



DEPARTMENT OF
ANIMAL &
AVIAN SCIENCES

SUMMER 2016



Dr. Debabrata Biswas.

TIER 1 GRANT

Dr. Debabrata Biswas has been awarded a \$50,000 Tier 1 Seed Grant from the Division of Research. The award is meant to help faculty show proof of concept and pursue sponsored research. Dr. Biswas will study genetic engineering of the probiotic organism *Lactobacillus casei* (JRP-7) to produce more antimicrobial and anti-inflammatory conjugated linoleic acids.

He will examine whether this raises the concentration of beneficial microbes in the gut and improves host health, aiming to eventually use the strain against dangerous antibiotic-resistant bacteria.

The aim of this project is to overexpress the linoleate isomerase gene in a naturally developed sustainable *Lactobacillus casei* strain for enhancing the production of conjugated linoleic acids (CLA), which are recognized as antimicrobial and anti-inflammatory and play a critical role in the beneficial effects of probiotics. In addition, the project will evaluate if the use of this genetically-engineered *L. casei* strain (JRP-7) can modulate the gut microbiome, including increasing the concentration of beneficial microbes and improving host health.



Dr. Zhengguo Xiao.

NIFA GRANT

Associate Professor Zhengguo Xiao was recently awarded a NIFA (USDA) grant entitled “Mucosal Immune Response to *Ostertagia ostertagi* in Cattle” for \$499,999 over 3 years. The goal of this investigation is to understand the mucosal immune response of cattle to nematode *O. Ostertagia*.

This parasite invades cattle through stomach mucosa. The host (cattle) launches immune reaction against these invaders, and the parasites counterattack the immune reaction to facilitate their survival in cattle. Dr. Xiao’s and his research group is trying to understand how the host and parasites interact with each other locally and systemically in cattle, and the knowledge generated from this project could be useful for future vaccine development.



Dr. Lisa Taneyhill.

AMERICAN CANCER SOCIETY

Dr. Lisa Taneyhill was awarded a \$792,000 grant from the American Cancer Society to study how epithelial-to-mesenchymal transitions are regulated in neural crest cells. The objectives of the grant are to investigate whether neural crest cells employ epigenetic modifications to regulate proteases whose functions are key for EMT and how sequential processing of cadherins by proteases allows for coordinated regulation and subsequent loss of cadherins during EMT.

NAS REPORT CONTRIBUTION

Dr. Lisa Taneyhill and her colleagues produced a new report from the NAS concluding that gene-drive modified organisms are not ready to be released into the environment.

The committee recommends a collaborative, multidisciplinary, and cautionary approach in order to sift through the uncertainty posed by this fast-moving field of study. Gene Drives on the Horizon: Advancing Science, Navigating Uncertainty, and Aligning Research with Public Values can be accessed at: <http://nas-sites.org/gene-drives/>.



Tyler Frankel.

ALL - S.T.A.R.

The Graduate School has awarded Tyler Frankel one of sixteen Graduate School All-S.T.A.R. (Scholarship, Teaching, Administration, Research) Fellowships for the academic year 2016-2017.

Tyler is studying the effects of progestins on the reproductive behavior, morphology, and fecundity of multiple freshwater fish species under the mentorship of Dr. Edward Orlando. Over the past three years, he has presented at eight scientific conferences and has served as graduate mentor for seven undergraduates, several of which have completed independent research projects and successfully presented at professional meetings.

His accolades include a 2015 and 2016 CPRC-SETAC 1st Place Poster Competition Award, the 2015 UMD-ANSC Annual Symposium 1st Place Poster Contest Award, a CRPC-SETAC Student Travel Award, a SETAC Student travel award, a Joseph Soares travel award, and a COSMOS Scholars Grant. He has served as a TA for ANSC255 and ANSC455, and has given guest lectures in several other courses. He has served as the graduate representative on the UMD Search Committee for the AGNR Dean and secretary for the UMD Gamma Sigma Delta honors society. Tyler's research has been successfully published in Environmental Science and Technology and General and Comparative Endocrinology.



Serajus Salaheen.

COSMOS SCHOLARS GRANT

Serajus Salaheen, Ph.D. candidate in Dr. Biswas' lab was awarded a Cosmos Scholars Grant in the amount of \$3,000 for his research proposal entitled "Natural phenolic antimicrobials from berry byproducts replacing synthetic antibiotics in farm animal production." This project will focus on the effect of natural phenolic antimicrobials on gut microbial composition of host. Findings from this research will provide significant insights on the role of phenolics-modulated microbial communities on host health. Serajus received his Bachelor of Science and his Masters of Science both in Microbiology from the University of Dhaka, Bangladesh.

OUTSTANDING GRADUATE ASSISTANT AWARD

Serajus Salaheen is also the recipient of an Outstanding Graduate Assistant Award for 2016 from the Graduate School for his achievements during his graduate studies. The award conveys the honor of being named among the top 2% of campus Graduate Assistants in a given year. Serajus has a number of published research articles in reputed journals, presentations at both national and international conferences, an invention disclosure, and invitations to review articles for five international journals.



Ankita Shah.

ANN G. WYLIE DISSERTATION FELLOWSHIP

Ankita Shah, graduate student in Dr. Lisa Taneyhill's lab has been awarded an Ann G. Wylie Dissertation Fellowship for 2016-2017.

These one-semester awards provide support to outstanding doctoral students who are in the final stages of writing their dissertation. Wylie Dissertation Fellowships carry a stipend of \$10,000 plus a candidacy Graduate School Tuition Award for the semester in which the fellowship is taken. The Graduate School awards only 45 Wylie Dissertation Fellowships per year. Ankita's thesis is titled "Role of Annexin A6 in sensory neurons during early chick cranial ganglia development." She has been a student here since May 2012 and has had two papers published.

Dr. Tom Porter & Dr. Roselina Angel Named PSA Fellows

The Poultry Science Association (PSA) released a list of the recipients of its annual awards and honors for members working in poultry science and related disciplines. The highest recognition PSA can bestow on a member is PSA Fellow. An individual is named a PSA Fellow for their professional distinction and contributions to the field of poultry science without regard to longevity. This year two of the five members selected for this prestigious award are ANSC faculty members, Dr. Tom Porter and Dr. Roselina Angel. Both will be formally honored on July 14 at PSA's awards celebration during its 105th annual meeting in New Orleans, Louisiana.

▶ Tom E. Porter, Ph.D.

Dr. Tom Porter received his Ph.D. in Animal Physiology from the University of Minnesota in 1988. He conducted research as a Postdoctoral Fellow in the Department of Anatomy & Cell Biology at the Medical University of South Carolina. In 1993, he joined the Department of Poultry Science at Texas A&M University as an Assistant Professor, and in 1997, he was recruited to the Department of Animal and Avian Sciences at the University of Maryland, where he was subsequently promoted to Associate Professor and Professor. He served as Chair of the Department of Animal and Avian Sciences at the University of Maryland for 8 years (2007–2015). Dr. Porter has served

the Poultry Science Association for more than 20 years as Associate Editor (1995–2004), Section Editor (2004–2010), and Editor-in-Chief (2010–2016) of the journal Poultry Science.

Dr. Porter's research interests center on molecular and cellular endocrinology in poultry. Early in his career, he demonstrated that the production of steroid hormones in the ovaries of birds requires three different cell types, a situation which is different from that in mammals. One major focus of his research over the past 20 years has been

on the mechanisms controlling cellular differentiation within the anterior pituitary gland during chick embryonic development. The overall goal of this research is to improve growth characteristics in broiler chickens through an increased understanding of the regulation of the bird's own growth hormone production. Dr. Porter's group has developed a working model for the regulation of growth hormone cell differentiation that involves hormones from other endocrine glands as well as nuclear transcription factors and signal transduction cascades. A second major focus in Dr. Porter's laboratory has included genome-wide analysis of gene expression in the neuroendocrine system. The long-term goal of this research is to increase our understanding of global patterns of gene expression in the hypothalamus and pituitary gland and to identify the genes and gene networks controlling growth rate, body composition and feed intake in broiler chickens.

Dr. Porter is the author of 82 refereed scientific papers, 21 book chapters or reviews, and 131 abstracts. His publications have been cited more than 1,700 times. He and his collaborators have submitted 35,452 nucleotide sequences to GenBank and five cDNA microarray platforms to Gene Expression Omnibus. Dr. Porter's research and teaching accomplishments have been recognized with the Junior Faculty Excellence Award, Alumni Excellence in Instruction Award, and the Dean Gordon Cairns Award for Distinguished Creative Work and Teaching in Agriculture from the University of Maryland and the Research Award and the Embrex Fundamental Science Award from the Poultry Science Association.

▶ Roselina Angel, Ph.D.

Dr. Roselina Angel received her Ph.D. in Poultry Nutrition from Iowa State University in 1990. Following graduation she joined Purina Mills, Inc. as a nutritionist in their Specialty Research Group and was promoted to Research Manager of Purina Mills Specialty Business Group. Recruited to the University of Maryland as an Assistant Professor in 1998, Dr. Angel was promoted to Associate Professor in 2004 and to her current rank of Professor in 2015. She was Co-editor of the nutrition section of the Journal of Applied Poultry Research from 2009 to 2011 and served four 2-year terms as an Associate Editor for the Journal of Poultry Science. Dr. Angel was a member of the Poultry Science Association's Board of Directors from 2001 to 2004. She has been a member of the program committee for the Poultry Science's Informal Nutrition Conference since 1998. She has been a panel member for USDA's

AWARDS



National Research Initiative competitive grants program and an Ad Hoc reviewer for USDA-NRI, the Binational Agricultural Research and Development Fund, and other funding agencies.

At the University of Maryland, Dr. Angel established an internationally recognized research and extension program in the field of poultry nutrition with emphasis on nutritional modifications to reduce nutrient excretion in poultry production. The impetus for this research direction was the 1997 Pfiesteria outbreak on the Pocomoke River.

By feeding phosphorus more closely to the requirements and optimization of the use of phytase, and other tools, the poultry industry has decreased the use of inorganic phosphorus in poultry diets by close to 50% and decreased excreted phosphorus per kilogram of broiler produced by more than

65%. Dr. Angel's recent focus has also been on improvement in dietary amino balance, and the use of protease enzymes to enhance protein utilization and reduce nitrogen excretion. Her research has had a direct measurable impact on water and air quality and the environmental and economic sustainability of the poultry industry.

Dr. Angel has published seven book chapters, 74 articles in refereed journals and more than 120 abstracts. Since coming to Maryland she has given more than 150 invited presentations, more than half of which have been presented overseas. She is a routine contributor to the "Informal Nutrition Conference" a key forum for university and poultry industry nutritionists held at the annual meeting of the Poultry Science Association.

Dr. Angel has been recognized for her accomplishments throughout her academic career. In 2002 she was named to the Committee on Animal Nutrition, at that time the only standing committee of the National Research Council of the National Academy of Sciences. Dr. Angel has been the recipient of one regional and three national awards including the Medal of Achievement Award from the Delmarva Poultry Industry in 2003, and the National Chicken Council, Broiler Research Award, the American Feed Industries Poultry Nutrition Award, and the Informal Nutrition Conference Teacher, Advisor, and Life Mentor Award, from the Poultry Science Association in 2006, 2007, and 2014, respectively.

MAES Grants

Six ANSC faculty were awarded funding from the Maryland Agricultural Experiment Station (MAES) Competitive Grant Program for 2016-2017.



▶ **Dr. Amy Burk** received \$21,000 for her proposal entitled, "Get it under cover! Restoring soil health in high use areas of farms with traffic-tolerant grasses."



▶ **Dr. Rachel Dennis** received \$29,900 to study "Animal health and production and animal product."

▶ **Dr. Tom Porter** received \$30,000 for his proposal entitled, "Identification of mechanisms and gene networks associated with differences in egg production in turkey hens."



▶ **Dr. Chad Stahl** was awarded \$30,000 to fund his proposal entitled, "Improving efficiency of meat production with Tributyrin."



▶ **Dr. Bhanu Telugu** received \$30,000 for his proposal entitled, "Genome editing to create germ cell deficient livestock."



▶ **Dr. Zhengguo Xiao** was awarded \$30,000 for his proposal entitled, "Exosomes in the immune regulation induced by *Ostertagia Ostertagi* in cattle."

2016 AGNR ALUMNI ASSOCIATION AWARDS

Congratulations to the ANSC recipients of the 2016 College of Agriculture and Natural Resources Alumni Awards! The honorees were celebrated at an awards banquet held at the University of Maryland's Riggs Alumni Center on April 14. The College of AGNR Alumni Chapter selected the award winners from nominations submitted by faculty, staff and fellow-alumni.

Excellence in Instruction Award

Angela Black, is a staff member in the Department of Avian and Animal Sciences where she teaches both Comparative Anatomy, Lab Animal Management, as well as serving as the Animal Research Facility's veterinarian, taking many student interns under her guidance. Dr. Black has received both her DVM and PhD and has contributed to over 12 publications, participated in 4 papers/symposia, and received two Student Technology Grants for a 3-D computer model and an ultrasound machine. In 2013, Black also participated in a pilot study in which she replicated animal muscles using clay, converted ANSC211 into a "Flipped" class, created and mentored eight students through a Laboratory Animal Management internship and acts as an advisor to students interested in attending veterinary school.



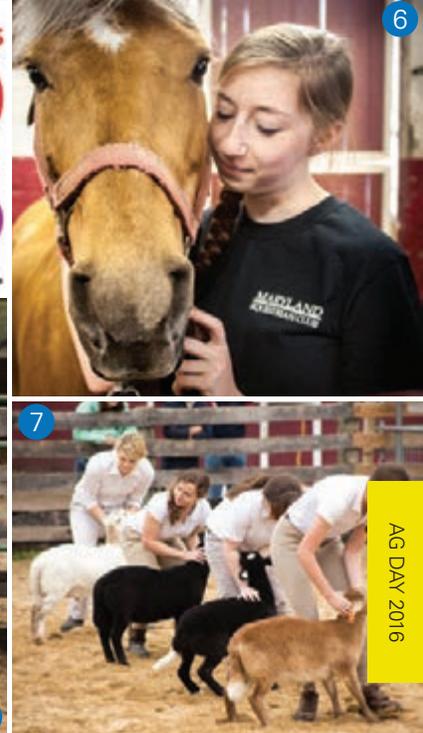
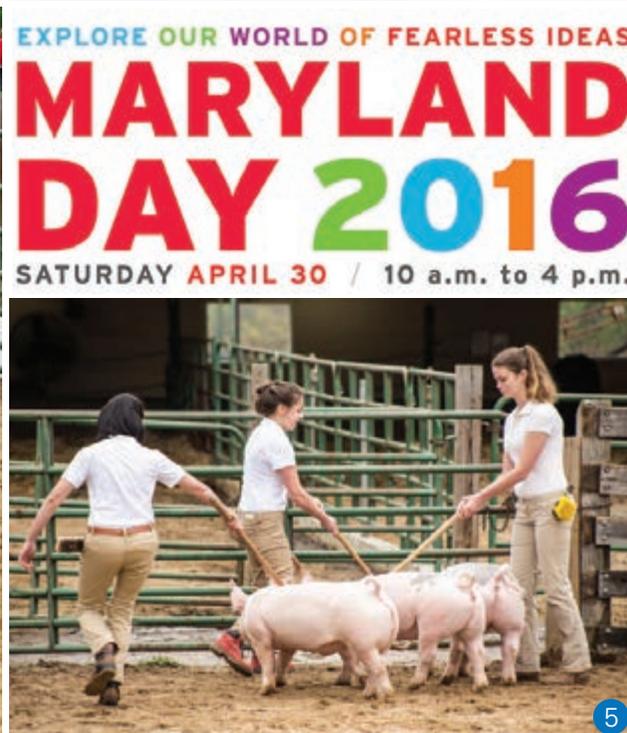
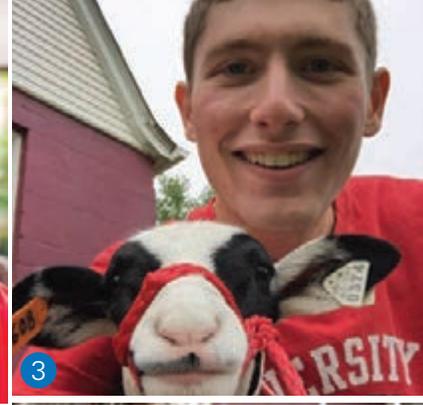
Dr. Angela Black.

Outstanding Student Award, 4-Year Program

Salvatore Millington, a senior animal science major, has been an exceedingly active and passionate part of AGNR for the past four years. Sal has served as an AGNR Student Ambassador, president of the AGNR Student Council and also president of Alpha Gamma Rho. Sal also spent his time supporting his peers in Guided Study Sessions and through his work as a Teaching Assistant. Despite juggling numerous on campus engagements, Sal found time to engage in the agricultural community as well by working with the beef cattle herd at the Wye Research and Education Center, the USDA RSS Dairy Unit, the FDA Center for Veterinary Medicine, and the UMD Animal Research Facility. Sal was also active in the State Fair Birthing Center Team last summer and the State Fair Dairy Team in 2014. Sal will be leaving UMD to attend the Virginia-Maryland Regional College of Veterinary Medicine next fall.



N. Salvatore Millington



1 Anna Glenn and Nathan Glenn (Alumni Class). 2 Dean Beyrouly and President Loh. 3 Jon Cohen. 4 Jen Reynolds and Kiss a Pig winner, Amy Burk. 5 Sharmaine Sevilla, Grace DeWitt, and Megan Hennessy (Swine Show). 6 Rebecca Remsberg and Diva. 7 Lauren Batdorf, Sarah Gitterman, Claire Morse, and Daphne O'Grady (Lamb Show).

▶ Livestock Show Results

Swine Show:

- ▶ Champion-David Speed Floyd

Class 1:

- ▶ Grace DeWitt-1
- ▶ Megan Hennessy- 2
- ▶ Sharmaine Sevilla- 3

Class 2:

- ▶ David Speed Floyd- 1
- ▶ Kayla Henkelman- 2

Lamb Show:

- ▶ Champion – Meghan Bowman

Class 1:

- ▶ Lauren Batdorf- 1
- ▶ Daphne O'Grady- 2
- ▶ Sarah Gitterman- 3
- ▶ Claire Morse- 4

Class 2:

- ▶ Grace Dewitt- 1
- ▶ Annie Tavera- 2
- ▶ Cassie Bernhardt- 3
- ▶ Jon Cohen- 4

Class 3:

- ▶ Meghan Bowman- 1
- ▶ Crissy Benjamin- 2
- ▶ Kelsey Hoffman- 3
- ▶ Stacey Bloom- 4
- ▶ Tommy Mullineaux- 5
- ▶ Audrey Resnicow- 6

Class 4:

- ▶ Megan George- 1
- ▶ Grace Markley- 2
- ▶ Britney Cranston- 3
- ▶ Emily Davis- 4
- ▶ Angela Chan- 5

Beef Show:

- ▶ Champion – Claudia Romeo

Class 1:

- ▶ Claudia Romeo- 1
- ▶ David Speed Floyd- 2

Dairy Show:

- ▶ Champion- Maura McGraw

Class 1:

- ▶ Kayla Henkelman- 1
- ▶ Brian Glenn- 2
- ▶ Morgan Wooten- 3
- ▶ Annie Tavera- 4

Class 2:

- ▶ George Hine- 1
- ▶ Claudia Gomez- 2
- ▶ Carly Guiltinan- 3

Class 3:

- ▶ Maura McGraw- 1
- ▶ Caislin Wheeler- 2
- ▶ Angelica Maria- 3
- ▶ Dalia Badamo- 4

Grand Champion Show & Chad Clark Award:

- ▶ Grand Champion- Maura McGraw

Chad Dulin Clark Memorial Herdsmanship Award

- ▶ Dane Grossnickle

Alumni Dairy Class:

- ▶ Jeff Myers- 1
- ▶ Nate Glenn- 2
- ▶ Anna Glenn- 3
- ▶ Bret Bucci- 4
- ▶ Lindsay Lane- 5
- ▶ Sara Meagher Bhaduri Hauck- 6

Sigma Alpha Kiss-A-Pig:

- ▶ Dr. Amy Burk

Judges:

- ▶ Swine- Dr. Tom Hartsock
- ▶ Sheep/Beef- Michael Farrell
- ▶ Dairy- Robert Fogle

Student Coaches:

- ▶ Swine- Lydia Printz
- ▶ Sheep- Gabrielle Cory
- ▶ Beef- Emily Solis
- ▶ Dairy- Dane Grossnickle

Announcer:

- ▶ Libby Dufour

Club Advisors:

- ▶ Jen Reynolds
- ▶ Emily Yeiser Stepp

30th

Annual Symposium

The 30th Annual Symposium of the Department of Animal and Avian Sciences was held on June 3, 2016. Faculty, graduate students, staff, and invited guests participated in this all day, research focused event to celebrate our collective scholarship and the completion of another academic year.



ANNUAL EVENT

The keynote address was delivered by Dr. Rob Etches, President and CEO of Crystal Bioscience. His talk was entitled, “High tech and low tech - which trumps which?” The department’s ongoing research was showcased by the graduate students, postdocs and research assistants in 32 posters presented and 9 oral presentations. Congratulations to the competition winners:

Outstanding Ph.D. Students

- ▶ Megan Brown
- ▶ Tyler Frankel

First Place Graduate Student Oral Presentation Award

- ▶ Haarin Chun

Second Place Graduate Student Oral Presentation Award

- ▶ Cynthia Scholte

First Place Research Assistant/ Postdoc Oral Presentation Award

- ▶ Andrew Schiffmacher

Second Place Research Assistant/ Postdoc Oral Presentation Award

- ▶ Anuj Kumar Sharma

First Place Shaffner Award for Research in Poultry

- ▶ Serajus Salaheen

Second Place Shaffner Award for Research in Poultry

- ▶ Kristen Brady

First Place Graduate Student Poster Award

- ▶ Shelley Sandmaier

Second Place Graduate Student Poster Award

- ▶ Laramie Pence

First Place Research Assistant/ Postdoc Poster Award

- ▶ Ki-Eun Park

Second Place Research Assistant/ Postdoc Poster Award

- ▶ Jessica Martin

Staff Member of the Year

- ▶ Tim Shellem



Outstanding Ph.D. students Tyler Frankel and Megan Brown with Graduate Studies Director, Carol Keefer and Dept. Chair, Chad Stahl.



Cynthia Scholte, Chad Stahl, Robert Murray, Kate Pinter, and Rini Pak.



Tricia Rowilson, Marie Iwaniuk, and Associate Dean Adel Shirmohammadi.



Staff Member of the Year - Tim Shellem and Chad Stahl.

ANSC Alumnus Honored for Ebola Response



Lt. Ilana Schafer

ANSC alumnus, Lt. Ilana Schafer, who graduated magna cum laude in 2004 was honored for her work as an officer on the U.S. Public Health Service Veterinary Ebola Response Team with 36 other U.S. Government veterinarians on the team. The awards were given in September 2015 in honor of contributions during 2014.

Dr. Schafer also received the 2014 Commissioned Corps Junior Veterinary Officer of the Year Award for her work for the U.S. Public Health Service and the CDC. She guided epidemiological studies and data management in the three West African countries during the Ebola outbreak, another announcement states.

Dr. Schafer, who now works in the Bacterial Special Pathogens Branch at the CDC, led the team that developed software used to manage data on people infected with Ebola or in contact with those infected. The software has become fundamental in the international response to the disease, the announcement states. She also has trained others on using that software, performing Ebola surveillance, and collecting data, and she has consulted state epidemiologists and health professionals on suspected infections with hazardous viruses, led an investigation into a lymphocytic choriomeningitis outbreak, designed studies of hazardous virus epidemiology and given presentations on those studies, and authored CDC publications.

The officers of the U.S. Public Health Service Veterinary

Ebola Response Team are members of the largest group to receive the service's Commissioned Corps Veterinary Responder of the Year Award. They work for the Centers for Disease Control and Prevention, Food and Drug Administration, and National Institutes of Health.

“During the 2014 Ebola epidemic, CDC deployed teams of public health experts to West Africa, activated its Emergency Operations Center, and worked with other U.S. government agencies, the World Health Organization (WHO), domestic, and international partners to control the spread of Ebola both here and abroad,” the announcement states. “USPHS veterinarians were involved in all of these efforts.”

In Guinea, Liberia, Sierra Leone, and the United States, those officers worked to investigate the outbreak, develop vaccines and therapeutics, prevent virus spread through airports, identify infected people and those who may have been in contact with the virus, coordinate responders, describe for others what was happening, develop guidance on animal isolation and testing, and aid development of medical products and diagnostic tests, among other duties.

ALUMNI NEWS



Cassie, Axel, and Carolyn Spieker.



Calvin and Pearl.

New Colts

Two broodmares foaled this Spring on the Campus Farm. The students in the equine reproduction class and broodmare crew put in enormous amounts of time treating and taking care of the mares and foals.

Axel, thoroughbred colt by Nicanor out of Daylight Lassie (Cassie) arrived on April 1. Two days later, on April 3, Calvin, the colt by Contucci and out of Runaway Pearl arrived and is the first warmblood born on campus!



Congratulations to the Graduating Class of 2016!

Undergraduate Students

- Aguilar, Morgan
- Caspar, Emily A.
- Chen, Huangming
- Cole, Callie Grace
- Cranston, Britney
- Degerdon, Kelly S.
- Dugan, Katherine Ann
- Fernandes, Mary A.
- Figueiredo, Rebeca Queiroz
- Gallon, Carley Jade
- Garvin, Kiersten Lee
- Gillis, Amanda Brooke
- Goron, Abby Rose
- Groff, Brooke Leigh
- Hines, Margaret Anne
- Ho, Ryan
- Huynh, Job Ba
- Lester, Tiara Nicole
- Livingston, Jade Jillian
- McBean-Linton, Briana Alyssa
- Millington, Nicholas Salvatore
- Morrow, Colin
- Nguyen, Bach Xuan
- O'Donnell, Caitlin
- Reukauf, Jennifer Christine
- Rubin, Sierra Marie
- Sanz, Alexandra J.
- Saunders, Antonette Daionne
- Shapp, Jennifer Taylor
- Sinnigen, Kyle Allen
- Smith, Marleigh Michele
- Spieker, Caroline Marie
- Termine, Lauren
- Trently, Alaina Kathleen
- Velez-Penalozza, Cesar D.
- Wang, Cherie
- Weiss, Johnny
- Williams, Aaron Phillip
- Wong, Nathan Augustus
- Wright, Shavonda Tyrie



Graduate Student

- Simon Beardsley

1 Maggie Hines, Bach Nguyen, and Amanda Gillis. 2 Cesar Velez-Penalozza. 3 Sierra Rubin and family and Bob Peters. 4 Student Speaker, Mary Fernandes. 5 Briana McBean Linton and family. 6 Adel Shirmohammadi, Evelyn Cooper, Chad Stahl, and Sal Millington. 7 Brooke Groff.



Jiuzhou Song, Qing Nie, Chad Stahl, and Li Ma.

Qing Nie LeClerg Lecturer 2016

The LeClerg Lecture was given on April 12, 2016 by Dr. Qing Nie and entitled, "Stem Cell Systems: Interplay Between Complex Data and Models." Dr. Nie is a Professor of Department of Mathematics and Department of Biomedical Engineering at the University of California, Irvine, and is the Director of the Center for Mathematical and Computational Biology (CMCB) there. He is also an affiliated faculty of their Center for Complex Biological Systems(CCBS) and is currently serving as the Director for the UCI Interdisciplinary Ph.D. Gateway Program on Mathematical and Computational Biology (MCB).



The LeClerg Rotary Lectureship in Biometry is a lecture series held annually to honor Erwin L. LeClerg, a former Rotarian and statistician at the U.S.D.A. Agricultural Research Station in Beltsville, Maryland.

Each year the lecture series includes research and teaching lectures given by a nationally recognized authority in quantitative genetics or biostatistics. The LeClerg Rotary Lectureship in Biometry is funded by an endowment which was established in 1983 by the College Park Rotary Club and the Rossmoor Aspen Hill Rotary Club to benefit the Biometrics Program at the University of Maryland.



Dr. Carol Keefer.

ADVANCE PROFESSOR

Dr. Carol Keefer has been appointed as the ADVANCE Professor for the College of Agriculture and Natural Resources 2016-2017. The NSF-supported University of Maryland ADVANCE program is focused on improving work environments, retention, and advancement of tenured and tenure-track women faculty in ways that improve the culture for all faculty. The program assigns a woman leader to each college to help create and sustain peer networks of support and recognition, and to provide feedback and advice to the dean on work environment challenges.