeds that will be evaluated. Rutgers intends to maintain its reputation for hosting a challenging competition!



The combined scores of the 2017 Rutgers Society of Animal Science competitors placed them third overall out of the nine universities that competed at the University of Rhode Island. (Pictured with faculty advisors Dr. Barry Jesse and Dr. Carey Williams).

The Animal Sciences Department: Recent Updates & Changes



On the George H. Cook Campus, Dr. Barry Jesse grills bison burgers for the annual Society of Animal Science barbecue fundraiser. Held on Ag Field Day, a part of Rutgers Day, this event takes place every last Saturday in April. (Photo credit: Kathy Manger, Department of Animal Sciences).

With over 450 students and twenty-five elective classes, the Animal Science undergraduate major is one of the most extensive programs in the School of Environmental and Biological Sciences (SEBS) at Rutgers University.

The most popular concentration of the major is the pre-veterinary medicine and research option, as Rutgers students are proud to maintain an 80% acceptance rate into veterinary medical schools.

With its strong roots in the land-grant university tradition, the department is dedicated to mentoring and guiding students to improve the health and well-being of animals through teaching, research, and outreach.

The extensive course offerings, networking opportunities, and world-renowned faculty ensure that undergraduate students will continue to have global impacts in all areas of animal science.

One special faculty member is equine veterinarian, professor, and researcher, Dr. Sarah Ralston. After 28

years of teaching in the Animal Science Department, Dr. Ralston retired on July 1st and was given the title of professor emeritus. In addition, as she closed out her tenure, she received the “2017 Educator of the Year” award from the New Jersey Veterinary Foundation.

Dr. Ralston was credited with directly mentoring over 100 students who have pursued careers in veterinary medicine since 2000. She has served as a George H. Cook independent research advisor to more than 30 students, most of whom also attended veterinary school.

After her teaching initiatives such as the Young Horse Teaching and Research program, and her efforts to actively engage the university’s reach to the public with her research in equine nutrition, she will be deeply missed by the pre-veterinary student body!

Another loss to the department includes the departure of former undergraduate program director, Dr. Kathleen Rahman. During her time at the Rutgers,

Dr. Rahman helped to improve the program's social media presence, and revitalize the science elective curriculum requirements.

As a previous undergraduate and graduate student in the Animal Science program, Dr. Rahman had the first-hand experience to identify faults, and update the department accordingly. She easily adjusted to her position mentoring students and teaching "Introduction to Animal Science" and "Careers in Animal Science." Her positive energy and attitude will be greatly missed by faculty and students!

As a result of the recent retirement and resignation, the Departmental Curriculum Committee now consists of Drs. Barry Jesse, Wendie Cohick, Carey Williams, and Carol Bagnell, with Aparna Zama as the new undergraduate program director and pre-veterinary medicine advisor.

In conjunction with departmental changes, Barry Jesse, recently joined the Equine Science Center staff as Associate Director for Academics. Jesse is well versed with Rutgers' academic systems and has been able to make an easy transition to the needs of the Center.

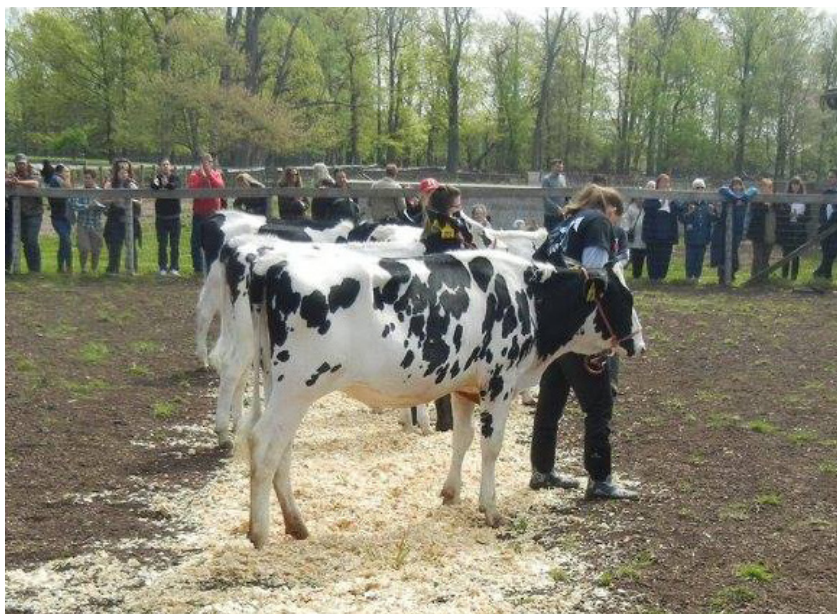
Currently, he also holds positions as the faculty advisor for the Rutgers University Seeing Eye Puppy Club and is the co-advisor for the Society of Animal Science.

As he is deeply involved with extracurricular activities, and has a passion for the increasing the need for outreach programs, Jesse is well equipped to recruit undergraduate students for the Equine Science Center.

Center Director, Karyn Malinowski, is very excited to be working with him as she noted, "Dr. Jesse brings a wealth of knowledge of academics at SEBS and to the Equine Science Center, not only as it relates to the Department of Animal Science, but also how it relates to academics at Rutgers in general. There is an easy going way about him and he is a perfect fit."

Jesse will be able to help students gain life skills and first-hand experiences to succeed in their future endeavors with the opportunities offered through the Equine Science Center.

In addition to faculty changes, there are varying curriculum requirements to be aware of as a student. Some of the most popular lectures in the animal science program are the experience based education



Animal Handling & Fitting students show Holstein dairy heifers for the last time at the 2017 Ag Field Day Animal Show. (Photo credit: Kathy Manger, Department of Animal Sciences).

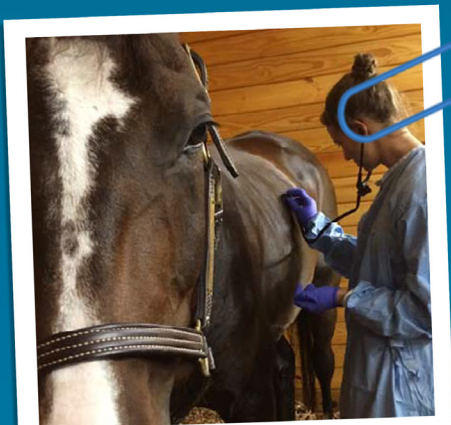
classes. These courses, which include Practicum, Animal Handling and Fitting Exhibition (Spring only), and Animal Nutrition Lab (Fall only), provide students with the opportunity to develop skills focused on treatment, routine management, and safety protocols.

Students interested in fulfilling the nine credits of experience based education should be sure they complete the "Orientation to Animal Care and Use at Rutgers Training, an Occupational Health Questionnaire," to be medically cleared to work with animals. Also, they should secure their spots in the classes by requesting a special permission number from the supervisor of the class a few weeks before the registration period begins.

It is important to note "Dairy Cattle Practicum," will now be changed to "Cattle Practicum" starting this spring semester because the Rutgers Farm dairy cow herd is transitioning to a beef cattle unit.

The extensive Animal Science program offers courses which cater to all concentrations within the major. Classes that are favorites amongst students and highly recommended by alumni include "Companion Animal Science," "Animal Assisted Therapy," "Comparative Mammalian Anatomy," and "Reproductive & Developmental Toxicology."

We look forward to future updates from Dr. Jesse and Dr. Zama regarding new course offerings and departmental advances!



Listening to a horse's gut can help to determine if the digestive system is functioning properly.

Lab Notes - Williams

From The Lab:



TOP 5
THINGS TO LOOK
FORWARD TO AT THE
HORSE MANAGEMENT
SEMINAR

#1

Dr. Amy Biddle, from the University of Delaware, will highlight the Equine Microbiome Project, which is working to identify the microbes found in the normal horse gut and determine how factors such as diet, age, breed, and health status impact their functions.

#2

Dr. Mary Durando, from Equine Sports Medicine Consultants, will detail important risk factors for gastric ulcers as well as treatment, prevention, and management considerations.

2018 Horse Management Seminar: Gastrointestinal Health and Management

Gut Health is currently a hot topic in equine nutrition, health, and management. A healthy, normally-functioning gastrointestinal tract is necessary for proper digestion and absorption of dietary nutrients. These nutrients support growth, reproduction, and athletic performance in addition to normal physiological processes.

Maintaining normal gastrointestinal function is also essential in preventing potentially devastating conditions that can result from digestive disturbances. These conditions, such as ulcers, colic, and laminitis, cause pain and discomfort. They can result in decreased performance, changes in attitude or behavior, and in the most severe cases lead to euthanasia. In addition, treatment of these conditions places a heavy financial burden on horse owners.

Therefore, the best strategy for horse owners and managers is to develop a working understanding of the horse's digestive

physiology and feeding practices that effectively facilitate normal gastrointestinal function. One of the key strategies for promoting overall gut health in the horse is providing access to quality forage, which is high in fiber. This encourages normal gut motility, maintains the natural balance of microbes in the hindgut, and regulates pH in the equine digestive tract.

On Sunday, February 11, 2018, Rutgers Cooperative Extension in collaboration with the Rutgers Equine Science Center will present the 2018 Horse Management Seminar. This seminar will feature experts from academia and industry presenting current information on topics related to equine gut health. These topics include gastric ulcers and the equine microbiome, as well as the connection between dietary fiber and maintenance of proper gastrointestinal function. More information on the Horse Management Seminar may be found at <https://goo.gl/2ZNHR2>.

#3

Participants will learn the basic anatomy of the equine stomach, and how that relates to the development of gastric ulcers, in Dr. Durando's presentation.

#4

Dr. Burt Staniar, from Pennsylvania State University, will discuss the importance of fiber as an energy source, and its role in maintaining the health of the equine gastrointestinal tract.

#5

Participants will walk away with a better understanding of some of the research techniques and tools that are used to study equine gastrointestinal health after Dr. Staniar's presentation.

Public Relations Specialist Recognized For Dedication To The Rutgers Equine Science Center





Kyle Hartmann joined the Equine Science Center staff in September of 2014 as an Administrative Assistant.

After only three years of working at the Center, he was the first staff member with the shortest term of employment selected to be the recipient of the Rutgers Cooperative Extension Award for Excellence!

This award has been given annually since 1991 and identifies an individual that exemplifies excellence in his department, provides outstanding performance with special challenges, overcomes difficulties to achieve his goals, makes great contributions to Rutgers Cooperative Extension, and makes an impact in his department and locally as he represents the university.



Equine Science Center staff were joined by panelists, and co-sponsors, of the documentary screening “Riding My Way Back.” During the panel, each speaker discussed the needs of their respective communities, and the challenges faced by veterans as they return home.

Within his first months of employment, Kyle redesigned the annual report to a “magazine style” format, with an option to download it as an interactive PDF, allowing readers to efficiently browse and understand the accomplishments of the center.

In addition to the annual report, Kyle relaunched the website and other social media platforms to make them more user friendly. In doing so, he was promoted to Public Relations Specialist for his expertise in design and interpersonal communication.

He has always been successful in finding new opportunities to showcase the Center and its work, and serve as the liaison between the public and professionals affiliated with Rutgers.

Also within his first two months of working at the Center, Kyle helped organized a movie screening of the documentary “Riding My Way Back” as a community event to honor military veterans.

Through this, he was able to establish connections with Interim President of the State Theatre, Mr. Warren Zimmerman.

Mr. Zimmerman later joined the Rutgers University Board for Equine Advancement because of Kyle’s encouragement. With his passion for horses and outreach, Mr. Zimmerman became one of the co-chairs of the board, now working closely with Kyle to ensure the advancement of the Equine Science Center.

Kyle is also credited with organizing the Center’s most popular events, such as the annual “Evening of Science and Celebration” and the 15-year Anniversary weekend long symposium “Horses 2017: The Best of The Best.”

These events attracted attendees and professionals from all parts of the equine industry to showcase presentations and “Ask the Expert” panels surrounding better horse care through research and education.

Kyle not only ensured the events ran smoothly and according to protocol, but also developed multiple social media outlets to advertise the event and encourage attendance.

Kyle's excellent abilities to organize and plan have been monumental in expanding the Center's outreach efforts and its presence within the New Jersey Agricultural Experiment Station and Rutgers Cooperative Extension.

"Kyle is an irreplaceable asset to the ESC staff" said recent Animal Science graduate and Center staff member Elena Rizzo, "he has transformed the Center into the efficient and

accomplished organization that it is today."

In addition to the daily operations of the Center, which include planning/publicizing events, and coordinating communications such as press releases, newsletters and website postings, he is also the first point of contact between the public, and Center and University.

Kyle is responsible for maintaining all donor prospects and information with the Vice Dean of Advancement and Associate Dean of Philanthropy and Strategic Partnerships, and supervises the Center's interns and federal work study students.



Tabling at the annual Fair Winds Farm Open House, Kyle Hartmann assists young scientists in gathering "Equine Science 4 Kids" supplies to help them further their equine knowledge. In recent years, the "Horse Sport Bags" have been a popular commodity among event attendees.

The 2017 Evening of Science & Celebration



On November 9, 2017, the Equine Science Center hosted the annual Evening of Science and Celebration at the Cook Student Center. The program included discussions of research projects funded by the Center, and brought professionals from the industry together to celebrate the impact of the equine community in New Jersey.

It was the largest crowd in attendance, with over 200 people including 4H members, Pony Clubbers, students, and representatives from Special Strides Therapeutic Riding Center.

Special guests included the Landy family, the Dorsett family, and Rutgers University Board for Equine Advancement (RUBEA) members such as Co-Chairs Dr. Amy Butewicz and Mr. Warren Zimmerman, New Jersey Farm Bureau President Ryck Suydam, and

member at large Dr. Michael Fugaro. The event was sponsored by the Mid-Atlantic Equine Medical Center.

Before the dinner, RUBEA hosted a VIP reception for dignitaries and donors affiliated with the Center. It granted professionals in the industry the opportunity to interact with guests to highlight the Center's accomplishments and research efforts.

A few of the attendees included N.J. Secretary of Agriculture Doug Fisher, Executive Dean of the School of Environmental and Biological Sciences Robert Goodman, Senior Associate Director of the New Jersey Agricultural Experiment Station Bradley Hillman, and Middlesex County Freeholder Director Ronald Rios.

The night continued with a presentation from Brittany Smith. She is a fourth generation 4H member and discussed the history of the triple crown races.

Dr. Malinowski followed Brittany by serving as the keynote presenter for the first time in 27 years! A topic that attracted both veteran affairs and equine therapy programs, Dr. Malinowski delivered her recent research that analyzed “The Effects of Equine Assisted Therapy on Stress Parameters in Horses and Army Veterans Diagnosed with PTSD.” Ph.D. student Dylan Klein continued the night with his presentation of “Body Composition and Aerobic Capacity During Training and Detraining.”

The night finished with awards being presented by the Equine Science Center to dedicated equine community members. The Spirit of the Horse Award, presented to Laurie Landy, recognizes someone who has dedicated her life to giving back to the equine community.

Laurie is the executive and founding director of Special Strides Therapeutic Riding Center located at Congress Hill Farms. Although she did not grow up with horses, marrying into the Landy family, with her husband being deeply rooted in the equine industry, encouraged her to find a niche between horses and her profession as an occupational therapist.

She has devoted years of practice and study in the area of sensory integration and hippotherapy treatment strategies to help individuals reach their potential with the partnership of treatment and horses. Her selfless devotion was crucial in establishing Special Strides as the reputable and successful program it is today.

The Gold Medal Horse Farm Award, which recognizes horse farms dedicated to environmental sustainability and management, was presented to Dorsett Farms. Located in Woolwich Township, the boarding and breeding facility resides on 70 acres. Their staff is passionate about preserving a safe and friendly environment where both Arabian horses and their riders thrive.

Owners Larry and Ann Dorsett are dedicated to mentoring newcomers to Arabian horses, and to helping the breed continue to thrive in the Northeast region of the United States.

With great food, presentations, turnout, and volunteers to help run the event, this year’s Evening of Science and Celebration was a success and one to remember! We look forward to hosting it again!



Graduate Student Spotlight:

Ph.D. Candidate Dylan Klein



Born and raised in New Jersey, from Cream Ridge to East Windsor, Dylan Klein has always been close to Rutgers University.

Although his first time working with horses wasn't until his second year of graduate school, he was no stranger to the equine industry!

In fact, his best friend's father owned and raised Thoroughbred racehorses, which served as the constant backdrop of his childhood for constructing tree forts with his friends.

His first job in middle school was landscaping on Perretti Farms, which was one of the largest Standardbred breeding farms in New Jersey.

When he was a student in high school, he and his family moved to a location in front of Takter Stables, a training facility consistently responsible for producing horses with Hambletonian wins.

In addition, Dylan and his family made it an annual tradition to spend Father's Day at the Monmouth Park Racetrack, where his grandfather's ashes were spread.

Even when Dylan first started his education at Rutgers, he did not anticipate working with horses, despite his freshman year dormitory overlooking the horse paddocks.

He studied dietetics with the intention of becoming a registered dietician. After getting more experience during his fourth-year clinical rotations, he discovered he wanted to change career paths.

After serving as a teaching assistant and tutor during his undergraduate studies, he decided to pursue his passion for teaching by completing his Ph.D. in Nutritional Biochemistry and Physiology.

Knowing he wanted to study metabolism in skeletal muscle, he began his graduate studies in a research laboratory that analyzed lipid metabolism in mice.

After changes in supervision, Dylan became connected with the Associate Director of the Equine Science Center, Dr. Ken McKeever.

With the horse serving as a model for humans and metabolism, he finally started working with horses in the equine exercise physiology laboratory.

For the past three years, Dylan has collaborated with Dr. McKeever and Nutritional Sciences faculty member Dr. Tracy Anthony.

His research analyzed the effects of acute exercise on protein metabolism. He specifically looked at pathways involved with amino acid metabolism through the level of gene expression and global metabolite profiles before and after exercise in trained and untrained horses.

Essentially, he analyzed what it means to be “fit” and how fitness capacity changes at the level of gene expression and protein metabolism.

He also measured body composition and aerobic capacities during the training and detraining exercises, which has not been studied previously in horses.

Dylan presented these results at the Equine Science Center’s annual Evening of Science and Celebration, and explained to attendees that geldings maintained aerobic capacity after detraining, whereas mares did not.

In addition to his dissertation studies, Dylan



Joe Pellegrino, a Ph.D. candidate in Kinesiology and Applied Physiology, joins Dylan Klein who presented a portion of his research studies at the annual Summer Showcase. Taking place in the Rutgers Exercise Physiology Lab, the Treadmill Demonstration is one of the most popular attractions.

has helped the professionals at the Equine Science Center with multiple other projects.

He attributes his confidence and competence with horses to his supervisors and fellow undergraduate and graduate students.

With their assistance, Dylan has mastered horse care, handling, management, and tissue and blood collection.

He is especially appreciative of Dr. McKeever, whom Dylan describes as an encyclopedia of everything you need to know about horses.

During his time at Rutgers, Dylan also worked as a nutritionist for the University football team, and as a teaching assistant for

Advanced Nutrition I and II, Biology Workshop, and Systems Physiology lab.

He has served as a guest lecturer and presented his research at multiple events and conferences, such as the USDA multistate meetings.

He also teaches a graduate course at Columbia University, focused on metabolic regulation and human nutrition.

In his spare time, Dylan lifts at the gym and loves walking his four-year-old Pitbull, Lady. He looks forward to teaching at the graduate level in the future, and serving as a role model for future students.



Dylan Klein joined by Kathryn Goodman, the 2015-2017 Research Supervisor at the Equine Exercise Physiology Laboratory, take a break in between treadmill demonstrations on Ag Field Day. As the foundation of the lab, together they were able to successfully conduct consecutive research trials over the last few years focusing on horse health, exercise, and metabolism.

Rutgers' Annual Horse Management Seminar

February 11, 2018

Gastrointestinal Health and Management of Horses

Topics:

Presented by
experts from
around the
region

Gastric Ulcers

Fiber for Gut
Health

The Equine
Microbiome

Current and
Future Gut
Health Research

There's more:

Visit with
industry
vendors

Win lots of door
prizes

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experts

For the full schedule of the day and to
register go to:

<https://goo.gl/2ZNHR2>

Rutgers Cook Campus Center
8:30 AM - 4:00 PM

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Equine Science Center
Better Horsecare through Research and Education

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