

• Teaching • Research • Extension • Departmental Activities

## Naseer A. Kutchy, Ph.D.

Submitted by **Dr. Erdoğan Memili**



Naseer A. Kutchy, a Ph.D. student in the Department of Animal and Dairy Sciences, passed his preliminary written and comprehensive oral examinations on Thursday November 17, 2016, and is now a Ph.D. candidate.



With guidance from his major professor **Dr. Erdoğan Memili** and graduate committee members Drs. Donna Gordon, **Caleb Lemley**, and Any Perkins. Naseer has been pursuing original research aimed at elucidating sperm genetic and epigenetic mechanisms regulating bull fertility.

A recipient of competitive graduate fellowship from Indian Council for Agriculture Research (ICAR), Naseer has published one book chapter, has a submitted manuscript under review and another one under pre-submission review, and eight conference abstracts published.

# Dr. Shengfa Liao - Keynote Speaker at IAIEH

Dr. Shengfa Liao was invited by the Organization Committee of the International Animal Intestinal Ecology and Health (IAIEH) Symposium as a keynote speaker for the Second IAIEH Symposium Summit Forum that was held at Guangzhou, Guangdong, China on November 11-13, 2016. At the Forum Dr. Liao presented a keynote speech titled “*Using Probiotics to Improve Swine Gut Health and Nutrient Utilization.*” Delivered with the presentation to the audiences were three main points: (1) To efficiently provide nutrients for a pig to grow a healthy gut is a key, (2) microbiota is an essential constituent of a



healthy gut, and (3) probiotics can be used as effective feed additives to balance pig gut microbiota, especially when the industry is seeking alternatives to replace antibiotic growth promoters.

Adhering to the core theme, “Back to the Principle of Nutrient Absorption via Promotion of Gut Health in Animals,” the IAIEH Symposium, held annually, serves as a unique platform to facilitate international collaborations among scientists and industry professionals, and to accelerate science



and technology transfer, especially in the fields of animal nutrition and gut health. The first symposium was held at Changsha, Hunan, China on November 14-15, 2015 with nearly 1,200 attendees coming from China, Canada, USA, Netherlands, and Japan. This second symposium was another great success of more than 1,200 attendees coming from several countries including China, Canada, USA, UK, Belgium, Japan, Spain, and Netherlands. The hot topics discussed at this symposium included probiotics and intestinal microflora, antibiotic replacement strategy, liquid feeding system, and non-pharmaceutical agents including minerals, montmorillonite, nucleotides, organic acids, enzymes, and phytogetic additives.





*Animal and Dairy Sciences  
Mississippi State University*

*2016 Project Showcase for  
ADS 4221: Capstone in  
Animal and Dairy Sciences*

*Date: December 8, 2016*

*Location: Wise Center 113*

*Time: 12:00-3:00 PM*

*Course theme:*

*Speaking to the Public about Animal Agriculture*





# ADS Undergraduate Students Attend Annual Southeast Quality Milk Initiative Meeting



Submitted by **Carolina Canestrano**, ADS freshman undergraduate assistant with **Dr. Amanda Stone**

On November 16 and 17, the University of Georgia hosted the SQMI conference at the Tifton campus. The speakers were professors, graduate students, and dairy industry representatives. On the first day of the conference, we listened to them speak on the matters of mastitis and somatic cell count in the dairy industry over the past couple of years. They gave us numbers from as broad as the southeastern bulk tank somatic cell count all the way down to each state. Also, we saw the economic effect that SCC has and the tools that the Southeast Quality Milk Initiative (SQMI) group has made to help producers when analyzing their somatic cell count. We then went to UGA Tifton's dairy unit and could see for ourselves their own workings and Dr. Stone showed us a tool that dairy producers could use in their own parlor. On the second day, we listened to more of the research aspects of SQMI. Each project objective has their own representative, dealing from the social aspect of producer decision-making to the veterinarian's knowledge of somatic cell count.

The SQMI conference really opened my eyes to the dairy industry and everything that can be done. Working at the MSU Dairy and in Animal Science, you hear about the somatic cell count and learn about mastitis. At the conference, I could put the things I've learned into effect while also learning new things beyond the classroom. My favorite part of it all was the social aspect of the dairy producers and seeing how a simple mindset can change everything about the somatic cell count and even the effect it has on keeping the dairy open for years to come.



**Carolina Canestrano  
and Juliann Scott**

# Upcoming Extension Events

## Beef Extension – Dr. Brandi Karisch Cobie Rutherford



- **2017 Cattle Industry and NCBA Trade Show on January 31—February 4, 2017 in Nashville, TN**

## Equine Events – Dr. Clay Cavinder



- **Cow Horse and Ranch Handling Clinic**—prepare for competing in 2 new classes at the 2017 State 4H Show. \$30 fee, Lunch is provided.
  - March 17, 2017; 9 am - 3 pm; Montgomery Co. Coliseum, Winona, MS
  - March 18, 2017; 9 am - 3 pm; Lincoln Co. Multipurpose Center, Brookhaven, MS
  - April 1, 2017; 9 am - 3 pm; Chickasaw Co. Agri-Center, Houston, MS
  - May 13, 2017; 9 am - 3 pm; Forrest Co. Multipurpose Center, Hattiesburg, MS
- For more info, contact Dr. Cavinder at [clay.cavinder@msstate.edu](mailto:clay.cavinder@msstate.edu)

## 4-H Events – Dr. Dean Jousan



- **National 4H Congress, Nov. 25-29, 2016, Atlanta, GA**

## Dairy Events – Dr. Amanda Stone



- **Dairy Science Field Day: March 17, 2017, Starkville**
- **Bearden Dairy Research Center Open House: May 20, 2017**





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## Animal Agriculture in China

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### Program Description:

Stationed at China Agricultural University in Beijing, the capital of the world's second-largest economy (after the US), for 3 weeks, students will learn a great deal of China's animal agricultural practices, animal product consumption patterns, and its veterinary service. Fantastic lectures will be delivered by the top Chinese faculty members and industry leaders in the fields. Experts in the allied American companies in China will also come to the sites to give seminars on their foreign business development and management. Several excursions will be arranged to explore Chinese livestock and poultry farms. In addition, students will be escorted by their Chinese counterparts to experience the country's culture, cuisine, language, and several very attractive sights during this program. In short, this program will provide students with informative, educational, valuable, enjoyable, and memorable international experiences to well prepare them ahead of time for their careers related to animals and animal products.

### Program Dates:

May 8 – May 31, 2017

### Course:

ADS 4990/6990 Special Topics in Animal and Dairy Sciences (3 credit hours)

### Requirements:

All undergraduate and graduate students with at least a 2.5 GPA are welcome to participate in this program, which is especially a great option for those students with animal-related interests not only in the College of Agriculture and Life Sciences but also in the College of Veterinary Medicine. For ADS students this course can be used to meet their major requirement for "Experiential Learning".



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### Application Deadline:

March 3, 2017

### Price: \$1,950 \*

March 3, 2017 - \$150 (non-refundable)

March 17, 2017 - Payment #1: \$900

March 31, 2017 - Payment #2: \$900

\*All program fees are charged to MSU student accounts. Once each payment deadline has passed and the student's account has been charged, the fee is non-refundable.

### Program cost includes:

- International Health and Emergency Assistance insurance
- Lodging
- Some meals
- In-country travel
- Entrance Fees
- 4 Excursions

### Cost does not include:

- MSU Tuition and Fees
- OSA Software Fee (\$28)
- Chinese visa application fee
- International round-trip airfare
- Some meals

For more information contact Program Director :  
Shengfa Liao, s.liao@msstate.edu

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662-325-8929

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## 2016 Refereed Publications:

- Ward L, S Lindsey, J.M. Martin, **M Nicodemus** and **E. Memili**. (2016) Challenges and opportunities in rising feral horse populations. *Professional Animal Scientist* 32:717–724.
- Moura AA and **E. Memili**. (2016) Functional aspects of seminal plasma and sperm proteins and their potential as molecular markers of fertility. *Animal Reproduction*, 13.3, (2016) 191-199.
- Kennedy, V. C. B. R. Mordhorst, J. J. Gaspers, M. L. Bauer, K. C. Swanson, **C. O. Lemley**, and K. A. Vonnahme. Supplementation of corn dried distillers' grains plus solubles to gestating beef cows fed low-quality forage: II. Impacts on uterine blood flow, circulating estradiol-17 and progesterone, and hepatic steroid metabolizing enzyme activity. *Journal of Animal Science*. 2016. 94: 4619-4628.
- Greene, Jonathan M. and **Peter L. Ryan**. L-Arginine in the Uterus and Placenta and During Gestation in Mammals. *L-Arginine in Clinical Nutrition*. 2017. Chapter 22, 285-299.
- Larson, J.E.** Incorporating Writing-to-Learn Strategies into an Animal Reproduction Course. *NACTA Journal*, September 2016, Vol 60(3), 303-306.
- Lamb, G. C., PAS, V. R. G. Mercadante, D. D. Henry, P. L. P. Fontes, C. R. Dahlen, **J. E. Larson**, and N. DiLorenzo. Invited Review: Advantages of current and future reproductive technologies for beef cattle production. *The Professional Animal Scientist* 32 (2016):162–171; <http://dx.doi.org/10.15232/pas.2015-01455>.
- Regmi, Naresh, Taiji Wang, **Mark A. Crenshaw**, **Brian J. Rude**, Guoyao Wu, **Shengfa F. Liao**. Effects of dietary lysine levels on plasma free amino acid profile in late-stage finishing pigs. *SpringerPlus* (2016) 5:888, DOI 10.1186/s40064-016-2463-3.
- Mayer, J. J., J. D. Davis, J. L. Purswell, E. J. Koury, N. H. Younan, **J. E. Larson**, and T. M. Brown-Brandl. 2016. Development and characterization of a continuous tympanic temperature logging (CTTL) probe for bovine animals. *Transactions of the ASABE*. 59:703-714. (DOI: 10.13031/trans.59.11367).
- Gilfeather, CL and **CO Lemley**. 2016. Effects of Interferon-Tau and Steroids on Cytochrome P450 Activity in Bovine Endometrial Epithelial Cells. *Reproduction in Domestic Animals*, 51, 415–420 (2016); doi: 10.1111/rda.12695.
- Prezotto, L. D., L. E. Camacho, **C. O. Lemley**, F. E. Keomanivong, K. A. Vonnahme and K. C. Swanson, J. S. Caton. Nutrient restriction and realimentation in beef cows during early and mid-gestation and maternal and fetal hepatic and small intestinal in vitro oxygen consumption. *The Animal Consortium* 2015. doi:10.1017/S1751731115002645.
- Ye, G., J. Liu, Y. Liu, X. Chen, **S. F. Liao**, D. Huang, and K. Huang. 2016. Feeding glycerol-enriched yeast culture improves lactation performance, energy status, and hepatic gluconeogenic enzyme expression of dairy cows during the transition period. *J. Anim. Sci.* doi: 10.2527/jas.2015-0021.
- Cline, G. F., A. M. Muth-Spurlock, B. E. Voelz, **C. O. Lemley**, and **J. E. Larson**. 2016. Evaluating blood perfusion of the corpus luteum in beef cows during fescue toxicosis. *J. Anim. Sci.* 94:90-95.
- Brockus, K. E., C. G. Hart, C. L. Gilfeather, B. O. Fleming, **C. O. Lemley** (2016). Dietary melatonin alters uterine artery hemodynamics in pregnant Holstein heifers. *Domestic Animal Endocrinology*, 55, 1-10.

Kaya, A., **E. Memili**. Sperm macromolecules associated with bull fertility. *Animal Reproduction Science*. (2016), <http://dx.doi.org/10.1016/j.anireprosci.2016.02.015>

Hunt, M.R., J.F. Legako, **T.T.N. Dinh**, A.J. Garmyn, T.G. O'Quinn, C.H. Corbin, R.J. Rathmann, J.C. Brooks, M.F. Miller. Assessment of volatile compounds, neutral and polar lipid fatty acids of four beef muscles from USDA Choice and Select graded carcasses and their relationships with consumer palatability cores and intramuscular fat content. *Meat Science* 116 (2016) 91–101.

Keomanivong, F. E., **C. O. Lemley**, L. E. Camacho, R. Yunusova, P. P. Borowicz, J. S. Caton, A. M. Meyer, K. A. Vonnahme and K. C. Swanson. Influence of nutrient restriction and melatonin supplementation of pregnant ewes on maternal and fetal pancreatic digestive enzymes and insulin-containing clusters. *Animal* (2016), 10:3, pp 440–448.

Brockus, KE, CG Hart, BO Fleming, T Smith, **SH Ward** and **CO Lemley**. Effects of Supplementing Holstein Heifers with Dietary Melatonin during Late Gestation on Growth and Cardiovascular Measurements of their Offspring. *Reproduction in Domestic Animals*. 51, 240–247 (2016); doi: 10.1111/rda.12672 ISSN

Vasquez, Erick S., **Jean M. Feugang**, **Scott T. Willard**, **Peter L. Ryan** and Keisha B. Walters. Bioluminescent magnetic nanoparticles as potential imaging agents for mammalian spermatozoa. *Journal of Nanobiotechnology*. (2016) 14:20.

## 2016 Book Chapters:

Kutchy NA, Kaya A, Moura A, **Memili E**. (2016) Sperm chromatin dynamics associated with male fertility in mammals. In *Animal Models and Human Reproduction*, Chapter 16, First Edition. Edited by Heide Schatten and Gheorghe M. Constantinescu. Wiley & Sons, Inc. Published 2017 by John Wiley & Sons, Inc.

Velho ALC, R Oliveira, T Dinh, A Moura, A Kaya, and E Memili. (2016) Applications of metabolomics in reproductive biology. In *Animal Models and Human Reproduction*, Chapter 20. Ed. Heide Schatten and George Constantinescu. John Wiley & Sons, Inc.