

Animal and Dairy SCIENCES News & Current Events

• Teaching • Research • Extension • Departmental Activities

CREATING A STRONG FOUNDATION

Where: MSU Equine Center, South Farm, Starkville

When: Tuesday's 6—7:30 PM; September 12 and 26,
October 10 and 24

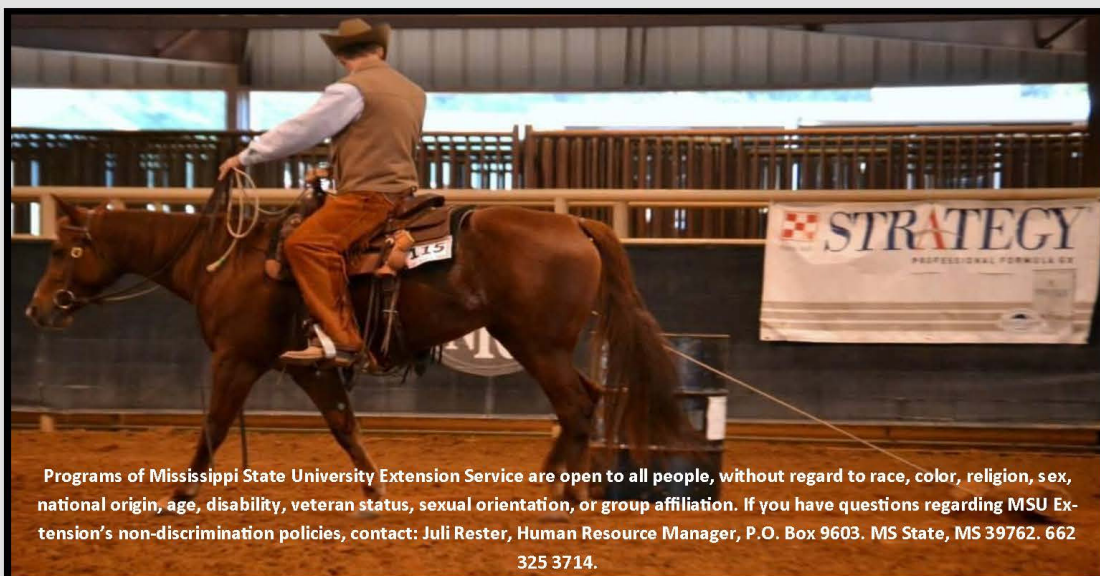
Registration: no charge; open to all ages and disci-
plines/interests!!!!

Contact: Dr. Cavinder; clay.cavinder@msstate.edu;
662-845-7731



EXTENSION

Creating a Strong Foundation: This is a horse riding clinic to ensure a strong foundation of softness and willingness for a more enjoyable horse. The *Creating a Strong Foundation* Clinic will help you achieve softness and suppleness in your horse, while also promoting better horsemanship. This clinic will be taught in a relaxed and open environment to ensure all who participate achieve their personal goals. All disciplines and interests are welcome.



Programs of Mississippi State University Extension Service are open to all people, without regard to race, color, religion, sex, national origin, age, disability, veteran status, sexual orientation, or group affiliation. If you have questions regarding MSU Extension's non-discrimination policies, contact: Juli Rester, Human Resource Manager, P.O. Box 9603, MS State, MS 39762. 662 325 3714.



MISSISSIPPI STATE UNIVERSITY™
DEPARTMENT OF ANIMAL
AND DAIRY SCIENCES

Student Spotlight



Mississippi State University Extension Dairy



August 25 at 9:43am · 🌐

Meet **Alyssa Rulewicz**, a junior majoring in Animal and Dairy Science! She recently finished working on a research project that tested the effectiveness of a feed additive on feed efficiency, and she will soon be starting another project to evaluate the difference between mastitis pathogens and other milk components between grazing and confinement herds. When she finishes her undergraduate degree, she hopes to go to graduate school and continue studying dairy cattle.



Business of Goat and Sheep Production



By: Dr. Erdogan Memili

In addition to theories in goat and sheep science, the students in ADS 4223 Goat and Sheep Production class are developing small business plans for goat and sheep production.

On Friday August 25, 2017, the students learned the essentials of developing business plans from Mr. Chip Templeton, the Director of Small Business Development Center at Mississippi State University.

Next, the students will develop their plans for production of goats or sheep using information from the real-world. Their business plans will be evaluated for class credit.

The objectives of the Small Business Development Center at MSU (<http://business.msstate.edu/research/sbdc/>) are to counsel and train existing business owners to be more economically viable and also to counsel and train entrepreneurs to assist them in starting businesses that are competitive in the market place.

The Goat and Sheep Production class is taught by **Dr. Erdogan Memili**, professor at the Department of Animal and Dairy Sciences, and Mr. Naseer Kutchy, a Ph.D. candidate in the Department, serves as the teaching assistant. The course is designed to empower students with knowledge and skills in management and marketing of goats and sheep in production enterprises through in class and laboratory learning. Students seek and generate knowledge through active involvement and writing to learn. These are among the concepts that **Dr. Memili** has learned from MSU's Maroon Institute for Writing Excellence (MIWE) of the Quality Enhancement Plan (<http://www.qep.msstate.edu/faculty/MIWE/>), and through the High Impact Teaching Practices (HIPs) at Cornell University's Center for Teaching Excellence (<https://www.cte.cornell.edu/>).



**BEARDEN DAIRY
RESEARCH CENTER**



Colby Hardin is an Assistant Herdsman at the Mississippi State Bearden Dairy Research Center. He comes from Yalobusha county in Mississippi. He earned his Bachelor's degree in Animal & Dairy Science here at Mississippi State. Alongside the experience gained as a student worker at the dairy, Colby also has unique management experience in the dairy industry. Between graduation and coming back to Starkville, Colby held the position of Herd Manager at the Arkansas Department of Correction Cummins Unit Dairy located in Grady, Arkansas. There, he was trained and managed high security inmates while managing a 300-head dairy. The knowledge acquired through the MSU Animal and Dairy Science department along with the unconventional experiences, brings much potential to our university dairy. Welcome to the team, Colby!

Beef Training

Conducted **Dr. Brandi Karisch & Mr. Cobie Rutherford**

Posted to Facebook By: @MSStateExtBeef



Mississippi State University
Extension Beef

2 hrs · 🌐

Were happy to provide the Beef Production class with **Beef Quality Assurance** training!



Dr. Karisch and students

Breakfast on the Farm



MISSISSIPPI STATE UNIVERSITY
DEPARTMENT OF ANIMAL
AND DAIRY SCIENCES

BOO!

FRIDAY, OCTOBER 27 | 9 A.M.-NOON
open to school groups & field trips

SATURDAY, OCTOBER 28 | 9 A.M.-NOON
open to the public & families

BEARDEN DAIRY RESEARCH CENTER | STARKVILLE
2128 Turkey Creek Road

\$5 per person

Breakfast, milk, and ice cream included

DAIRY TOUR

TRICK-OR-"TEAT"

COW COSTUME CONTEST (11 a.m. daily)

HALLOWEEN ACTIVITY

HAUNTED PARLOR

AND MORE!

Registration required by OCTOBER 20
extension.msstate.edu/breakfast



MISSISSIPPI STATE UNIVERSITY™
EXTENSION

For more information, contact Amanda Stone
at 662-769-9941 or amanda.stone@msstate.edu.



Upcoming Events!

Beef Extension - Dr. Brandi Karisch & Cobie Rutherford

- **Mississippi State University Artificial Insemination School, October 26 - 28, Animal and Dairy Sciences Department, Mississippi State, MS**



Equine Events - Dr. Clay Cavinder

- **Upcoming Programs and publications are online at <http://extension.msstate.edu/agriculture/livestock/equine/upcoming-programs>**
- **For more info, contact Dr. Cavinder at clay.cavinder@msstate.edu**



4-H Events - Dr. Dean Jousan

- **Mississippi State Fair, October 4-15, Jackson, Ms**
- **For publications and upcoming events go to: <http://extension.msstate.edu/4-h> or contact Dr. Dean Jousan at dj230@msstate.edu**



Dairy Events - Dr. Amanda Stone

- **Breakfast on the Farm, Dairy tours with a cow Costume Contest, a "Haunted Parlor, Breakfast with Milk & Ice Cream. October 27-29, MSU Bearden Dairy Research Center. \$5 pp; Register by Oct. 20 at extension.msstate.edu/breakfast**





Press Release



For Immediate Release: September 14, 2017 Contact: Bryant Welbourne
(bwelbourne@sec.org & 205-949-8960)

2017-18 SEC Faculty Travel Program Participants Announced.

BIRMINGHAM, Ala. – More than 100 faculty members from all 14 Southeastern Conference universities will take part in the 2017-18 SEC Faculty Travel Program, the league office announced Thursday. The program, in its sixth year, provides support for selected individuals to collaborate with colleagues at other SEC member institutions.

“As a researcher, it’s great to know that the SEC is behind us and supports what we want to do,” said Dr. Susan Loveall-Hague, Assistant Professor of Communication Sciences and Disorders at the University of Mississippi and former program participant.

Through the program, the SEC provides financial assistance for its faculty members to travel to other SEC universities to exchange ideas, develop grant proposals, conduct research and deliver lectures or performances.

“The SEC Faculty Travel Program has been a tremendous resource for faculty at universities across the SEC,” said Dr. Ellen Reames, Associate Professor at Auburn University and former program participant. “It gives us the opportunity to work with colleagues in our field of study throughout the region. It is a very powerful tool for SEC universities.”

Program participants from each SEC university will travel throughout the academic year, and disciplines represented include engineering, marine biology, political science, and linguistics, among others.

The SEC Faculty Travel Program is administered by SECU, the academic initiative of the Southeastern Conference. The SEC supports and promotes the academic endeavors of the students and faculty at its 14 member institutions.

To connect with SECU, visit the academic initiative online – www.TheSECU.com; on Facebook – TheSECU; on Twitter – @TheSECU; on Instagram – @TheSECUniversity; and on You Tube – SECUniversity.

2017 Refereed Publications:

Liao, Shengfa F., Martin Nyachoti. Using probiotics to improve swine gut health and nutrient utilization. *Animal Nutrition*. (2017) 1-13. <http://dx.doi.org/10.1016/j.aninu.2017.06.007>.

Kutchy, Naseer A., Ana Velho, Erika S. B. Menezes, Marie Jacobsen, Giselle Thibaudeau, Arlindo Moura, Abdullah Kaya, Andy Perkins, and **Erdogan Memili**, Robert W. Wills. Testis specific histone 2B is associated with sperm chromatin dynamics and bull fertility—a pilot study. *Journal of Reproductive Biology and Endocrinology*. (2017) 15:59. DOI 10.1186/s12958-017-0274-1.

Lemley, Caleb O. Investigating reproductive organ blood flow and blood perfusion to ensure healthy offspring. *Animal Frontiers*. doi:10.2527/af.2017-0124.

Keomanivong, F. E., L. E. Camacho, **C. O. Lemley**, E. A. Kuemper, R. D. Yunusova, P. P. Borowicz, J. D. Kirsch, K. A. Vonnahme, J. S. Caton and K. C. Swanson. Effects of realimentation after nutrient restriction during mid- to late gestation on pancreatic digestive enzymes, serum insulin and glucose levels, and insulin-containing cell cluster morphology. *Journal of Animal Physiology and Animal Nutrition*. 101 (2017) 589–604. DOI: 10.1111/jpn.12480.

Menezes, E.B., R.V. de Oliveira, M.F. van Tilburg, E.A. Barbosa, N.V. Nascimento, A.L.M.C.S. Velho, F.B. Moreno, R.A. Moreira, A.C.O. Monteiro-Moreira, G.M.C. Carvalho, A.F. Ramos, **E. Memili**, A.A. Moura. Proteomic analysis of seminal plasma from locally-adapted “Curraleiro Pé-Duro bulls” (*Bos taurus*): identifying biomarkers involved in sperm physiology in endangered animals for conservation of biodiversity. *Animal Reproduction Science*. <http://dx.doi.org/10.1016/j.anireprosci.2017.05.014>.

Cavinder, C. A., A. Sear, R. Valdez, L. White. Utilization of Social Media as a Marketing Tool for Equine Businesses: An Exploratory Study. *North American Colleges and Teachers of Agriculture Journal*. June 2017, Vol 61(2).

Gastal, G. D. A., A. Hamilton, B. G. Alves, S. G. S. de Tarso, **J. M. Feugang**, G. A. Apgar, C. K. Nielsen, E. L. Gastal, W. J. Banz. Ovarian features in white-tailed deer (*Odocoileus virginianus*) fawns and does. *PLOS ONE*. 12(5):30177357. <https://doi.org/10.1371/journal.pone.0177357>.

Aguiar, F.L.N., G.D.A. Gastal, G.M. Ishak, M.O. Gastal, D.I.A. Teixeira, J.R. Figueiredo, E.L. Gastal, **J.M. Feugang**. Effects of FSH addition to an enriched medium containing insulin and EGF after long-term culture on functionality of equine ovarian biopsy tissue. *Theriogenology* 99 (2017) 124-133.

Feugang, Jean M. Novel agents for sperm purification, sorting and imaging. *Molecular Reproduction Development*. 2017. 9999:1-10. DOI: 10.1002/mrd.22831.

Borchers, M. R., Y. M. Chang, K. L. Proudfoot, B. A. Wadsworth, **A. E. Stone**, and J. M. Bewley. Machine-learning-based calving prediction from activity, lying, and ruminating behaviors in dairy cattle. *Journal of Dairy Sciences*, Vol.100:1-11. 2017. <https://doi.org/10.3168/jds.2016-11526>.

Lemley, C. O. and K. A. Vonnahme. PHYSIOLOGY AND ENDOCRINOLOGY SYMPOSIUM: Alterations in uteroplacental hemodynamics during melatonin supplementation in sheep and cattle. *Journal of Animal Science* 2017.95:2211-2221. doi:10.2527/jas2016.1151.

2017 Refereed Publications:

- Gastal, G.D.A., F.L.N. Aguiar, B.G. Alves, K.A. Alves, S.G.S. de Tarso, G.M. Ishak, **C.A. Cavinder**, **J.M. Feugang**, E.L. Gastal. Equine ovarian tissue viability after cryopreservation and in vitro Culture. *Theriogenology* 97 (2017) 139-147.
- Maki, C R, S Allen, M Wang, SH Ward, **BJ Rude**, HR Bailey, RB Harvey and TD Phillips. Calcium Montmorillonite Clay for the Reduction of Aflatoxin Residues in Milk and Dairy Products. *Journal of Dairy and Veterinary Sciences*. 2017; 2*3): 555587.
- Regmi, N., T. Wang, **M. A. Crenshaw**, **B. J. Rude**, **S. F. Liao**. Effects of dietary lysine levels on the concentrations of selected nutrient metabolites in blood plasma of late-stage finishing pigs. *Journal of Animal Physiology and Animal Nutrition*. 2017; 1-7. DOI: 10.1111/jpn.12714.
- Wang, Taiji, **Jean M. Feugang**, **Mark A. Crenshaw**, Naresh Regmi, **John R. Blanton Jr.** and **Shengfa F. Liao**. A Systems Biology Approach Using Transcriptomic Data Reveals Genes and Pathways in Porcine Skeletal Muscle Affected by Dietary Lysine. *International Journal of Molecular Sciences* (2017) 18, 885.
- Cain, Amanda J., **Caleb O. Lemley**, F. Kevin Walters, David L. Christiansen, E. Heath King, Richard M. Hopper. Pre-breeding beef heifer management and season affect mid to late gestation uterine artery hemodynamics. *Theriogenology* 87 (2017) 9–15.
- Jones, Barbara W., **Amanda E. Stone**, Connie L. Wood, Kristen J. McQuerry, Joey D. Clark, Denise L. Ray, and Jeffrey M. Bewley, PAS. Case Study: Characterization of milk yield, lying and rumination behavior, gait, cleanliness, and lesions between 2 different freestall bases. *The Professional Animal Scientist* 33:140–149. <https://doi.org/10.15232/pas.2016-01548>.
- Stone, A. E.**, B. W. Jones, C. A. Becker, and J. M. Bewley. 2017. Influence of breed, milk yield, and temperature-humidity index on dairy cow lying time, neck activity, reticulorumen temperature, and rumination behavior. *Journal of Dairy Sciences* 100:1–9. <https://doi.org/10.3168/jds.2016-11607>.
- Hodge, Lauren B., **Brian J. Rude**, **Thu N. Dinh**, **Caleb O. Lemley**. Effect of u-3 Fatty Acid Supplementation to Gestating and Lactating Mares: On Milk IgG, Mare and Foal Blood Concentrations of IgG, Insulin and Glucose, Placental Efficiency, and Fatty Acid Composition of Milk and Serum From Mares and Foals. *Journal of Equine Veterinary Science* 51 (2017) 70–78.
- Littlejohn, B. P., M. C. Roberts, M. N. Bedenbaugh, A. W. Lewis, D. A. Neuendorff, D. G. Riley, J. A. Carroll, **R. C. Vann**, M. Amstalden, R. D. Randel, T. H. Welsh, Jr. (2017). Evaluation of the influence of prenatal transportation stress on GnRH-stimulated luteinizing hormone and testosterone secretion in sexually mature Brahman Bulls. *Journal of Animal Science* 95, 129-138. www.animalsciencepublications.org/publications/jas.
- Gastal, G D A , B G Alves, K A Alves, M E M Souza, A D Vieira, A S Varela Jr, J R Figueiredo, **J M Feugang**, T Lucia Jr and E L Gastal. Ovarian fragment sizes affect viability and morphology of preantral follicles during storage at 4°C. *Reproduction*, (2017) 153, 577-587.

2017 Book Chapters:

- Greene, Jonathan M. and **Peter L. Ryan**. L-Arginine in the Uterus and Placenta and During Gestation in Mammals. In *L-Arginine in Clinical Nutrition, Nutrition and Health*, Chapter 22. 2017. V.B. Patel et al. (eds.). DOI 10.1007/978-3-319-26009-9_22.
- Stone, A. E.** Precision dairy monitoring technology implementation opportunities and challenges. In *Large Dairy Herd Management*, 3rd Edition. (Edited by David K. Beede).
- Wang, Taiji, **M. A. Crenshaw**, M. S. Hasan, G. Wu and **S. F. Liao**. 2017. Effects of dietary lysine levels on the plasma concentrations of growth-related hormones in late-stage finishing pigs. In T. Asao and M. Asaduzzaman. eds. *Amino Acid - New Insights and Roles in Plant and Animal*. Chapter 13. pp. 259-271. InTech, Rijeka, Croatia. DOI: 10.5772/intechopen.68545.