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ANIMAL & DAIRY SCIENCES



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MSU REPRESENTED AT THE 2018 PATH INTERNATIONAL CONFERENCE

The Animal & Dairy Sciences department has a long history of educational and research activities associated with equine assisted therapy, including the course offering of ADS 3233 Equine Assisted Therapy, as a part of the department's curriculum. This course has allowed students to learn more about the equine industry and has offered graduate students the opportunity to research the benefits of this form of therapy.

Currently, Holly Evans, an ADS MS student, and Katie Cagle-Holtcamp, an Animal Physiology PhD student, are utilizing this course and related therapy activities for studies in equine assisted therapy. Holly Evans, an ADS MS student and Katie Cagle-Holtcamp, an Animal Physiology PhD student, are utilizing this course and related therapy activities for studies in equine assisted therapy.

Both students had abstracts based on this research accepted for the 2018 Professional Association of Therapeutic Horsemanship International Conference in Orlando, Florida this month. Holly Evans attended the conference representing the MSU equine therapy program and its related research by presenting her research and other MSU projects at the conference.

Holly discussed and promoted activities associated with the MSU equine therapy program. The success of the presentation and the interest it has attracted will assist in promoting continued research in equine assisted therapy at MSU. Individuals interested in the course or the associated research can contact Dr. Nicodemus at mnicodemus@ads.msstate.edu.



Holly Evans at the 2018 Professional Association of Therapeutic Horsemanship International Conference

ADS 4333/6333 STUDENTS LEARNING FIRSTHAND ABOUT THE SPORT HORSE INDUSTRY

As the fall 2018 semester draws to a close, the students of ADS 4333/6333 Equine Exercise Physiology work to complete their final group project covering training the sport horse.

This group project has students selecting a trainer to learn from throughout the semester about what it takes to train a competitive sport horse. Several local trainers have participated in this project multiple years including barrel horse trainer Quay Eaves and AQHA trainer and judge Tom McBeath

. During the semester, students work firsthand with the trainers getting to see in person what exercise does to the physiology of the sport horse.

Along with working with the trainers to develop the project, students also have the opportunity to work at local sport horse events during the semester including the Mississippi Quarter Horse Association Fall Classic in Jackson, Mississippi and the Heart of Dixie Palomino Exhibitors Association (HOPE) Halloween Classic in Meridian, Mississippi.

During these competitions students got to visit with nationally recognized professionals in the industry like PHBA trainers Steve Tidwell and Bill Parker and AQHA trainer and judge Tom McBeath.

Through these events, students were able to see in person the sport horse in action and were able to work alongside professionals in the industry to gain insight on all aspects of the sport horse industry.



MSU Students volunteering at the HOPE Halloween Classic at the Lauderdale County Agri-Center

HORSEMAN'S ASSOCIATION VOLUNTEERS AT THE HORSE POOR BARREL RACE

Horseman's Association members spent another year volunteering at the Horse Poor Barrel Race at the Mississippi Horse Park in Starkville, MS October 19-21. This event is one of the largest events the Mississippi Horse Park hosts each year and it continues to grow every year.

The barrel race included the No Bull Open 4D race offering \$35,000 in cash prizes along with trophy saddles and buckles. Club members were responsible for running the gates during the race with shifts running 5-8 hours starting Friday around noon and running through Sunday evening. the club's annual spring trip.

A total of 4-6 members signed up for each shift with well over 25 students getting a chance to be a part of this event. Students also got a chance to meet some of the winners of the race. Due to the exceptional work during the show, the club received a donation from the Horse Park that will go towards



MSU Student Volunteers at the Horse Poor Barrel Race at the Horse Park

ADS 3221 STUDENTS PARTICIPATE IN A FARRIER DEMONSTRATION

ADS 3221 Practices in Horse Care & Management is a relatively new lab course in the Animal & Dairy Sciences department and this semester is the first time the course has been offered in the fall semester. While the course is focused on giving students hands-on experience with the departmental horses, it also includes guest speakers that are experts in the equine industry. These labs are set up for the guest speakers to give hands-on demonstrations so students can work side by side with industry professionals.

Alicia Gilmore, ADS Masters Student and Graduate Teaching Assistant for ADS 3221, has worked hard throughout the semester to ensure her students get the most exposure to the horse industry. Recently, Alicia was able to coordinate a farrier demonstration with Dr. Ben Nabors, MSU CVM Clinical Instructor and certified farrier.

During the farrier demonstration, students were able to see firsthand the Blacksmith Shop at the CVM Equine Clinics and watch a demonstration on corrective trimming and shoeing. For several students in the course, becoming a farrier is a career interest so this lab was helpful in understanding the components of farrier science. For further information about ADS 3221, individuals can contact course instructor Dr. Molly Nicodemus at mnicodemus@ads.msstate.edu.



ADS 3221 Students participating in a farrier demonstration at the CVM Equine Clinics

AQHA CONGRESS COLLEGIATE JUDGING COMPETITION

The Mississippi State University Horse Judging Team competed in the AQHA Congress collegiate judging competition October 17th in Columbus, Ohio. The team came home with 4th Team Overall, 4th in Halter, 3rd in Performance, and 4th in Reasons. Tori Stroupe got High Individual in Performance and 7th Overall. Mary Claire Cornett got 7th in Halter.



From left to right: Coach Courtney Heaton, Hannah Boyette, Tori Stroupe, Harper Cobb, Rachel McDaniel, and Mary Claire Cornett.

INFLUENCE VIDEO

The October episode of Influence features the MSU Equestrian Team. It is now available on social media and the website. You may view it at <https://youtu.be/HPZjRuvWeaY>. Special thanks to our guest Ashley Glenn and Alyson Addy.



MSU College of Agriculture and Life Sciences
Published on Oct 29, 2018

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Influence, the show about the programs in the College of Agriculture and Life Sciences at Mississippi State University.

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For more information, contact Dr. Amanda Stone at amanda.stone@msstate.edu.

UPCOMING EVENTS

Beef Extension - Dr. Brandi Karisch & Cobie Rutherford

- November 8: Beef Cattle Improvement Association Bull Sale, Raymond
- November 12-13: Cattlemen's College, West Point and Hattiesburg

Phone: (662) 325-7465 or brandi.karisch@msstate.edu (662) 325-4344 or cobie.rutherford@msstate.edu

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

Dairy Events - Dr. Amanda Stone

Phone: (662) 325-8773 or Email: amanda.stone@msstate.edu Website: <http://extension.msstate.edu/dairy>

4-H Events - Dr. Dean Jousan

- November 2-5: National 4-H Dairy Quiz Bowl & Dairy Judging Contest, Louisville, KY

- November 12-14: National 4-H Skill-a-thon Contest, Louisville, KY

Phone: (662) 325-2424

Email: 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 Website

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

PUBLICATIONS

2018 Refereed Publications

- Dinh, T.T.N., J.F. Legako, M.F. Miller, J.C. Brooks. Effects of USDA quality grade and cooking on water-soluble precursors of beef flavor. *Meat Science*. 146 (2018) 122-130. <https://doi.org/10.1016/j.meatsci.2018.08.008>.
- Littlejohn, Brittni P., David G. Riley, Thomas H. Welsh, Jr, Ronald D. Randel, Scott T. Willard, and Rhonda C. Vann. Use of random regression to estimate genetic parameters of temperament across an age continuum in a crossbred cattle population. *Journal of Animal Science*. 2018. 96:2607–2621. doi: 10.1093/jas/sky180.
- Vu, P. T. T., A. J. Holtcamp, A. T. Sukumaran, M. V. V. Le, D. H. Nguyen, & T. T. N. Dinh. (2018). Effects of market type and time of purchase on oxidative status and descriptive off-odors and off-flavors of beef in Vietnam. *Meat science*, 145, 399-406. <https://doi.org/10.1016/j.meatsci.2018.07.018>.
- Ishak, G. M. , S. T. Bashir, G. A. Dutra, G. D. A. Gastal, M. O. Gastal, C. A. Cavinder, J. M. Feugang, and E. L. Gastal. In vivo antral follicle wall biopsy: a new research technique to study ovarian function at the cellular and molecular levels. *Reproductive Biology and Endocrinology* (2018) 16:71. <https://doi.org/10.1186/s12958-018-0380-8>.
- Humphrey, R. M., Z. Yang, M. S. Hasan, M. A. Crenshaw, D. D. Burnett, J. K. Htoo and S. F. Liao. The compensatorily -gained pigs resulted from feeding a methionine-deficient diet had more fat and less lean body mass. *Journal of Applied Animal Nutrition*, Vol. 6; e6; page 1 of 7. <https://doi.org/10.1017/JAN.2018.5>.
- Griffin, Courtney M. , BS; Jenna A. Scott, BS; Brandi B. Karisch, MS, PhD; Amelia R. Woolums, DVM, MVSc, PhD, DACVIM, DACVM; John R. Blanton, MS, PhD; Ray M. Kaplan, DVM, PhD, DEVPC, DACVM; William B. Epperson, DVM, MS, DACVPM (Epidemiology); David R. Smith, DVM, PhD, DACVPM (Epidemiology). A randomized controlled trial to test the effect of on-arrival vaccination and deworming on stocker cattle health and growth performance. *The Bovine Practitioner*, Vol. 52, No. 1.
- Sun, Yuhang , Jin Liu, Gengping Ye, Fang Gan, Mohammed Hamid, Shengfa Liao, Kehe Huang. Protective effects of zymosan on heat stress-induced immunosuppression and apoptosis in dairy cows and peripheral blood mononuclear cells. *Cell Stress and Chaperones*. <https://doi.org/10.1007/s12192-018-0916-z>.
- Woolums, Amelia R., Brandi B. Karisch, Jonathan G. Frye, William Epperson, David R. Smith, John Blanton Jr., Frank Austin, Ray Kaplan, Lari Hiott, Tiffanie Woodley, Sushim K. Gupta, Charlene R. Jackson, Michael McClelland. Multidrug-resistant *Mannheimia haemolytica* isolated from high-risk beef stocker cattle after antimicrobial metaphylaxis and treatment of bovine respiratory disease. *Veterinary Microbiology* 221 (2018) 143-152. <https://doi.org/10.1016/j.vetmic.2018.06.005>.
- Sukumaran, Anuraj T., Alexander J. Holtcamp, Yan L. Campbell, Derris Burnett, Mark W. Schilling, Thu T.N. Dinh. Technological characteristics of pre- and post-rigor deboned beef mixtures from Holstein steers and quality attributes of cooked beef sausage. *Meat Science*. 145 (2018) 71–78. <https://doi.org/10.1016/j.meatsci.2018.06.001>.
- Hart, CG, BE Voelz, KE Brockus, CO Lemley. Hepatic steroid inactivating enzymes, hepatic portal blood flow and corpus luteum blood perfusion in cattle. *Reproduction in Domestic Animals*. 2018;53:751–758.
- Camacho, L.E., C.O. Lemley, S.T. Dorsam, K.C. Swanson, K.A. Vonnahme. Effects of maternal nutrient restriction followed by realimentation during early and mid-gestation in beef cows. II. Placental development, umbilical blood flow, and uterine blood flow responses to diet alterations. *Theriogenology*. <https://doi.org/10.1016/j.theriogenology.2018.04.013>.

PUBLICATIONS

2018 Refereed Publications

- Lemley, C.O.**, L.E. Camacho, D.M. Hallford, K.A. Vonnahme. Uteroplacental secretion of progesterone and estradiol 17beta in an ovine model of intrauterine growth restriction. *Animal Reproduction Science*. 193 (2018) 68-78. <https://doi.org/10.1016/j.anireprosci.2018.04.001>.
- T. Williams, **B. Rude**, **S. Liao**, C. Mochal-King, **M. Nicodemus**. Effects of fat supplementation on plasma glucose, insulin and fatty acid analysis in ponies maintained on a forage-based diet. *Journal of Animal Physiology and Animal Nutrition*. 2018;1-8. DOI: 10.1111/jpn.12905.
- Gastal, G.D.A., **J.M. Feugang**, F.L.N. Aguiar, A.P.R. Rodrigues, J.M. Scimeca, G.A. Apgar, W.J. Banz, E.L. Gastal. Cryopreservation and in vitro culture of white-tailed deer ovarian tissue. *Theriogenology*. 113 (2018) 253-260.
- Velho, Ana Luiza Cazaux, Elnko Topper, Erika Menezes, **Thu Dinh**, Abdullah Kaya, Arlindo Alencar Moura, **Erdogan Memili**. Metabolomic markers of fertility in bull seminal plasma. *PLOS ONE*. <https://doi.org/10.1371/journal.pone.0195279>.
- Owen, MPT, EN Ferjak, **CA Cavinder**, KJ McCarty, KC Yankey, CG Hart, **DD Burnett**, **TTN Dinh**, **CO Lemley**. Effects of body condition score (BCS) on steroid- and eicosanoid- metabolizing enzyme activity in various mare tissues during winter anoestrus. *Reproduction in Domestic Animals*. 2018;53:296-303. <https://doi.org/10.1111/rda.13104>.
- Park, Seong B., **Scott T. Willard**, Christy S. Steadman, Atul A. Chaudhari, Shreekumar R. Pillai, Shree R. Singh, **Peter L. Ryan** and **Jean M. Feugang**. Proteomic analysis of antimicrobial effects of pegylated silver coated carbon nanotubes in Salmonella enterica serovar Typhimurium. *Journal of Nanobiotechnology*. (2018) 16:31 <https://doi.org/10.1186/s12951-018-0355-0>.
- Cavinder, C. A.**, PAS, E. N. Ferjak, C. A. Phillips, **D. D. Burnett**, and **T. T. N. Dinh**. REVIEW: The importance of overall body fat content in horses. *The Professional Animal Scientist* 34:125-132. <https://doi.org/10.15232/pas.2017-01708>.
- Sukumaran, Anuraj T., Alexander J. Holtcamp, April K. Englishbey, Yan L. Campbell, Taejo Kim, Mark W. Schilling, **Thu T.N. Dinh**. Effect of deboning time on the growth of Salmonella, E. coli, aerobic, and lactic acid bacteria during beef sausage processing and storage. *Meat Science* 139 (2018) 49-55.
- Wang, T., **M. A. Crenshaw**, N. Regmi, **B. J. Rude**, M. S. Hasan, A. T. Sukumaran, **T. Dinh**, and **S. F. Liao**. 2018. Effects of dietary lysine level on the content and fatty acid composition of the intramuscular fat in late-stage finishing pigs *Canadian Journal of Animal Science*. 98: 241-249. DOI: [dx.doi.org/10.1139/cjas-2017-0083](https://doi.org/10.1139/cjas-2017-0083).
- Owen, M.P.T., K.J. McCarty, C.G. Hart, C.S. Steadman, **C.O. Lemley**. Endometrial blood perfusion as assessed using a novel laser Doppler technique in Angus cows. *Animal Reproduction Science*. 190 (2018) 119-126. <https://doi.org/10.1016/j.anireprosci.2018.01.015>.
- Feugang, Jean M.**, **Shengfa F. Liao**, **Scott T. Willard**, and **Peter L. Ryan**. In-depth proteomic analysis of boar spermatozoa through shotgun and gel-based methods. *BMC Genomics*. (2018) 19:62 DOI 10.1186/s12864-018-4442-2.
- Liao, Shengfa F.**, Naresh Regmi, Guoyao Wu. Homeostatic Regulation of Plasma Amino Acid Concentrations. *Frontiers in Bioscience, Landmark*. 23, 640-655, January 1, 2018.

PUBLICATIONS

2018 Refereed Publications

Feugang, Jean M. , Shengfa F. Liao, Scott T. Willard, and Peter L. Ryan. In-depth proteomic analysis of boar spermatozoa through shotgun and gel-based methods. *BMC Genomics*. (2018) 19:62 DOI 10.1186/s12864-018-4442-2.

Liao, Shengfa F., Naresh Regmi, Guoyao Wu. Homeostatic Regulation of Plasma Amino Acid Concentrations. *Frontiers in Bioscience, Landmark*. 23, 640-655, January 1, 2018.

PUBLICATIONS

2018 Book Chapters:

Jain, Sapna, Seong B. Park, Shreekmar R. Pillai, Peter L. Ryan, Scott T. Willard and Jean M. Feugang. Applications of Fluorescent Quantum Dots for Reproductive Medicine and Disease Detection. In *Unraveling the Safety Profile of Nanoscale Particles and Materials—From Biomedical to Environmental Applications*, Chapter 6, pp. 133-148, <http://dx.doi.org/10.5772/intechopen.72978>.