



# MISSISSIPPI STATE UNIVERSITY™

## DEPARTMENT OF ANIMAL AND DAIRY SCIENCES



### OUR MISSION:

Our faculty are committed to serving the citizens of this state through teaching, research and extension programs. Research and extension centers are located strategically throughout the state. Animal research facilities at the

Leveck Animal Research Center, Bearden Dairy Cattle Research Center, Prairie Research Unit, Brown Loam Research Station, and the White Sands Unit give faculty opportunities to investigate the challenges facing the livestock industry.

Our Mission is to provide science-based solutions for animal agriculture through innovative and effective education, research and extension programming. Our Vision is Building the Future of Agriculture.

### In This Issue:

**ADS Students Volunteer at Louisville Shelter**

**New Opportunities through Collaborative Program**

**ADS Scientists on Service**

**Graduate Student Represents MSU at IHSA Nationals**

**Developing Future Faculty**

**Undergraduate Research Symposium**

**Pancakes and Ponies**

**Dairy Cow Camp**

# ADS 2223 Students Volunteer at the Louisville Shelter



As the 2019 spring semester comes to an end, students in ADS 2223 Companion Animal are finishing off the semester by volunteering at the Louisville Animal Shelter. This is the second year that the ADS 2223 Companion Animal course has worked with the Louisville Animal Shelter. Students signed up throughout the spring semester to work in pairs helping with the daily activities at the shelter that is based at the industrial park in Louisville, Mississippi just off of Highway 14. Due to limited funding, the shelter depends on volunteers to assist with caring for the animals, and thus, the ADS 2223 students were valuable in assisting in all types of activities including feeding, cleaning kennels, and exercising and socializing both the dogs and cats at the shelter.

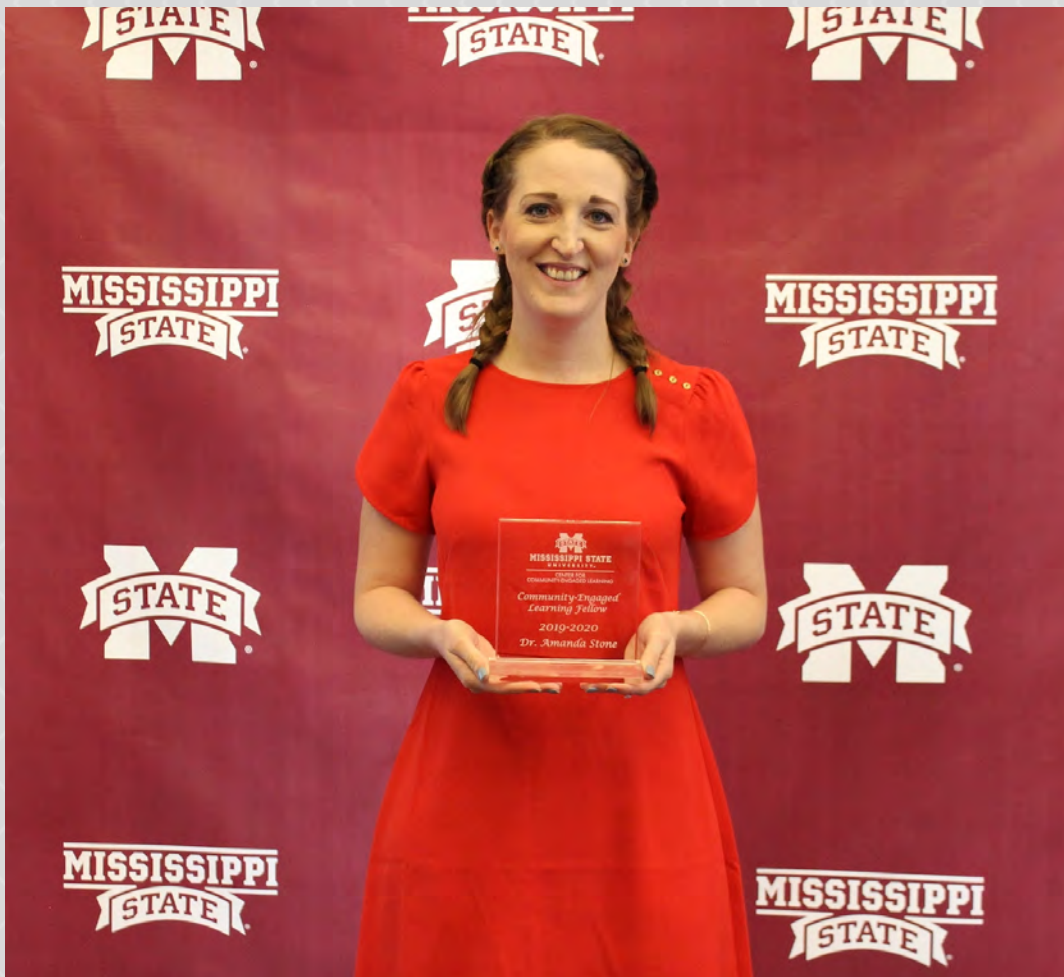


The Director of the shelter, Barbara Yarborough, assisted in coordinating the student volunteers, and once the students got to the facility, she was able to train the students on safe handling of the shelter animals.

Those interested in the ADS 2223 course can contact the course instructor Dr. Molly Nicodemus at [mnicodemus@ads.msstate.edu](mailto:mnicodemus@ads.msstate.edu).



# Dr. Amanda Stone joins Fellows in creating new opportunities through collaborative program



The program consisted of ten Mississippi State employees from across the university. This allowed them to learn how to incorporate community-engaged learning into courses in their respective departments.

The Community-Engaged Learning Fellows have spent three weeks redesigning courses and preparing to integrate this type of learning into their teaching, research and public service work. The program aims to integrate the philosophy, pedagogy and process of community-engaged learning into the MSU academic environment and develop faculty leaders who can encourage and mentor their peers.

Full article: <https://www.msstate.edu/newsroom/article/2019/05/msu-community-engaged-learning-fellows-create-new-opportunities-through/?fbclid=IwAR135p4f65VFEEn3cCSBurWNFLgGqIzVoIn4IJRDzhJY6vl-bBhjzFCSWuOo>

# Animal and Dairy Scientist on Service

Muhammet Raşit Uğur, a Ph.D. student in the Department of Animal and Dairy Sciences, and Dr. Erdogan Memili spent their Saturday morning serving for the society on May 18, 2019.

They helped cleaned portions of Highway 389 North right outside of Starkville. They synergized with the members of Starkville Civitan which is a branch of Civitan International.

Civitan's goals are to help nobler citizenship and support education and research to enhance the quality of life of children with developmental or intellectual disabilities ([www.civitan.org](http://www.civitan.org)). Dr. Memili serves as the coordinator of Starkville Civitan's Special Education Grant Program.

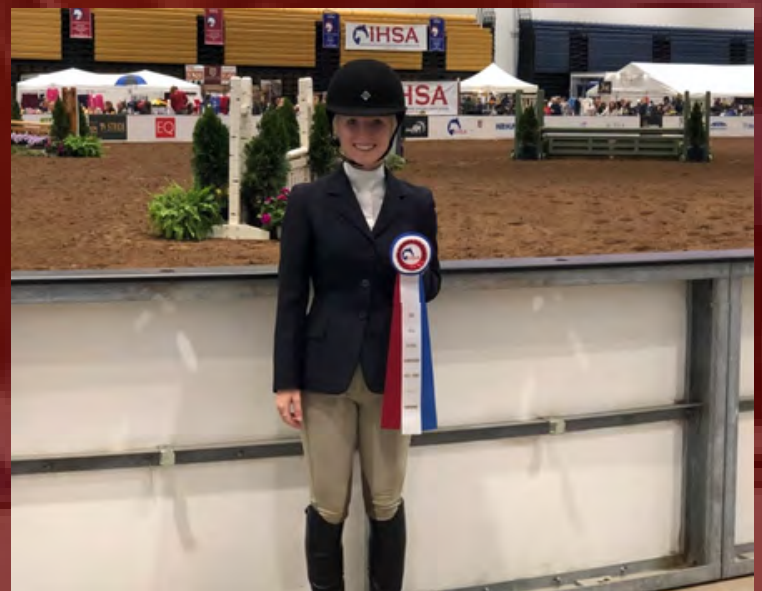




# ADS Graduate Student Represents MSU at IHSA Nationals

---

Earlier in May Animal & Dairy Sciences graduate student Holly Evans traveled to Syracuse, New York to represent Mississippi State University at the Intercollegiate Horse Show Association (IHSA) National Competition. Holly was only one out of 14 riders in the United States that qualified to compete in the Alumni Over Fences Division at the 2019 IHSA Nationals. While Holly didn't win top honors at the competition, she did bring home a ribbon and proudly represented MSU at the national level. Along with riding for the team, Holly assists with coaching the MSU hunt seat team. When not coaching and riding, Holly is working on her MS degree under the advisement of Dr. Molly Nicodemus and Dr. Erdogan Memili.



## Congratulations Holly!

# Developing Future Faculty

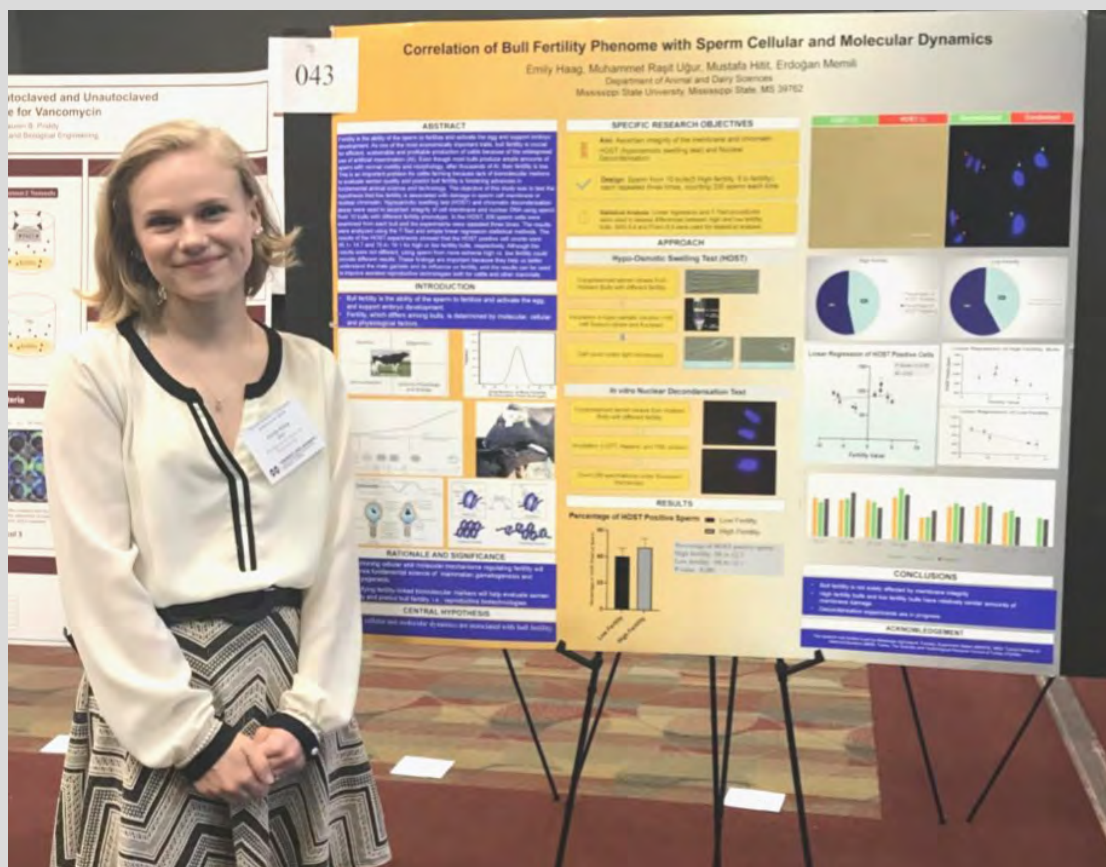
Courtney Heaton and Muhammet Raşit Uğur, both Ph.D. students at the Department of Animal and Dairy Sciences, have completed the year-long Preparing Future Faculty Program at Mississippi State University. They have graduated from the program and received their certificates on Monday April 29, 2019.

The Preparing Future Faculty Program is aimed at assisting students with an interest in a career in academia. Topics included understanding faculty roles and responsibilities, interviewing for positions, and conducting quality teaching. The program even included a Teaching Capstone where students were evaluated and given feedback on their teaching. This program is coordinated and taught by the Center for Teaching and Learning (CTL) and it is a cooperative effort between the CTL, the Office of the Graduate School, and Mississippi State University Libraries. Program directors included Grisham Master Teachers Dr. Linda Morse and Professor Michael Seymour, as well as Mrs. Amy Barefield, an Instructional Resource Consultant through the CTL.

Heaton studies equine nutrition and exercise physiology, with a focus on enhancing diet digestibility through prebiotic and probiotic supplementation in both sedentary and exercising horses in Dr. Clay Cavinder's research group. Ugur studies molecular, cellular and physiological markers and mechanisms of bull fertility in Dr. Memili's research group in the Department.



# Senior Animal and Dairy Sciences, Emily Haag, Presents Research at MSU's Undergraduate Research Symposium



**Emily Haag, a senior majoring in Animal and Dairy Sciences, conducted research with guidance from her postdoctoral mentor Dr. Mustafa Hitit and graduate mentor Muhammet Rasit Ugur in Dr. Memili's laboratory.**

**Emily presented her research "Correlation of bull fertility phenome with sperm cellular and molecular dynamics" at MSU's Spring Undergraduate Research Symposium on April 16, 2019.**



# Just Horsing Around at Pancakes and Ponies

---





**JULY 22-23, 2019**  
**10 a.m. Monday-3 p.m. Tuesday**  
**MISSISSIPPI HORSE PARK**

  
**MISSISSIPPI STATE**  
**UNIVERSITY**  

---

**EXTENSION**

# Dairy Cow Camp

**"Moove" to the top of the show ring at your next dairy competition!**



Spend two days with judging  
and showmanship experts!  
Bring your animal! (for an additional fee)

Camp will be held at  
**MISSISSIPPI HORSE PARK**  
869 East Poor House Road  
Starkville, MS 39759

Cost: \$100/camper | \$22/animal  
Free for parents/chaperones

Get your printable registration form at  
[extension.msstate.edu/dairy-cow-camp](http://extension.msstate.edu/dairy-cow-camp)

Fill out the form and make checks out to MSU Foundation.  
Mail to Dr. Amanda Stone at  
Box 9815, Mississippi State, MS 39762

Your registration **MUST** be  
postmarked no later than June 21!

Questions? Contact Dr. Amanda Stone at  
(662) 769-9941.

Thanks to our generous sponsors!



The Mississippi Horse Park is a division of the MSU Extension Service and a partnership of the City of Starkville and Oktibbeha County.

Produced by Agricultural Communications.

Mississippi State University is an equal opportunity institution. For disability accommodation, please contact Amanda Stone at (662) 769-9941 or [amanda.stone@msstate.edu](mailto:amanda.stone@msstate.edu).

# **KEEP UP WITH US ON FACEBOOK**



<https://www.facebook.com/Mississippi-State-University-Animal-Dairy-Sciences-153818701305363/>



# UPCOMING EXTENSION EVENTS

## Beef Extension - Dr. Brandi Karisch

June 18-21: Beef Improvement Federation Meeting, Brookings SD

July 17-18: Deep South Stocker Conference, Athens, GA

Phone: (662) 325-7465 or brandi.karisch@msstate.edu

Beef Calendar: <http://extension.msstate.edu/livestock/beef/beef-calendar>

---

## Dairy Extension - Dr. Amanda Stone

July 22-23: Dairy Cow Camp, Mississippi Horse Park, Starkville

Phone: (662) 325-8773 or Email: amanda.stone@msstate.edu Website:

<http://extension.msstate.edu/dairy>

---

## 4-H Events - Dr. Dean Jousan

June 18-22: Mississippi State 4-H Horse Show Championship, Jackson

June 25-26: North and South MS 4-H Cook-out Contests (Beef/Pork/Poultry), location TBD

Phone: (662) 325-2424

Email: [dj230@msstate.edu](mailto:dj230@msstate.edu) [www.http://extension.msstate.edu/4-h](http://extension.msstate.edu/4-h)

---

## Equine Events - Dr. Clay Cavinder

Contact Dr. Cavinder for information about programs and events. Phone: (662) 325-7566 or [clay.cavinder@msstate.edu](mailto:clay.cavinder@msstate.edu) Website

<http://extension.msstate.edu/agriculture/livestock/equine/upcomingprograms>

## 2019 Refereed Publications

- Zoller, Jennifer L. , **Clay A. Cavinder**, Dennis Sigler, Luis O. Tedeschi, and Julie Harlin. Development of a mathematical model for predicting digestible energy intake to meet desired body condition parameters in exercising horses. *Journal of Animal Science* 2019.97:1945–1955. doi: 10.1093/jas/skz041.
- Yang, Zhongyue and **Shengfa F. Liao**. Physiological *Effects* of Dietary Amino Acids on Gut Health and Functions of Swine. *Frontiers in Veterinary Science* 6:169. doi: 10.3389/fvets.2019.00169.
- Ferguson, Treena L. , **Brian J. Rude**, and D. Tommy King. American White Pelican (*Pelecanus erythrorhynchos*) Growth, Nutrition, and Immunology. *BioOne Complete. Waterbirds*, 42(1) : 61-69. URL: <https://doi.org/10.1675/063.042.0107>.
- Julien, Allison R. , Andrew J. Kouba, David Kabelik, **Jean M. Feugang**, **Scott T. Willard**, and Carrie K. Kouba. Nasal administration of gonadotropin releasing hormone (GnRH) elicits sperm production in Fowlers Toads (*Anaxyrus fowleri*). *BMC Zoology* (2019) 4:3. <https://doi.org/10.1186/s40850-019-0040-2>.
- Aldridge, Mildred Elizabeth, Jasmyn Elaine Fearon, Bethany Peyton Haynes, Hannah Marie Miller, Katie Yvonne Sanford, Rachel Rebecca Scott, William Wess Anglin, Lauren Susanne Blalock, Briana Lashun Burkes, Olivia Lucienne Cohn-White, Brittany Renee Franks, Haleigh Margaret Giles, Ashley Lorraine Greene, Riley Dawn Hanby, Anna Grace Holliman, John Mark Kirby, Austin William Klein, Courtney Ann Lehmann, Grace Jennette Llyod, Cody Triston Lore, Tyler B. McMurray, Zachary Vinz Moody, Brianna Nicole Palmer, Lindsey Virginia Pansano, Ryan Matthew Pickle, Laura Marie Schaeffer, Jeneva Ruth Seidl, James Dean Smith, Hannah Faith Stepp, Faisal Amri Satrio, Naseer Ahmad Kutchy, Ed Dechert, Cobie Rutherford, Kipp Brown, Bambang Purwantara, **Erdogan Memili**. Review: Solutions for grand challenges in goat and sheep production industry. *Biotropia*. Vol. 26 No. 1, 2019: 56 - 64. DOI: 10.11598/btb.2019.26.1.944.
- Velho, Ana, Hongfeng Wang, Leslie Koenig, Kamilah E. Grant, Erika S. Menezes, Abdullah Kaya, Arlindo Moura, **Erdogan Memili**. Expression dynamics of integrin subunit beta 5 in bovine gametes and embryos imply functions in male fertility and early embryonic development. *Andrologia*. 2019;00:e13305. <https://doi.org/10.1111/and.13305>
- Carlisle, MS, Leif D., **Erdogan Memili, DVM, PhD**, Robert L. Linford, DVM, PhD, ACVS, Kristen A. Slater, DVM, **Molly C. Nicodemus, PhD**. Relationship between Gate Mechanics and the Speed of the Trot in the Weimaraner Dog Breed. *Topics in Companion Animal Medicine* 35 (2019) 26-30. <http://dx.doi.org/10.1053/j.tcam.2019.03.003>
- El Debaky, Hazem A., Naseer A. Kutchy, Asma Ul-Husna, Rhesti Indriastuti, Shamim Akhter, Bambang Purwantara, and **Erdogan Memili**. Review: Potential of water buffalo in world agriculture: Challenges and opportunities. *Applied Animal Science* 35:255–268. <https://doi.org/10.15232/aas.2018-01810>
- Ferjak, E.N., **C.A. Cavinder**, A.T. Sukumaran, **D.D. Burnett**, **C.O. Lemley**, **T.T.N. Dinh**. Fatty acid composition of mesenteric, cardiac, abdominal, intermuscular, and subcutaneous adipose tissues from horses of three body composition scores. *Livestock Science* 223 (2019) 116-123. <https://doi.org/10.1016/j.livsci.2019.02.01>



## 2019 Refereed Publications

- Dutra, G. A., G. M. Ishak, O. Pechanova, T. Pechan, D. G. Peterson, J. C. F. Jacob, **S. T. Willard**, **P. L. Ryan**, E. L. Gastal, and **J. M. Feugang**. Seasonal variation in equine follicular fluid proteome. *Reproductive Biology and Endocrinology*. (2019) 17:29. <https://doi.org/10.1186/s12958-019-0473-z>
- Casey L. Durfey, Sabrina E. Swistek, **Shengfa F. Liao**, **Mark A. Crenshaw**, Henry J. Clemente, Rooban V. K. G. Thirumalai, Christy S. Steadman, **Peter L. Ryan**, **Scott T. Willard** and **Jean M. Feugang**. Nanotechnology-based approach for safer enrichment of semen with best spermatozoa. *Journal of Animal Science and Biotechnology*. (2019) 10:14. <https://doi.org/10.1186/s40104-018-0307-4>.
- Mayo, L. M., W. J. Silvia, D. L. Ray, B. W. Jones, **A. E. Stone**, I. C. Tsai, J. D. Clark, J. M. Bewley, and G. Heersche Jr. Automated estrous detection using multiple commercial precision dairy monitoring technologies in synchronized dairy cows. *Journal of Dairy Sciences*. 2019. J. Dairy Sci. 102:1–12. <https://doi.org/10.3168/jds.2018-14738>
- Yang, Zhongyue, Md. Shamimul Hasan, John K. Htoo, **Derris D. Burnett**, **Jean M. Feugang**, **Mark A. Crenshaw**, and **Shengfa F. Liao**. Effects of dietary supplementation of L-methionine vs. DL-methionine on performance, plasma concentrations of free amino acids and other metabolites, and myogenesis gene expression in young growing pigs. *Translational Animal Science*. Transl. Anim. Sci. 2019.3:113–123. doi: 10.1093/tas/txy109.
- Gastal, G.D.A., **J.M. Feugang**, F.L.N. Aguiar, G.M. Ishak, **C.A. Cavinder**, **S.T. Willard**, **P.L. Ryan**, E.L. Gastal. Effect of cryopreservation techniques on proliferation and apoptosis of cultured equine ovarian tissue. *Theriogenology*. <https://doi.org/10.1016/j.theriogenology.2018.11.034>.