Chair’s Message

by Carol Bagnell, Ph.D., Department Chair

We welcome Dr. Bill Belden, Assistant Professor, who transferred to Animal Sciences from Biochemistry & Microbiology in July 2013. Bill and his laboratory group, including Research Associate Dr. Tammy Joska, two postdocs, and two graduate students, moved to lab space in Foran Hall. Their research on circadian clocks and zebrafish is featured on page 3 of this newsletter.

Congratulations to Dr. Nick Bello, who was reappointed as Assistant Professor in July 2013. His teaching includes the undergraduate course Integrative Physiology and a Byrne-Aresty seminar, Fighting the Fat: Do Obesity Treatments Work? During his Spring 2014 sabbatical, Nick is learning new experimental techniques in Dr. Zhiping Pang’s lab at the Child Health Institute of New Jersey (Robert Wood Johnson Medical School) that he’ll use to study the neural basis of eating disorders such as binge eating.

Speaking of Spring sabbaticals, Dr. Sarah Ralston is in Brazil on her Fulbright Scientific Mobility Scholarship, teaching Equine Clinical Nutrition at the Veterinary School of the Universidade Federal de Minas Gerais (UFMG). Having grown up in Brazil, Sarah is presenting her Fulbright lectures in Portuguese. She will assist with research being conducted at UFMG on the effect of intestinal parasites on digestion in horses, funded in part by Zoetis, Inc.

Diabetes was the theme of the 6th Annual Pioneers in Endocrinology Workshop held in September 2013. Drs. Jesse Roth and Gerald Shulman reported on their own research and discussed the pioneering work of others in the field. The workshop, which included an afternoon poster session, was sponsored by the Rutgers Endocrine Program (Dr. Dipak Sarkar, director) and its partners: New Jersey Institute for Food, Nutrition, and Health; New Jersey Obesity Group; RWJMS Division of Endocrinology, Metabolism and Nutrition; Rutgers NIAES Cooperative Extension; and our department (see endocrine.rutgers.edu).

Last summer a group of energetic alumni met with faculty to discuss the formation of an Animal Sciences Alumni Steering Committee. Its focus is to reengage our alumni (veterinarians and others) to help our current students. Our first event was a Halloween mixer with faculty, alumni, and the Veterinary Science Club. Let me know if you’d like to become involved!

Alumni Share Their Stories

“I have many fond memories of my days at Rutgers,” wrote Stephen Birchard ’72 last April in response to our request for alumni stories. A graduate of the College of Agriculture and Environmental Science, he recalled: “My advisors were Drs. Grun and Tudor. They helped me get into the University of Missouri College of Veterinary Medicine and then enjoy a full and satisfying career as a veterinarian...Thank you for all that you do to continue Rutgers’ legacy and to shape the careers of future scientists and doctors.”

Dr. Birchard’s bio (posted on our new Alumni webpage) traces his path from Rutgers to The Ohio State College of Veterinary Medicine, where he taught from 1983 to 2010. Now he does part-time consulting in private practice and continuing education for practicing veterinarians. Check out his educational blog for veterinarians, Veterinary Key Points (see link in bio).

Amanda Szucsik ’01 emailed several faculty in late February to say that she was admitted to North Carolina State University’s College of Veterinary Medicine. She wrote: “I am very, very excited to begin this next chapter in my life and can hardly believe that this dream is finally coming true!” NCSU is the only veterinary school in the US to offer a focused, tracking curriculum in laboratory animal medicine.
Alumni Stories, continued...

In her story on our Alumni webpage, Amanda Szucsik recalls her early Work Study assignments at PSARF and the Katz lab, her favorite courses, and her G.H. Cook Honors research in the Red Barn. Amanda writes: “I relished greeting the sun, arriving at the barn, and putting our retired mares through their paces on… [the] high-speed treadmill. There are simply no words to describe the riveting experience of standing next to a horse galloping at full speed during a VO2 assessment.”

After graduate research in comparative physiology at the Univ. of California-Irvine and employment in private industry, she currently works at Univ. of Utah under a human cardiothoracic surgeon investigating recovery from heart failure in transgenic mice. Amanda plans to devote her professional life to the enhancement of laboratory animal welfare as a veterinarian.

Over 700 Rutgers alumni and New Jersey residents have been interviewed by staff and students of the Rutgers Oral History Archives. Stories of many Animal Science alumni’s college days and wartime memories are posted at oralhistory.rutgers.edu. Glimpses of campus life appear in the narratives, for example:

“I belonged to the animal science club...I served as president of the poultry science club during my senior year...I had to go home and peddle eggs...I really didn't have too much time to do other things, other than study.” ~ John Dowling Jr. (AG’42)

“We had a lot of sciences, I had zoology and biology and botany and genetics…general chemistry, organic chemistry, subjects like that, physics, a full year of physics…Their approach was that, 'You could learn your fieldwork when you started out in whatever field you’re in...We want you to be an expert in the science of agriculture.’” ~ Howard Ellis (AG’49)

Faculty Honors

Dr. Barry Jesse was awarded the Future Farmers of America Honorary American FFA Degree in November 2013. After serving as the Associate Dean for Academic Administration for several years, he’ll become the Animal Science Undergraduate Program Director (UPD) in July 2014. Barry is also the UPD for the new Agriculture and Food Systems major here at SEBS.

Dr. Kenneth McKeever received the prestigious Distinguished Service Award from the Equine Science Society in May 2013. At the American Society for Human Genetics conference in October 2013, Dr. Andre Pietrzykowski was honored by Life Technologies Corporation as an Innovation Grant recipient.

Dr. Sarah Ralston was recently identified as one of the Top 15 Nutrition Professors by VetTechColleges.com.

In December 2013 Dr. Dipak Sarkar delivered the prestigious S.K. Manchanda Memorial Oration at the Fifth Congress of the Federation of Indian Physiological Societies.

Graduate Program Highlights

by Wendie Cohick, Ph.D., Graduate Program Director

Three students in the Graduate Program in Endocrinology and Animal Biosciences (EAB) successfully defended their Ph.D. dissertations in 2013 and have moved on to jobs in higher ed.

Alison Golinski Goldberg (John-Alder lab) studied evolutionary plasticity in the pleiotropic regulation of sexually dimorphic traits in gecko lizards. Her 2009 Fulbright Fellowship funded her work with Dr. Lukas Kratochvil at Charles Univ. in Prague, Czech Republic. Dr. Goldberg teaches at Gwynedd Mercy Univ. and the Univ. of the Sciences (Philadelphia).

Changqing Zhang (Sarkar lab) researched the role of beta-endorphin in the control of stress and cancer progression in fetal alcohol exposed rats. Dr. Zhang is a lab manager in Univ. of Pittsburgh’s Dept. of Physical Medicine and Rehabilitation.

Danielle Smarsh (Williams lab) focused her dissertation on the impact of age and exercise on antioxidants and oxidative stress in horses. Dr. Smarsh is an assistant professor in the Dept. of Animal and Food Science at the Univ. of Wisconsin-River Falls.

Five new students joined the EAB program this year, bringing our total to 17 students: 13 Ph.D. and 4 M.S. students. Two of our new students were awarded Excellence Fellowships, and several Ph.D. candidates are being supported by scholarships and fellowships made possible through generous donations of alumni and friends. Since the number of teaching assistantships available to our students are limited, we are extremely grateful for the generosity of our donors!

With RWJMS now part of Rutgers, we hope to strengthen our connections with the pharmaceutical industry. For many years, we have welcomed pharmaceutical company employees for part-time graduate study. Several faculty invite scientists from pharmaceutical companies to present guest lectures in their courses. For example, students in Dr. Troy Roepke’s new Spring 2014 course Reproductive & Developmental Toxicology heard several lectures from a Bristol-Myers Squibb scientist. In Fall 2014 we hope to offer Animal Pharmaceuticals: From Discovery to Market, a course developed by Dr. Linda Rhodes (founder and then-CEO of AlcheraBio and an adjunct member of our graduate faculty). In addition, we will explore collaborating with pharmaceutical companies to develop summer internships for our graduate students. I welcome your advice!
Congratulations to George H. Cook Scholar Anna Hsieh, a January 2014 graduate who completed her research in the Roepke lab. Anna is pictured in the top photo (at left) with other members of the Roepke lab at the department holiday party. Kudos to the lab for winning awards for best appetizers, main dishes, and desserts!

Good luck to our seniors currently in the G. H. Cook Scholars Program: Ashleigh Bruno (Cohick), Rensa Chen (Fong, Cell Biology & Neuroscience), Joshua Gilens and Marisa Snyder (Roepke), Mathew Mosquera (Watford, Nutritional Sciences), Meghan Ramos (Ralston), Andrew Reicherter (Sikes, Marine & Coastal Sciences), Jamie Hoyeng So (Katz), Cynthia Willems (Fitzgerald, Nutritional Sciences), and Amanda Xue (McKeever). After they complete their research and successfully defend their theses, they will graduate as G. H. Cook Scholars, Class of 2014.

Hot off the press! Rebecca Aguilar, Joshua Gilens, and Amanda Xue have been selected as the 2014 winners of the Departmental Endowed Scholarship Awards in recognition of their excellence in academics, research, and/or service. (Josh is pictured in top photo, at right, holding his blue ribbon.) Bridget Balkaran is the recipient of the Rex Gilbreath Memorial Award.

Congratulations to Emily Layton ’15, who placed 4th in individual livestock judging out of 157 participants in the 2014 Northeast Student Affiliate (NESA) competition at U Mass Amherst! Emily is pictured in the middle photo (at right) along with quiz bowl team members Makenzie Bordenabe, Jocelyn Mendoza, and Alexandra Moore. Another Rutgers team placed 9th in the quiz bowl competition out of 44 teams.

Over the past 5 years I’ve been part of a resurgence of interest in production animal sciences, the creation of the companion animal option, and more participation in study abroad programs. Student admissions to veterinary and graduate schools have remained high, and more students are participating in peer mentoring and teaching, via First-year Interest Group Seminars (FIGS), as TAs, or by pursuing the teaching programs at SEBS/RU. Activities in our clubs have increased, and with the advent of the Companion Animal Club, students from around RU can pursue their interests with companion animals. It’s wonderful to see more of our students do internships and research across the university, the state, the country, and the world. New courses in new subjects are coming up, and a few courses that haven’t been taught in a generation have been revived. As I end my tenure here, I’m proud of our students and excited for their future. (Daniela is pictured with Dr. Perri Stark, at right.)

Tick, Tock: The Belden Lab Studies Chromatin Remodeling and the Circadian Clock

The Belden lab studies the molecular mechanisms underlying chromatin remodeling and transcriptional regulation in circadian clock gene expression. Circadian rhythms allow anticipation of changing environmental conditions and endow organisms a fitness advantage. Defects or disruptions to the biological clock are implicated in a growing list of diseases including cancer, cardiovascular disease, obesity, diabetes, depression, and bipolar disorder.

A variety of model systems are used in the lab to understand how chromatin structure and the circadian clock function to achieve appropriate timed gene regulation. For basic circadian research, they use the filamentous fungus Neurospora crassa, and for more translational research, they use zebrafish (Danio rerio) as their animal model. Neurospora serves as a simplified eukaryotic clock model that allows them to make many basic discoveries using a combination of genetics, molecular biology, biochemistry, and genome-wide analyses.

Using new technology developed in their lab, Dr. Belden and his group will apply the information gained from their Neurospora work to zebrafish to answer questions pertinent to human diseases.
Animal Science Update
The Department of Animal Sciences

Newsletter 2013-2014

Animal Care Update

by Clint Burgher, M.S. ’91, Research Farm Manager

The Farm Sales Program continues to grow. In addition to the Rutgers Gardens Farm Market, you can stop by the farm and purchase some local, campus-raised beef, pork, lamb, goat, or chicken. We also have composted manure for sale for your gardens. Visit njaes.rutgers.edu/animalcare/farm-sales for more info, or email us at farmsales@aesop.rutgers.edu.

The Farm Tour Program (see farmtours.rutgers.edu) is now in its 4th year. Six student guides are available to give tours of the Campus Farm to groups from area schools and clubs.

Six Animal Science Majors Perform in Pregame Show at Super Bowl XLVIII

The Rutgers Marching Scarlet Knights performed alongside Syracuse University’s marching band during Super Bowl XLVIII’s pregame show, which reflected a NJ-NY theme. Among the 200 students of the Rutgers band were six Animal Science majors (pictured in right photo): Rachel Uhrig ’16 (colorguard), Carly Seldow ’17 (saxophone), An Le ’16 (saxophone), Caitlin Kober ’16 (mellophone), Dorothy Knipple ’17 (clarinet), and Samantha Davis ’17 (piccolo).

The show featured songs made famous by artists from both states including “Born in the USA,” “Born to Run,” “Living on a Prayer,” “New York, New York,” and “Empire State of Mind.” Dr. Carol Bagnell voices her support when she says: “These students are musician-athletes practicing, playing, and putting forward their best effort for each game. It’s great to see these talented students recognized by this Super Bowl invitation.” See Dory Knipple’s story at sebsnjaesnewsroom.rutgers.edu.

Please Make a Donation!

Yes, I wish to support the continued excellence of the Department of Animal Sciences and Graduate Program in Endocrinology and Animal Biosciences with a gift of (please circle): $10,000 $5,000 $1,000 $500 $100 Other ___________

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