

Animal Science Update

The Department of Animal Sciences

Newsletter

2022-2023

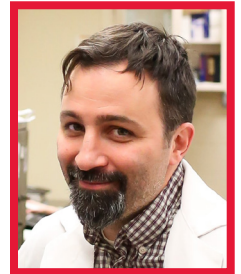
Chair's Message



by Carol Bagnell, Ph.D., Chair

Welcome to the Spring/Summer 2023 edition of the Animal Sciences Newsletter! As I write this message, I have already completed my three-year appointment (2020-2023) as Department Chair. It has been my pleasure to work with Animal Sciences faculty, staff, and students as we navigated through a lingering Covid pandemic. The switch to remote instruction mid-semester was most challenging. However, overnight, faculty became familiar with Zoom and online instruction. Students adjusted their lives accordingly. As we eventually returned to classes in person, it was a relief to welcome students back to our classrooms. We also discovered opportunities for online classes and advantages of online meetings.

I am pleased to announce that **Dr. Nick Bello** was unanimously recommended by the Animal Sciences faculty and appointed by Dean Laura Lawson to serve as Department Chair effective July 1, 2023. I have had the pleasure of working with Nick over the past several years, including during his time as Associate Chair this past year. I know I leave the Department in good hands with Dr. Bello's leadership and vision.



Faculty Updates. **Dr. Aparna Zama**, Undergraduate Program Director (UPD), received the 2022 School of Environmental Sciences Teaching Award. This year, Dr. Zama was awarded a five-year \$4.5 million-dollar USDA NIFA NEXT-GEN grant in collaboration with LaGuardia Community College in support of an Animal Science Discovery (ANSCId) Program that includes a summer experiential program, career development, and scholarship pipeline for minority students. Congratulations also to **Professors Karyn Malinowski** and **Ken McKeever** who were both honored at the Equine Science Society (ESS) meetings this summer. Dr. Malinowski was presented with the 2023 ESS Distinguished Service Award, recognizing her outstanding efforts in advancing the field of equine science. Dr. McKeever achieved the rank of Fellow of the ESS, recognizing his leadership and contributions in equine science. **Dr. Dipak Sarkar** was named a 2023 Fellow in the International Union of Physiological Sciences Academy, an organization that recognizes the discoveries and accomplishments of leading international physiologists. Read more about all these faculty accomplishments later in the newsletter.

Anna Hausmann, DVM, who joined in 2018, left the department in March 2023 to take a position in industry. Her teaching and career advising will be missed by all. However, we welcomed the opportunity for Emeritus Professor **Dr. Larry Katz** to return to the classroom to teach one of Dr. Hausmann's courses, Companion Animal Science. We are in the process of conducting a search to fill this faculty position. Also returning to Animal Sciences, **Susan Becker, M.S.**, is working part-time assisting Dr. Igor Shmarakov in his Foran Hall laboratory and helping Dr. Henry John-Alder in Bartlett Hall.

We are pleased to welcome to the faculty **Dr. Tess Stahl** (right), a newly-minted Ph.D. scientist from the University of New Hampshire who starts September 1, 2023. Tess is filling a tenure-track Extension Specialist position in Animal Sciences. Dr. Stahl's research program is focused on large animal nutrition, including the value of colostrum feeding of calves and lambs and the impact of byproduct feeds on growth and development in ruminants.



Staff Updates. **Laura Mitchell**, Program Coordinator II, joined the Animal Sciences staff in 2022 from the Office of Academic Programs in Martin Hall in support of our undergraduate program. Laura served at our front desk in Bartlett Hall, assisted our UPD with advising students, and spearheaded our online outreach to students and our social media effort. She returned to Martin Hall to start a new position in the SEBS Office of Development and Alumni Relations. She will be missed and we wish her all the best. We are currently interviewing prospective candidates to fill this Program Coordinator II position at our front desk.



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Undergraduate Program News



by Aparna Zama, Ph.D., Undergraduate Program Director

It's been an exciting and productive year for the [Animal Science Undergraduate Program](#)! SEBS has just admitted the largest incoming first-year class of 2027 and we have been busy onboarding the new students. Our pilot of the Grow@SEBS program was successful and [SEBS Office of Academic Programs](#) and the Animal Science program are now launching this initiative for the full incoming class of first-years and transfer students. See more at [Grow@SEBS](#).

**grow
SEBS**

Departmental Senior Awards. These endowed awards are presented to seniors in recognition of excellence in academics, research, and/or service to the Animal Sciences Department, SEBS, and Rutgers. Learn more about the 2023 recipients.

Lisa Chueh (Academics and Research Award) was involved in the SEBS fraternity Alpha Zeta as well as the Rutgers University Veterinary Science Club (RUVSC). She participated in research for two years in the Snyder lab, where she also conducted her G.H. Cook Honors thesis. In the summer of her junior year, she did Study Abroad through CELA Belize where she spent two weeks vaccinating farmers' herds and learning more about the country's rich culture and history. During her summers, she worked at her local animal hospital and took summer courses. Her favorite classes at Rutgers were Swine Practicum and Small Ruminant Practicum. Next year, she will be working with lab animals, and this summer, she will be applying to veterinary school.

Abigail Gamboa (Academics and Research Award) was part of the Veterinary Science Club and participated in endocrinology research. She also choreographed dances for the Rutgers Performing Dance Company (RPDC) in her free time. She works in a veterinary hospital as a technician, often assisting companion animals in consultations, bloodwork, and other animal healthcare services. She plans to take a gap year in California to earn residency there so she can apply to vet school as an in-state student. She would like to enter the laboratory veterinary field and keep working in research.



Toby Lo (Academics and Service Award) was treasurer and vice-president of the Society of Animal Science Club, a member of the Rutgers Veterinary Science Club, and a committee member of the This Is How We Role program. She also minored in psychology. Prior to coming to Rutgers, Toby worked as a lifeguard and swim instructor while shadowing a veterinary surgeon during school breaks. She was a vet assistant for over two years at the Jamesburg Veterinary Hospital and her favorite classes at Rutgers were the practicums. This fall, she will be attending the Royal Veterinary College in London and is split between exotics and surgery but hopes to specialize in the future.



Shakthi Sivaram (Academics and Research Award) was a veterinary assistant at a small and exotic animal hospital, and an intern and volunteer at Woodlands Wildlife Refuge. She also minored in music and plays the piano and electric guitar. At Rutgers, Shakthi worked with Dr. Gal Hochman from DAFRE in his aquaculture lab; they built enclosures for sea urchins, presented a poster at the MAC-AFS conference about native finfish and macroalgae compatibility, and studied technologies available for aquaponics. Her G.H. Cook Honors thesis was on creating a model for a three-species IMTA (Integrated Multi-Trophic Aquaculture) system. She is attending Cummings School of Veterinary Medicine at Tufts University and is especially interested in wildlife medicine and radiology.



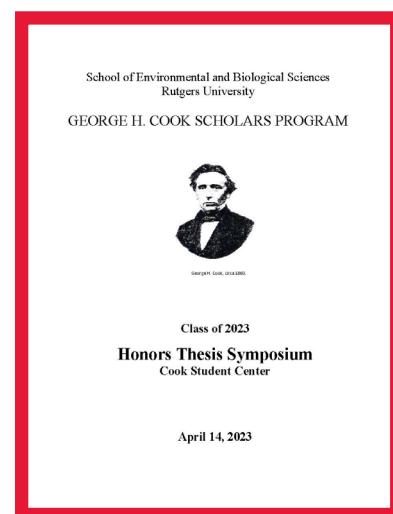
Dr. Rex L. Gilbreath Memorial Award. This award was established in memory of Dr. Gilbreath, former Associate Professor of

Animal Sciences, Alpha Zeta Professor of the Year, and researcher in the field of swine nutrition. The 2023 recipient, **Julia Meints**, has volunteered at a marine mammal rehabilitation center and worked at a small-animal vet clinic, an emergency hospital, and as a Rutgers athletics peer tutor for chemistry and physics. She also helped out in the Roepke Lab with behavior testing and enjoyed being a teaching assistant for the small ruminant and swine practicums. Originally from California, Julia had never been to a farm or worked with farm animals before coming to Rutgers. Next year, she is headed to UC Davis for veterinary school.



George H. Cook Scholars Program. The following seniors have completed their honors theses and have graduated as [George H. Cook Scholars](#), Class of 2023 (their advisors are listed in parentheses). If not affiliated with Animal Sciences, students' major or advisor's department is listed.

- **Paula J. Agustin** (McKeever): Testing the Effectiveness of the GraphWear Monitor on Tracking Lactate Concentrations in an Exercising Horse
- **Lisa Chueh** (Snyder): ADAD2's Influence on the piRNA Pathway in Meiotic Male Germ Cells
- **Olivia M. Cospito** (Roepke): The Influence of Ceasarian Section on Cognitive and Social Behavior in a Mouse Model of ASD
- **Abigail Gamboa** (Sarkar): Effects of Fetal Alcohol Exposure on the Development of Pituitary Tumors in Male Rats
- **Ragavi Raman** (Malinowski): Quantitative Behavioral Analysis of Horses Involved in Equine Assisted Activities
- **Shakthi T. Sivaram** (Hochman, DAFRE): Economic Viability and Environmental Impact of a Simulated IMTA System
- **Layiba Choudhry** Biotechnology (Bello): Binge Eating Behavioral Analysis



New EPAS Option

The individual Equine Science and Production Animal Science [options](#) have now been merged into a single track called Equine and Production Animal Science (EPAS)! This change has been rolled out from Spring 2023 for the incoming classes of Animal Science majors. However, current majors could have opted into this curricular change in Fall 2022. Students must still earn 120 credits total to graduate, but they do not have to take Elementary Organic Chemistry and Lab for the EPAS curriculum. They must also take the Production Animal Management (11:067:336) and the Horse Management (11:067:384) classes in fall and the Farm Productivity Analysis (11:067:406) class in spring.



New Experiential Learning (EL) Website

Formerly known as experience-based education (EBE), experiential learning (EL) is a key feature of the SEBS curriculum. Animal Science majors must earn seven experiential learning credits toward their graduation requirements. Students can visit the new [Experiential Learning in Animal Sciences website](#) to learn about unique EL courses, such as Animal Handling, Fitting, and Exhibition (11:067:175) and individual animal practicums (11:067:201-207) divided by species (cattle, swine, small ruminant, lab animal, and horse), as well as amazing programs such as Study Abroad and the Student to Professional Internship Network (SPIN). These experiences teach students how to handle and care for laboratory animals and livestock species. Hands-on learning is critical for overall student success and enhances the skills necessary to excel in professional schools, graduate school, or employment in animal science-related careers. (Left: A student shows a sheep on Ag Field Day, April 29, 2023.)

New 4+1 Program in Animal Sciences/Endocrinology and Animal Biosciences

The new 4+1 Program in Animal Sciences/Endocrinology and Animal Biosciences (EAB) allows a student who successfully completes a B.S. in Animal Sciences (120 credits) to also complete a non-thesis M.S. in Endocrinology and Animal Bioscience with one additional year of coursework (30 credits). They will enroll in the expanded list of core EAB courses as well as 400-level Animal Science courses and graduate-level courses from across Rutgers related to endocrinology, physiology, molecular biology/biochemistry, and statistics. Current seniors in Animal Sciences were able to apply this year only (Fall 2023). In following years, juniors will be able to apply to the program in May and be accepted into the program by the start of their senior year. With the addition of this exciting new option, Rutgers would be one of the few Big Ten schools to offer a five-year pathway to an M.S. degree. For more information on how to apply, admission requirements, degree requirements, and deadlines, please visit the [4+1 Program website](#).

New Agreement Offers Pathway for CUNY Undergraduates to Transfer to Rutgers Animal Sciences Program

by Office of Public Outreach and Communication

Students at the [Fiorello H. LaGuardia Community College](#) (LaGCC) will be able to seamlessly transfer and earn an undergraduate degree in animal sciences at Rutgers, thanks to a new articulation agreement between the two institutions. Under the agreement, students in the animal science track who graduate with an associate's degree in environmental science at LaGCC will be able to transfer college credits toward completion of a bachelor of science degree in [animal sciences at Rutgers School of Environmental and Biological Sciences](#). Signed in December 2022, the agreement is in effect from September 1, 2023, to September 1, 2025, and will be reviewed and updated every two years. *(Right: Students in the Swine Practicum [11:067:203] course socialize a young pig.)*



LaGCC, a federally designated Hispanic-serving institution in New York City that serves low-income, inner-city students, is part of the City University of New York (CUNY) system. LaGCC launched its new animal science option in February 2023. The articulation agreement specifically provides academic coursework that will allow LaGCC students to earn college credit toward completion of the B.S. in animal sciences at Rutgers.

"The agreement not only establishes the mechanism by which LaGCC students can apply a total of 60 credits to meet the 120-credit graduation requirement for the animal sciences degree at Rutgers, but it also addresses how to assist students in making the transition to Rutgers-New Brunswick and SEBS, as well as achieve success in the animal sciences program," said Aparna Zama, associate teaching professor and director of the undergraduate program in animal sciences at Rutgers. [Read more.](#)

Rutgers Awarded USDA-NIFA Grant to Support Next Generation of Diverse Agricultural Professionals

by Office of Public Outreach and Communication

U.S. Department of Agriculture (USDA) National Institute of Food and Agriculture (NIFA) awarded a \$4.5 million grant to LaGuardia Community College (LaGCC) and Rutgers University-New Brunswick to support [The Animal Science Discovery \(ANSCLd\) Program: A Summer Experiential Learning, Career Development, and Scholarship Pipeline Between LaGCC and Rutgers.](#)

ANSCLd is one of 33 programs funded under a [\\$262.5 million investment announced by the USDA-NIFA NextGen program](#) to provide training and support to more than 20,000 future food and agricultural leaders.



The five-year ANSCLd program will be led by Aparna Zama, associate teaching professor and director of the undergraduate program in Animal Sciences, along with Thomas Leustek, professor in the Department of Plant Biology at the School of Environmental and Biological Sciences (SEBS). The LaGCC portion of the grant will be headed by Preethi Radhakrishnan, professor of Biological Sciences and director of the two-year Environmental Science program at LaGCC. *(Left to right: Dr. Radhakrishnan and Dr. Zama at the inaugural program of the USDA-NIFA Learning to Leading: Cultivating the Next Generation of Diverse Food and Agriculture Professionals in Washington D.C., June 21, 2023.)*

LaGCC, part of the City University of New York (CUNY) system, is a federally designated Hispanic-serving institution in New York City that serves low-income, inner-city students. Approximately 375,000 high school and 13,500 two-year NYC students will be targeted through advertising and outreach activities combined with paid experiential learning opportunities, transfer scholarships, peer mentoring, and career development via this grant.

The ANSCId program strengthens an existing partnership between LaGCC and the nationally ranked Animal Sciences program at SEBS. Earlier this year, Rutgers announced a [new articulation agreement](#) (see preceding article) that would enable LaGCC students who earn an associate's degree in environmental science to seamlessly transfer and earn an undergraduate degree in animal sciences at Rutgers. LaGCC launched its new animal science option in February 2023. [Read more.](#)



NESA Competition 2023

by Carey A. Williams, Ph.D., Equine Extension Specialist

I would like to congratulate all of the Rutgers students who competed in the NESA (Northeast Student Affiliate of the American Society of Animal Science) competition at the University of Maine this past February. The competition consists of livestock judging (beef, dairy, horse, sheep, swine, and a surprise class), quiz bowl, and student presentations. There were six schools competing and 29 teams, with approximately 116 students (most

teams consisted of four students, but there were two or three teams that only had three team members). While our teams and students did not place in the top six in any of the three categories, a great time was had by all. (Left: Members prior to livestock judging.)

Team Members: (Right: Rutgers teams judging horses.)

RU A: Andrea Campos (presenter), Gentiana Lejca, Rose Deravil, Sara Montalvo

RU B: Azrael Scarpelli (presenter), Mckenna Greco, Brittany Baban, Martina Lavender

RU C: Toby Lo (presenter), Ragavi Raman, David Lobiondo, Karyme Hernandez-Balboa

RU D: Colton Grzankowski (presenter), Sharon Valverde, Mario Esquivel, Khalel Daghtane



Graduate Program Highlights

by Troy Roepke, Ph.D., Graduate Program Director

In my third and final year as GPD, we have recruited three doctoral students and three master's students (thesis option) to the [Endocrinology & Animal Biosciences \(EAB\) program](#). Two of the incoming doctoral students have received the highly competitive Dean's Fellowship to support their first year—**Lori Scarpa** and **Bryce Bitsie**. We are also admitting six potential M.S. students for the inaugural class of the [Animal Sciences/EAB 4+1 program](#).

The 2022-2023 EAB Seminar Series was coordinated by **Dr. Beth Snyder** and me, as a mix of virtual and in-person seminars. In the 2023-2024 academic year, the seminar series will continue to be a mix of virtual and in-person seminars as well as graduate student presentations. **Dr. Carey Williams** (right), Professor of Animal Sciences, has taken over the role of GPD as of July 1, 2023.



New Faculty. Since the last issue of this newsletter, we have welcomed two Rutgers faculty as new members of our EAB Graduate Program, building upon our strengths in neuroscience, toxicology, and endocrinology.

Zhiping Pang, Ph.D., is an associate professor in the Department of Neuroscience and Cell Biology and in Robert Wood Johnson Medical School in the Child Health Institute. Dr. Pang studies the neural basis of feeding satiety, metabolism, and obesity using transgenic mouse models and stem cells.

Igor Shmarakov, Ph.D., Sc.D., is an assistant professor in the Department of Animal Sciences in the School of Environmental and Biological Sciences. Dr. Shmarakov recently joined the faculty after postdoctoral training and working as an associate research scientist at Columbia University. His research focuses on the role of retinoid signaling in multiple organs in the body and how this signaling controls physiological functions and toxicology.





New Students. In Fall 2022, we welcomed two Ph.D. students and two M.S. students. One of the M.S. students recently switched to the Ph.D. track.

Fang Luo (*top left*; Ph.D. track) completed his bachelor's degree in biological science from Shanghai Tech University in China. He joined Dr. Zhiping Pang's lab where his thesis research focuses on assessing GLP-1 signaling during feeding behavior with novel genetically encoded fluorescent sensor.



Kuhelika Mali (*bottom left*; Ph.D. track) obtained her bachelor's degree in applied electronics and instrumentation engineering from Maulana Abul Kalam Azad University of Technology in India and an M.S. in biological sciences from Grand Valley State University in Michigan, where she studied the effects of estrogen and aging on male reproduction. She is currently rotating prior to deciding on a lab.

Saad Farooq (*top right*; initially on the M.S. track but switched to Ph.D. this summer) received his B.S. in exercise science from Rutgers in 2022 and joined Dr. Sally Radovick's lab for his graduate studies. The goal of his thesis research is to determine if there are



changes in the growth axis of mice lacking kisspeptin in the arcuate nucleus, and presumably, GHRH neurons using an arcuate specific kisspeptin knockout mouse model.

Nadja Knox (*bottom right*; M.S. track) earned her B.S. in agricultural science from McNeese State University in May 2019. She joined Dr. Roepke's lab in August 2022 to study the effects of diet-induced obesity and chronic stress on avoidance and cognitive behaviors in a mouse model of menopause.



Recent Degree Recipients



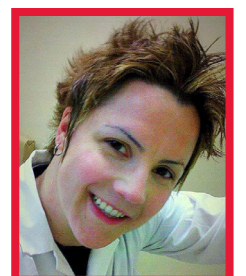
Chelsee Holloway, Ph.D. (Quadro lab, October 2022) presented her dissertation defense seminar, entitled "Retinoids as Regulators of Metabolic and Growth Adaptations of the Adult Heart," virtually on June 20, 2022. Her dissertation project investigated the role between retinoic acid and beta-carotene metabolism on cardiac growth and lipid/glucose homeostasis in the heart of adult females as well as in the maternal heart during pregnancy. During much of her graduate education, Chelsee was supported by an NIH F32 award and is currently a postdoctoral researcher at the National Cancer Institute in her home state of Maryland. Congratulations, Chelsee!

Gregory "Eli" Berger, Ph.D. (Bello lab, October 2023) defended his dissertation, "The Role of the Orexin System in the Development of Disordered Eating," in-person and via Zoom on June 14, 2023. His research project focused on the role of lateral hypothalamic orexin neurons in the development of dietary-induced binge eating through inhibition and excitation of these neurons via stereotaxic injection of DREADDs in an animal model of bulimia nervosa and binge eating disorder. While in the graduate program, Eli served in the EAB Graduate Student Organization as vice president, president, and treasurer and was consistently involved in the planning and execution of the NEFS and later GRIB graduate student conferences. Currently, Eli is interviewing for research positions in the greater New York Metropolitan Area. Congratulations, Eli!



Ellen Rankins, Ph.D. (Malinowski and McKeever lab, October 2023) presented her dissertation defense seminar, "The Human-Horse Interaction in the Context of Equine Assisted Activities (EAA)," in a hybrid format on July 5, 2023. Her research studied the effects of equine assisted activities on veterans with post-traumatic stress disorder (PTSD) and the horses participating. While in the graduate program, Ellen was supported in part by a SEBS Excellence Fellowship, PEO Scholar Award, and most recently, a Robert White-Stevens Graduate Fellowship and University and Louis Bevier Fellowship. She will be a postdoctoral fellow at the Temple Grandin Equine Center at Colorado State University. Congratulations, Ellen!

K99/R00 Award Winner. Postdoctoral fellow **Kimberly Wiersielis, Ph.D.**, received the prestigious NIH pathway to Independence Award, a career transition award that funds one to two years of postdoctoral training and three years of independent research as a principal investigator. After earning their doctoral degree in neuroscience and psychology from Temple University in 2018, Kim joined the Roepke lab to study the interactions of chemical exposure and stress and their impact on cognitive development. This award places Kim in a competitive position to secure a faculty position at an academic institution with an independent research program. Congratulations, Kim!



Faculty Honors

Dr. Aparna Zama Honored at SEBS Excellence Awards

On November 16, 2022, **Dr. Aparna Zama**, Associate Teaching Professor and Director of the Undergraduate Program in Animal Sciences (pictured with **Dr. Thomas Leustek**, Dean of Academic Programs, and **Dr. Carol Bagnell**, Chair, Department of Animal Sciences) was among those honored at the 29th Annual Celebration of Excellence held at the Cook Student Center. **Dr. Leustek** was the master of ceremonies. This event recognizes the “creativity, original work and ideas, innovation, effectiveness, integrity, leadership, impact, [and] community engagement” of faculty and staff. Dr. Zama won the Teaching Excellence Award for her extraordinary commitment to teaching, research mentoring, and academic advising.



Dr. Zama came to Rutgers as a research associate in 2006 to pursue research in reproductive physiology. She made the transition from research to teaching in 2016 when she was hired as an assistant teaching professor. In May of 2017, after unexpectedly facing the departure of the department’s undergraduate program director, Dr. Zama jumped into the role full steam ahead and has never looked back.

Among her many accomplishments are incorporating public health issues into her courses to enhance student engagement, pioneering the use of social media to expand outreach to prospective and current students, and guiding students to a career path that is a good fit for them. “What stands out among all of the accolades,” says **Dr. Carol Bagnell**, “is Dr. Zama’s tireless devotion to maximizing the undergraduate experience and her efforts to uphold the excellence and quality of the Animal Sciences undergraduate program.” Congratulations, Dr. Zama!



Dr. Karyn Malinowski Receives Equine Science Society’s Distinguished Service Award

by Kyle Hartmann, Public Relations Specialist, Equine Science Center

Dr. Karyn Malinowski, founding director of the [Equine Science Center](#) at Rutgers University, received the [2023 Distinguished Service Award](#) at the 2023 Equine Science Society Symposium in Grapevine, Texas, on Friday, June 9, 2023. The most prestigious honor that the [Equine Science Society](#) can bestow upon one of its members, this award recognizes outstanding contributions in the field of equine science, including a record of significant accomplishments in teaching, research, and extension or service

as it relates to the advancement of the equine sciences and horse industry. (Photo: Dr. Karyn Malinowski poses with Dr. Joe Pagan, CEO of Kentucky Equine Research, Inc. and sponsor of the 2023 Distinguished Service Award.)

“Dr. Malinowski’s passion and dedication to the field of Equine Science, her passion for improving the care of the equine athlete, and her dedication to ensuring the viability of the New Jersey horse industry exemplifies the qualities of those receiving this award,” said **Dr. Kenneth McKeever**, Associate Director of Research at the Rutgers Equine Science Center. “Dr. Malinowski’s career is a model of excellence in all three parts of the Land Grant Mission: research, teaching, and outreach/service.”

Dr. Malinowski has served as a faculty member at the School of Environmental and Biological Sciences since 1978 in various roles, including Extension Specialist in Equine Sciences, Animal Sciences Professor, Founding Director of the Equine Science Center, and the Director of Rutgers Cooperative Extension. Her research and extension programs concentrate on improving the equine athlete’s well-being and quality of life while ensuring the equine industry’s vitality and viability, both statewide and nationally. Congratulations, Dr. Malinowski!



Dr. Kenneth McKeever Elevated to Equine Science Society Fellow

by Kyle Hartmann, Public Relations Specialist, Equine Science Center

Dr. Kenneth Harrington McKeever, FACSM, FAPS, Professor in the Department of Animal Sciences at Rutgers University, and Associate Director of Research at the [Rutgers Equine Science Center](#), was elevated to the [rank of Fellow of the Equine Science Society](#) during the 2023 Equine Science Society Symposium' Awards Banquet in Grapevine, Texas, on Friday, June 9, 2023. *(Photo: Dr. Ken McKeever (left) poses with Dr. Joe Pagan, CEO of Kentucky Equine Research, Inc.)*

The rank of Fellow is an elite member status reserved to recognize distinguished service to the horse industry and to the [Equine Science Society](#) over the member's many years of service. "Dr. McKeever epitomizes what a Fellow of the Equine Science Society should represent in his long-standing contributions to the equine science field, which are vast, having truly changed the world of equestrian sports and its integrity, including horse racing," said **Dr. Karyn Malinowski**, Founding Director of the Rutgers Equine Science Center. "I know of no other equine scientist who is more deserving of being named a Fellow by the Equine Science Society than Dr. Ken McKeever; he is truly extraordinary and will continue to give back to our profession for years to come."

On a basic level, Dr. McKeever's research has focused on comparative exercise and cardiovascular physiology with a particular interest in the effects of aging on the integration of the cardiovascular, renal, and endocrine systems in the control of blood pressure, blood volume, and fluid and electrolyte balance. On an applied level, his research investigates the effects of performance-enhancing practices on the physiological responses of the equine athlete. These studies are just part of the more than 200 book chapters, journal articles, and proceedings papers, and more than 60 abstracts that have advanced the understanding of the athletic horse. In addition, he has served as President of the Equine Science Society. Congratulations, Dr. McKeever!

Dr. Dipak Sarkar Elected as a 2023 Fellow in the International Union of Physiological Sciences (IUPS) Academy

Dipak Sarkar, D.Phil., Ph.D., Distinguished Professor in the Department of Animal Sciences, was recently elected as a 2023 Fellow in the [International Union of Physiological Sciences \(IUPS\) Academy](#). The IUPS Academy celebrates and publicizes the important contributions made by physiologists globally to science and health. Its mission is to advance physiological research and teaching and its translation into benefits for health and society. Fellows are chosen based on their exceptional contributions to physiological sciences in the form of significant original discoveries, sustained contributions to scholarship, or rendered service to physiology internationally.

Dr. Sarkar's research includes multiple seminal discoveries on the role of hypothalamic neurohormones in the regulation of reproduction, stress responses, and immune function. For example, he was the first to demonstrate that gonadotropin-releasing hormone is released in a cyclic fashion from the hypothalamus into the blood of pituitary portal vessels. This discovery helped shed light on how the brain controls reproductive cyclicity. Dr. Sarkar's team also found that epigenetic changes in the mother as a result of preconception alcohol misuse passed on to her offspring and have life-long detrimental effects on a child's response to stress and on the metabolic system. More recently, his team demonstrated that beta2-adrenergic and mu-opioid receptor blockers, involved in reduction of the stress response, produce marked inhibitory effects on tumor growth by boosting innate and adaptive immunity. These data provide a new combinatorial treatment strategy with more clinical treatment modalities. ([Read more](#) about Dr. Sarkar's other scientific contributions). Congratulations, Dr. Sarkar!



Events

Virtual 2023 Horse Management Seminar

by Carey A. Williams, Ph.D., Equine Extension Specialist

The Horse Management Seminar remained as a webinar series for 2023 and took place over three Tuesday evenings in February and had the highest attendance that we have ever had! We had 300 to 500 participants for each of the evening webinars. Attendees joined us from almost every U.S. state as well as many from Canada, and a few from Ireland, Spain, the U.K., Mexico, Germany, Portugal, and Brazil. The theme for the entire series was nutrition as it was the most asked for topic at previous seminars; the session titles were “Research Driven Supplements,” “Nutritionally Related Disorders,” and “All Forage Diet.” With over 400 program evaluations completed for the three evenings of the seminar, over 70% of the participants ranked the quality of the presentations, content from the presenters, and the educational value of the presentations a 4.5 out of 5, and 91% of the respondents said they are eager to participate in future virtual programs. For anyone who missed the series you can listen to them on the [Equine Science Center YouTube page](#).



2023 Junior Breeder Symposium

by Carey A. Williams, Ph.D., Equine Extension Specialist

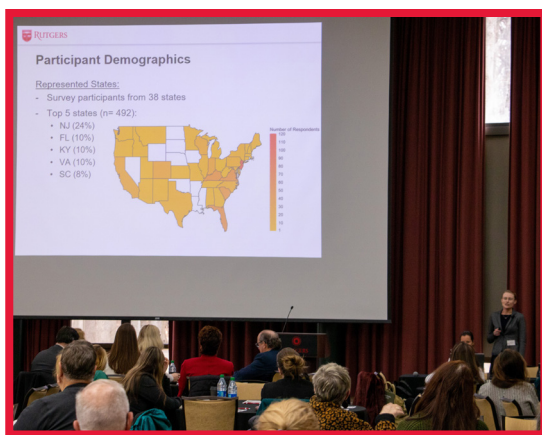
The Junior Breeder Symposium was hosted on Saturday, March 25, on the Cook Campus farm to great success. Over 200 attendees were treated to hands-on workshops in equine, large ruminant (cattle), small ruminant (sheep and goat), swine, poultry, rabbit, and cavy (guinea pig) science, and beekeeping! This event is sponsored by the [New Jersey Department of Agriculture Junior Breeder program](#) in cooperation with [Rutgers Cooperative Extension](#) faculty and staff. The equine seminars included “The Horse’s Digestive Track – Why We Feed Them the Way We Do!” presented by Rutgers faculty **Dr. Taylor Ross**; “Hoof Anatomy and How Trimming Affects Movement”

by Craig Ferrell, owner of Winners Edge Horseshoeing in Southampton, NJ; “Leg Anatomy: Bones, Muscles, Joints” by Rutgers faculty **Drs. Anna Hausmann** and **Carey Williams**; and lastly “How Muscular Is My Horse? – Learn How to Use a Muscle Rating Scale to Evaluate Muscle Mass in Horses” by Rutgers postdoc **Dr. Alisa Herbst**. Overall, the 30-45 equine attendees (youth and adults alike) were very positive about their experience throughout the day. They learned a lot and will take what they learned home or to their youth groups to share the great information. *(Photo: Dr. Williams provides a quick equine anatomy lesson before starting the interactive RU A Skeletal Expert?: Horse Legs game with the symposium attendees.)*

Equine Science Center Hosts the 2023 New Jersey Equine Industry Summit

by Kyle Hartmann, Public Relations Specialist, Equine Science Center

On Thursday, March 16, the [Equine Science Center \(ESC\)](#) hosted the 2023 New Jersey Equine Industry Summit at the Cook Campus Center. ESC Founding Director **Dr. Karyn Malinowski** made opening remarks and highlighted the event sponsors. She was followed by **Dr. Alisa Herbst** who presented on the “2022 Equine Needs Assessment Survey” (*pictured right*). The summit featured a keynote by **Dr. Jill Stowe**, professor and director of undergraduate studies at the University of Kentucky, on the “Economic Analysis of Equine Operations: Reducing Costs for Horse and Horse Farm Owners.” She discussed the financial considerations that people should think about before committing to owning a horse or horse farm. She also spoke to those who did own horses or horse farms and highlighted tips to maintain a successful business.



During a racing panel, **James Gagliano**, President and COO of The Jockey Club; and **Mike Tanner**, Executive Vice President/CEO of the United States Trotting Association, presented on the state of their associations’ breeds (thoroughbreds and standardbreds, respectively), as well as how sports-betting has affected their industry. After lunch, there were breakout sessions that focused on horse health, the future of racing, land use policy, environmental stewardship, the integrity of equestrian sport, and industry sustainability by engaging youth in equine activities and leadership roles.

The 14th Annual Pioneers in Endocrinology Workshop

The Pioneers in Endocrinology Workshop is an annual event for scientists interested in issues concerning endocrine and metabolic health, endocrine gland cancers, nutrition, neuroscience, environmental toxicology, and alcoholism and drug abuse. Focusing on a different theme each year, the workshop features two guest speakers and a luncheon, followed by a poster session displaying advanced endocrine research being conducted at Rutgers and other universities. Held on October 11, 2022, at the Busch Student Center, the theme was “Transgender Endocrinology.” **Dipak Sarkar D.Phil., Ph.D.**, director of the [Rutgers Endocrine Program](#), hosted approximately 70 attendees. He and **Michael E. Zwick, Ph.D.**, Senior Vice President for Research, presented the opening remarks. Following the opening statements, **Gloria A. Bachmann, M.D., M.M.S.**, Professor of Obstetrics, Gynecology, and Reproductive Sciences and Associate Dean of Women’s Health, Rutgers Robert Wood Johnson Medical School (RWJMS), introduced the opening video of **Admiral Rachel L. Levine, M.D.**, Assistant Secretary for Health, U.S. Department of Health and Human Services. Dr. Levine welcomed attendees with recorded remarks on transgender medicine.



Louis Amorosa, M.D., Division of Endocrinology, Metabolism and Nutrition, Rutgers RWJMS, introduced the first speaker, **Joshua D. Safer, M.D. FACP, FACE**, (top right) Executive Director of the Center for Transgender Medicine and Surgery, Mount Sinai Health System, who presented his lecture “The Biological Underpinnings of Gender Identity – Implications for Gender Affirming Medical Treatment Strategy.” **Sue Shapses, Ph.D.**, professor and director of the Human Nutrition, Exercise and Metabolism Center, NJ-IFNH, introduced the second speaker, **Vin Tangpricha, M.D., Ph.D.**, (bottom right) Professor of Medicine, Division of Endocrinology, Metabolism & Lipids, Emory University School of Medicine, who presented his talk titled “Transgender Medicine: Lessons from the Past, Present, and Future.” A question-and-answer session subsequent to each lecture was led by **Dr. Carol Bagnell**. The workshop was sponsored by the Rutgers Endocrine Program; Rutgers-RWJMS Division of Endocrinology, Metabolism and Nutrition; the Department of Animal Sciences at the Rutgers School of Environmental and Biological Sciences; the NEXt Center, NJ Institute of Food Health and Nutrition; and industry colleagues Research Diets and VWR. All contributions to the workshop were generous and much appreciated.

Alumni Updates (Send us a photo and blurb if you’d like to be featured!)



Ethan Finger graduated with his B.S. in animal science in 2021. He is now a first-year perfusion student at Thomas Jefferson University and is doing his clinical rotation at Temple University Hospital. In his own words: “I was a student in Dr. Cassie Nelson’s systems physiology and Dr. Anna Hausmann’s [pathophysiology](#) classes when I decided I had a larger interest in the human side of medicine. I remember how these courses were difficult, but looking back, pivotal to my foundation of knowledge going into this graduate program. The Rutgers animal science program offers an easy transition to various fields in science that provide well-paying positions and room to further your education to the graduate and doctorate levels.” (The photo shows Ethan about to get on a jet to go procure a heart in North Carolina for a transplant he did at Temple.)

Alexandria Newman earned her B.S. in animal science, with a production animal focus, in 2020. In her own words: “After Rutgers, I moved to Texas and managed an agritourism farm for almost two years. Last year, I started a bright and exciting career at Richardson High School. I am teaching animal science and veterinary medical classes for grades 9-12. Rutgers helped prepare me with a passion for animal science and hands-on experiences like teaching [Animal Handling, Fitting, and Exhibition](#) for goats and sheep.” Also, Alexandria was awarded New Teacher of the Year for the high school. Congratulations, Alexandria!



Photo Credits: Page 1: (top to bottom) Dr. Carol Bagnell, Dr. Nick Bello, Dr. Tess Stahl. Page 2: (left, top to bottom) Dr. Aparna Zama, Toby Lo, Shakthi Sivaram; (right) Lisa Chueh, Abigail Gamboa, Julia Meints. Page 3: (top right) George H. Cook Scholars Program; (bottom) John Munson/©2023 Rutgers, The State University of New Jersey. Page 4: (top) Felicia McCloskey. Page 5: (top two, center right) Dr. Carey Williams, (center left) Dr. Troy Roepke, (bottom left) Dr. Zhiping Pang, Anna Puzdriak. Page 6: (left, top to bottom) Fang Luo, Kuhelika Mali, Dr. Chelsee Holloway, Dr. Ellen Rankins; (right) Saad Farooq, Nadja Knox, Dr. Eli Berger, Dr. Kim Wiersielis. Page 7: (right) Roy Groething, (left) Kyle Hartmann. Page 8: (left) Kyle Hartmann, (right) Rutgers University. Page 9: (left) Kyle Hartmann, (right) Rutgers Equine Science Center. Page 10: (top) Jennifer Chudy-Simon; (bottom) Ethan Finger, Alexandria Newman.