



DEPARTMENT OF
ANIMAL &
AVIAN SCIENCES

SPRING 2017





Dr. Nishanth Sunny.

WELCOME DR. NISHANTH SUNNY

In January, the department welcomed new Assistant Professor Dr. Nishanth Sunny. Prior to joining the faculty here, Dr. Sunny was a Research Assistant Professor in the Department of Medicine, Division of Endocrinology, Diabetes and Metabolism, at the University of Florida since 2012.

Dr. Sunny also worked as a Postdoctoral Researcher (2008 – 2010) and then Assistant Instructor (2010 – 2012) at the Advanced Imaging Research Center, at the University of Texas Southwestern. He received his B.V.Sc. & A.H., Veterinary Sciences and Animal Husbandry, from the College of Veterinary and Animal Sciences in Kerala, India and his M.S. and Ph.D. in Animal Science, from the University of Maryland, working with Dr. Brian Bequette.

Dr. Sunny's research interests are in identifying the critical pathways involved in metabolic regulation, during growth and development, and during the onset of metabolic diseases, including obesity, type II diabetes mellitus and fatty liver disease.



Dr. Bhanu Telugu.

FACULTY EXCELLENCE AWARD

Dr. Bhanu Telugu received the On-Campus Junior Faculty Award from the College of AGNR at the convocation on May 23 in the Riggs Alumni Center.

Dr. Telugu joined the department in 2012 and has spearheaded efforts to establish genome editing technology in large animal models, such as pigs, and in mice for agricultural and biomedical applications. One of the department's top rated teachers, he has attracted more than \$5 million in external funding, started a biotech start-up company, published extensively in prestigious journals, and become one of the global leaders in the animal genome editing/genetic engineering field.



Racheal Slattery.

WELCOME RACHEAL SLATTERY

In November 2016, Racheal Slattery joined the Department as Coordinator of Dairy and Beef Extension Activities. Racheal comes to us from the University of Nebraska where she spent five years working as an Extension and Research Coordinator with the School of Veterinary Medicine and Biomedical Sciences and two years as an Extension Assistant and Mobile Lab coordinator with Nebraska Extension.

She has a great depth and breadth of teaching experience that includes running the NE State Fair Birthing Pavilion, helping to teach large Animal Management and Handling to first and second year veterinary students, teaching K-Adult curriculum in animal science and STEM using either the Nebraska Extension Husker Beef Lab with a fistulated steer or the Nebraska Extension Mobile Science Lab. Racheal has earned a M.S. degree in reproductive physiology from the University of Nebraska, Lincoln, and a B.S. in Animal Science from the University of Wisconsin, River Falls.



Serajus Salaheen.

OUTSTANDING GRADUATE STUDENT

Serajus Salaheen, graduate student in Dr. Debabrata Biswas' laboratory, was awarded the Outstanding Graduate Student – Ph.D. by the Alumni Association. The College's Alumni Awards ceremony took place on April 6, 2017 at the Riggs Alumni Center.

Serajus received his Bachelor of Science and his Masters of Science both in Microbiology from the University of Dhaka, in Bangladesh and graduated with his Ph.D. in May.



Megan Brown.

POSTDOCTORAL FELLOWSHIP

Megan Brown, graduate student in Dr. Keefer's laboratory, was recently awarded a two year postdoctoral training fellowship by Morris Animal Foundation.

Her project entitled "Understanding endocrine control of egg production from improved reproductive health of cranes" will be conducted in collaboration between Patuxent Wildlife Research Center and Smithsonian Conservation Biology Institute starting August 2017. Morris Animal Foundation is a global leader in supporting scientific research in animal health. This is one of two post-doctoral fellowships awarded in the Wildlife Studies category by the Morris Animal Foundation in 2017. Megan defended her dissertation in May.



Tricia Rowilson.

2017 COSMOS SCHOLARS AWARD

Tricia Rowilson, graduate student working with Dr. Mary Ann Ottinger and Dr. Pierre Comizzoli, has been selected for the 2017 Cosmos Scholars Award. She will receive \$1,500 for her research proposal entitled "The sperm centrosome: a potential source of infertility in endangered, wild cat species."

The aim of her project is to characterize mechanisms involving the sperm's centrosome development and identify related sources of male infertility in the domestic cat as a model for wild felids. She is completing her project at the Smithsonian Conservation Biology Institute of the National Zoo in Washington, DC. Tricia received her Bachelor of Science degree at the University of Missouri-Columbia, and her Master of Science at Mississippi State University in conjunction with the Memphis Zoo.

Mather MBoC Article

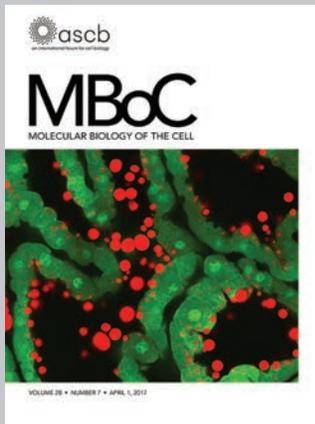
Professor Emeritus Ian Mather has had a new article published in the Journal of Molecular Biology of the Cell and his work is on the front cover.

Dr. Mather's article is entitled, "Kinetics of milk lipid droplet transport, growth, and secretion revealed by intravital imaging: lipid droplet release is intermittently stimulated by oxytocin." Intravital imaging reveals how lipid droplets are assembled and secreted into milk from mammary epithelial cells. Lipid droplets grow by fusing with each other during transport to the surface, in nucleation centers in the cell apex and even during secretion. Oxytocin plays a major role in the expulsion of droplets still associated with the cell.



Dr. Mather joined the faculty of the University of Maryland in 1975 and became a Professor Emeritus in 2011, and still maintains an active research program. Dr. Mather's publications have had a considerable impact in advancing our knowledge in the area of the physiology of lactation. His research was fundamental to identification of the major proteins of the milk fat lipid globule membrane.

Dr. Mather has served on scientific review panels for NSF, NIH and USDA to review grants and research programs. He received the College's most prestigious award for faculty, the Dean Gordon Cairns Award for Distinguished Creative Work, in 2003. His research contributions were recognized nationally in 2001, when he was awarded the Dean Foods/Borden Award from the ADSA, the highest award for research given by this national association. Then in 2015, Dr. Mather was named a Fellow of the American Association for the Advancement of Science (AAAS) through an election by his peers for distinguished and original contributions in mammary gland biology, especially the characterization of milk proteins and elucidation of basic mechanisms of milk secretion.



From China Stardom to Maryland Student

Undergraduate Ray An was a star student at China Agricultural University (CAU) – not just with his grades, but as a “star” on a popular Chinese television show, “Genius Knows.” The show features students from China’s top universities as they go head-to-head in a quiz format. Ray’s appearances earned him a large social media following, some 30,000 followers on Weibo, the Chinese equivalent of Facebook.

After spending two years at CAU, Ray transferred to UMD’s AGNR 2+2 program, where he is majoring in Animal and Avian Sciences. Ray has had internships in the Department of Cell Biology & Molecular Genetics with Dr. Antony Jose, studying DNA and RNA, and in the Institute for Physical Science & Technology with Dr. Wolfgang Losert’s cancer dynamics lab. Ray will be graduating in May 2017 and has received acceptances from many graduate schools, including Harvard, Yale, Columbia, University of Pennsylvania, and UCLA. Congratulations Ray!



Students enjoy meeting the filly.



Nova and Liberty.

Race Winner

Maryland's Best has done it again! The University of Maryland bred colt born on the campus farm in 2014 has won his second race at Laurel Park on April 2nd bringing his earnings to \$42,604. Although the horse only sold for \$1,000 as a weanling, the University of Maryland has earned nearly \$10,000 in breeder's incentives as a result of Maryland's Best race performances. The program helps give students important hands-on skills in mare and foal care, training young horses, and preparing horses for sale. Three more University of Maryland bred Thoroughbreds are expected to start racing this summer.



Maryland's Best.



Dr. Amy Burk, Aubrey Jaqueth, Kristina Davis, Timothy Shellem, and Alana Hamman. Front row - Marissa Melzer, Rachel Lepson, Megan George, and Katie Brooks with the horse.

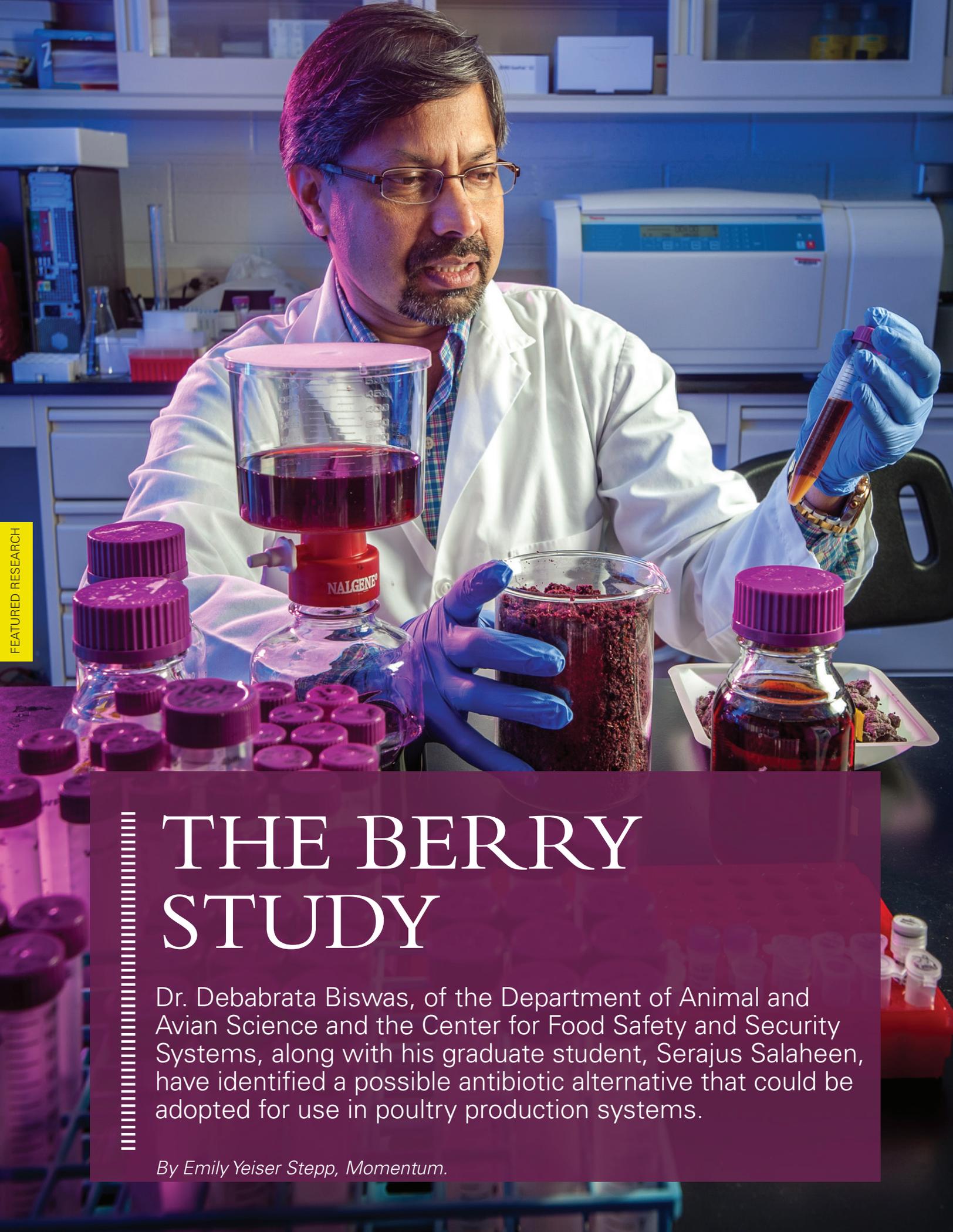
UMD Colt Sold at Fasig-Tipton Sale

Eight students from Equine Studies at the University of Maryland have been working tirelessly to prepare and sell the foals that were born at the campus farm this past spring. Fearless Terp, colt by Nicamor out of Daylight Lassie (barn name Axel) was entered this past weekend in the Fasig-Tipton Midlantic Winter Mixed sale for horses bred for racing, and on January 29 he sold to Ronald Blake for \$5,200.

The buyer of the colt also purchased a colt named Blazing Terp sold by the University of Maryland in last year's sale. Most thoroughbred owners hire professional consignors to sell their offspring, but the University of Maryland trains their own students to do it themselves, marking an extreme point of pride for our program.

Meet the Fillies

Two fillies were born on the Campus Farm this spring. On the evening of April 5, first time mom Adara gave birth to a filly called Belle, whose Dutch Warmblood sire, Vallado is at Hilltop Farm. Then, on April 9, also in the evening, the other gray mare, Liberty gave birth to another filly who is called Nova. Her Thoroughbred sire is Buffum at Northview.



THE BERRY STUDY

Dr. Debabrata Biswas, of the Department of Animal and Avian Science and the Center for Food Safety and Security Systems, along with his graduate student, Serajus Salaheen, have identified a possible antibiotic alternative that could be adopted for use in poultry production systems.

By Emily Yeiser Stepp, Momentum.

When antibiotics were first discovered in the early 20th century, it was one of the most revolutionizing technologies for the human medical field. Not only have antibiotics saved millions of human lives over the decades but they have also been successfully adopted in animal agriculture to treat, control and prevent disease in a therapeutic manner. More recently, antibiotics have also been utilized in animal agriculture in sub-therapeutic ways that aid in increased production efficiency.

While society has reaped the benefits of antibiotic use, both in human and animal health fields, the emergence of antibiotic resistance has become a worldwide concern. Headlines that warn of ‘superbugs’ have heightened the awareness and depicted the reality that there are now bacteria that can outsmart antibiotics, rendering them totally ineffective.

Due to this increased focus on judicious antibiotic use in both humans and animals, innovative alternatives to antibiotics have garnered additional attention. Specifically, within animal agriculture, farmers are looking for products that will retain the efficacy of antibiotics, without sacrificing their animals’ health or production efficiency. In turn, Dr. Debabrata Biswas, assistant professor in the Department of Animal and Avian Science and Center for Food Safety and Security Systems, and one of his graduate students, Serajus Salaheen, have identified a possible antibiotic alternative that could be adopted for use in poultry production systems.

Human medicine has long recognized the benefits of berry fruits due to their anti-inflammatory, antimicrobial and anti-oxidant qualities. “Understanding these beneficial qualities of berries,” Dr. Biswas stated, “we simply applied this same theory by introducing berry by-products, in solution, to broiler chickens, to identify if growth rates and overall health would be comparable to when traditional antibiotics are utilized.”

“While the growth rates in the berry by-product treatment group were not as significant as those with the antibiotic, the berry supplement treatment did result in comparable growth with also reducing the risk of antibiotic resistance,” Biswas concluded. Analysis also revealed that berry by-product decreased the colonization of *Campylobacter* and *Salmonella* bacteria. The by-product was able to alter the gut flora of the

chicken which, like traditional antibiotics, provides long term benefits on the overall health of the animal.

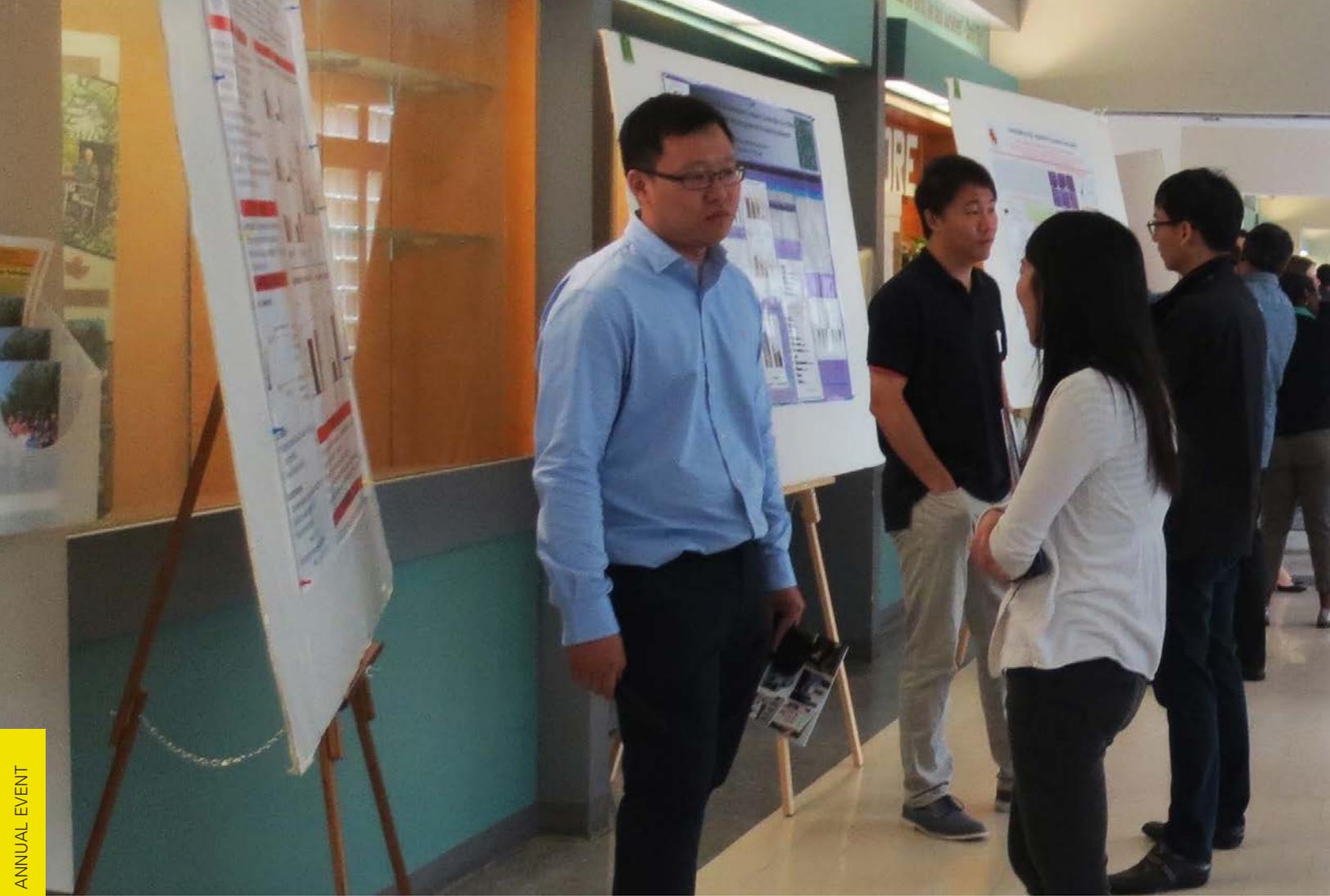
Innovative science, such as Dr. Biswas’ research, coupled with continued focus on judicious use of antibiotics, will continue to help animal agriculture play an active role in combating antibiotic resistance. With a collective, one-health approach, ‘doing good’ today to address the antibiotic resistance risk, will ensure antibiotics and future innovations will be able to ‘do good’ for into the future for humans and animals alike.



FEATURED GRANT



Dr. Debabrata Biswas and graduate student Serajus Salaheen.



31st Annual Symposium

The 31st Annual Symposium of the Department of Animal and Avian Sciences was held on May 25, 2017. This was an all day, research focused event that faculty, graduate students, staff, and invited guests participated to celebrate our collective scholarship and the completion of another academic year.

The Symposium opened with a keynote address delivered by Dr. James Drackley of the University of Illinois at Urbana-Champaign. His talk was entitled, “Is a Problem-Free Transition Period in Dairy Cows Just a Fairy Tale?” Graduate students competed throughout the day with oral and poster presentations that showcased the department’s ongoing research, until the late afternoon award ceremony and barbeque. Here are the award winners of 2017:

Outstanding Ph.D. Student
Sarah Potts

Outstanding Masters Student
Jasmine Mengers

First Place Graduate Student Oral Presentation Award
Tim Sheets

Second Place Graduate Student Oral Presentation Award
Aubrey Jaqueth

First Place Research Assistant/Postdoc Oral Presentation Award
Wei Zhang

First Place Shaffner Award for Research in Poultry
Yanghua He



ANNUAL EVENT

Second Place Shaffner Award for Research in Poultry
Jasmine Mengers

First Place Graduate Student Poster Award
Marie Iwaniuk

Second Place Graduate Student Poster Award
Rini Pek

First Place Research Assistant/Postdoc Poster Award
Andy Schiffmacher

Second Place Research Assistant/Postdoc Poster Award
Jessica Martin

Staff Member of the Year
Sheryl Grey



Dr. Stahl, Marie Iwaniuk, and Dr. Moyes; Dr. Stahl, Dr. Drackley keynote speaker, and Dr. Moyes.



Jasmine Mengers; Dr. Stahl, Tim Sheets and Dr. Moyes; Sarah Potts; Dr. Stahl and Sheryl Grey.

MARYLAND DAY 2017

Ag Day was held on April 29 during the Maryland Day celebration. Congratulations to the Grand Champion, Emily Solis and to Maura McGraw, winner of the Chad Dulin Clark Memorial Herdsmanship Award, and the species champions. Special thanks to the judges and everyone who worked to make Ag Day such a success! Here are all the placings.

1 Colby Ferguson, Grand Champion Emily Solis, Trish Hildebrand, Jeanne Herbert and Jeff Myers. 2 Kiss-A-Pig Winner, Monica VanKlompberg and winner of the Chad Dulin Clark Memorial Herdsmanship Award, Maura McGraw. 3 Swine Champion Jessica Ruark and Judge Colby Ferguson. 4 Students preparing to show lambs.



Grand Champion Show:
Grand Champion – Emily Solis
Chad Dulin Clark Memorial
Herdsmanship Award – Maura McGraw

Swine Show:
Champion – Jessica Ruark

Class 1:
 David Floyd - 1
 Sharmaine Sevilla - 2

Class 2:

Min Ah Kim - 1
 Rachel Lepson - 2

Class 3:
 Jessica Ruark – 1
 Aaliyah Partman - 2

Lamb Show:
Champion – Sarah Gitterman
Class 1:
 Sarah Gitterman – 1
 Crissy Benjamin – 2
 Audrey Resnicow – 3

Graduating Class of 2017



Angela Chan – 4
Grace Markley – 5
Gracie Brinsfield - 6

Class 2:
Adrianna Sniezek – 1
Tess Butler-LaPointe – 2
George Hine – 3
Morgan Grey – 4
Allie Kaloss – 5
Danielle White - 6

Class 3:
Lydia Cairns – 1
Danielle McGinn – 2
Alisa McNamara – 3
Jake Clements – 4
Hary Kang - 5

Class 4:
Liz Johnson – 1
Megan Levy – 2
Kelsey Nelson – 3
Julia Romyn – 4
Camille Lee – 5

Class 5:
Melissa Benjamin – 1
Samantha Kaminski – 2
Cindy Zhang – 3
Tiffany Thompson - 4

Dairy Show:
Champion – Cheyenne
Eller

Class 1:
Keely Mullens – 1
Maiah Xayarong – 2
Annie Tavera – 3
Daphne O'Grady – 4
Eilis Finn - 5

Class 2:
Emmalee Murrell – 1
Megan George – 2
Cassie Berhardt – 3
Michelle Snyder – 4
Bailey Clark - 5

Class 3:
Cheyenne Eller – 1
Morgan Wooten – 2
Kelsey Hoffman – 3
Sophia Moon – 4

Class 4:
Brenna Gorman – 1
Claudia Gomez – 2
Jessica Wooleyhand – 3

Claire Shields - 4

Class 5:

Dalia Badamo – 1
Emily Davis – 2
Kayla Henkelman – 3
Carly Guiltinan - 4

Beef Show:

Champion – Emily Solis
Class 1:
Emily Solis – 1
David Floyd - 2

Class 2:
George Hine – 1
Emily Davis - 2

Sigma Alpha Kiss-A-Pig:
Dr. Monica VanK-
lompberg

Judges:
Swine: Colby Ferguson
Sheep: Jeanne Herbert
Dairy: Jeff Myers
Beef: Trish Hildebrand

Student Coaches:
Swine: Lydia Printz, Sheep:
Gabrielle Cory and Carly
Guiltinan, Dairy: Maura
McGraw and Kayla Hen-
kelman, Beef: Breaua
Athey

Announcer: Libby Dufour

Club Advisors: Racheal
Slattery, Dr. Monica VanK-
lompberg

UNDERGRADUATE STUDENTS

An, Dongzhengyang
Ascher, Shayna Rachel
Bagen, Taylor Paige
Baumler, Ellen Darlene
Bell, Kimberly
Benjamin, Janeila Andriana
Boone, Gabrielle Danae
Booth, Genevieve Anne
Bui, Vivian Quynh-Vy
Candelaria, Juliana Irene
Caplan, Aaron Ryan
Chider, Camille Grace
Cohen, Jonathan Lawrence
Comis, Catherine Nicole
Conroy, Holly Alana
Cooper, Jason
Coxen, Anna Elaine
Cusack, Abigail Renee
DaSilva, Steven
Dotterer, Emily Ann
Eidi, Nicole
Evans, Jessica Elizabeth
Ewel, Rebecca Carol
Fratino, Angela Suzanne
Fuentes, Andrea Amanda
Hamann, Alana Marie
Henkelman, Kayla Irene
Hilley, Mary Savannah
Hines, Elizabeth Suzanne
Huang, Wei
Huang, Wei-Chien
Jensen, Kathryn Jeanne
Kim, Min Ah
Lapen, Abigail
Lavin, Elizabeth Sara
Lebovic, Alexandra Marie

Lee, Amanda Hai Man
Lieberman, Alexis Sari
Mann, Ashley Marie
Marks, Leah Elise
Mejia-Guevara, Yasmin Alcaria
Mezebish, Tori Danielle
Morse, Claire Elizabeth
Morton, Vivian Amanda
Mullens, Keely Anne
Mullineaux, Thomas Christopher
Nealon, Kelly Marie
Nicholas, Natalia Lynn
Oliver, Kathryn Denise
Petersen, Hana Mitsuko
Roddy, Tiana Rose
Ruan, Hanzhang
Schmeiser, Lindsey Jane
Sevilla, Sharmaine
Shepardson, Maya Cheyenne
Short, Forrest Allen
Silbert, Artemis Robyn
Tonnon, Erika
Wagner, Kendall Michelle
Walker, Simone Alexa
Wallick, Maya Elizabeth
Weilert, Kathryn Leigh
Wooleyhand, Jessica Kristin
Xu, Ruihong
Yff, Logan Elizabeth

GRADUATE STUDENTS

Ankita Shah Ph.D.
Serajus Salaheen Ph.D.
Hyunsu Shin Ph.D.