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## Animal Science E-Newsletter, July 2020

University of Arkansas, Fayetteville. Department of Animal Sciences

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# Animal Science E-Newsletter

July 2020



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## Faculty Member Kelly Vierck Receives AMSA Student Teacher “Cleaver” Award

Kelly Vierck, an assistant professor of animal science within the U of A System Division of Agriculture, was recently named the Ph.D. recipient of the 2020 American Meat Science Association (AMSA) Student Teacher “Cleaver” Award.

The Student Teacher “Cleaver” Award is sponsored by the AMSA Student membership, and Vierck will be honored during the 66<sup>th</sup> International Congress of Meat Science and Technology and the AMSA 73<sup>rd</sup> Reciprocal Meat Conference awards presentation beginning on August 3 in a virtual format.



“I am extremely honored to be receiving the ‘Cleaver’ Award from the American Meat Science Association,” said Vierck. “Through my time instructing classes at Kansas State and Texas Tech, I have been immensely fortunate to work with an outstanding group of mentors and students who have helped me grow into an effective and innovative instructor.”

Vierck joined the Department of Animal Science faculty ranks as an assistant professor in June, and will be focusing on meat science and muscle biology. She aims to further develop the department’s meat science program while aiding in the growth and preparation of students as future scientists in the meat industry.

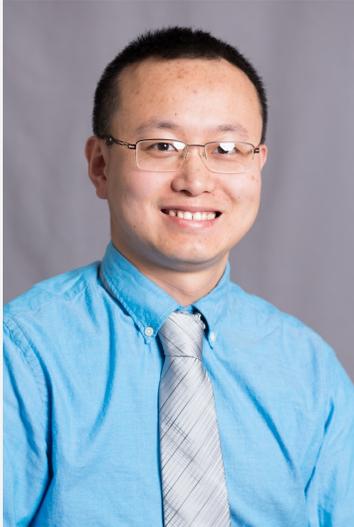
“I look forward to establishing an exemplary meat science education program at the University of Arkansas,” said Vierck. “Through the implementation of experiential, hands-on labs and lectures, I want to bring cutting-edge research and industry-focused knowledge full circle to develop students into career-ready alumni who are demanded by the meat industry.”

Vierck received her Ph.D. from Texas Tech University, while serving as a graduate research assistant within the Department of Animal and Food Sciences where she taught

numerous animal and food science courses, produced scientific research publications and participated in the National Cattlemen's Beef Association-Product Quality Research Program. She received her M.S. from Kansas State University and her B.S. from Oklahoma State University as a food science major with an emphasis on meat science. }

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## Yan Huang, Research Team Awarded \$150,000 Grant



Yan Huang, assistant professor of animal science within the U of A System Division of Agriculture, leading an interdisciplinary team including Jamie Baum (Food Science), Charles Maxwell (Animal Science), and Sami Dridi (Poultry Science), was recently awarded a \$150,000 grant from the Arkansas Biosciences Institute, with this year marking the first renewal of funding.

This is a 3-year project titled, *The Role of Neonatal Non-Shivering Thermogenesis in Preventing Childhood Obesity*. Normally, during cold stress, the body works to raise or maintain its temperature by shivering. Shivering produces heat via the involuntary contraction of skeletal muscle that requires energy and the production of ATP. On the other hand, non-shivering heat production in the body that does not require muscle contraction instead uses fatty acids and glucose to directly produce heat.

Huang's group uses a combination of cell culture and animal models to evaluate cellular mechanisms related to non-shivering heat production in fat and muscle utilizing the  $\beta$ -adrenergic drug metformin. Although this drug has been used for many years to help treat Type II diabetes, its molecular mechanisms and potential uses are still being explored. Along with cell cultures, the animal models include mice, chickens, and pigs, with the purpose of combining agricultural research with human medical applications. This year's renewal proposal included the addition of polyphenols to the swine model. Polyphenols are secondary metabolites of plants that function as antioxidants. They are commonly found in many foods such as herbs, teas, wine, dark chocolate, fruits, and vegetables and have known human health benefits.

Huang's research proposes a combination of metformin and polyphenols to promote metabolism and heat production in pigs to decrease newborn mortality and produce leaner, healthier meat. Additionally, revealing mechanisms of action in this type of research creates potential applications in the treatment of human obesity. }

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## New Faculty Highlight: Brittni Littlejohn

Brittni Littlejohn joined the Department of Animal Science faculty ranks in June, and will be focusing on physiological genetics.

Littlejohn received her Ph.D. from Texas A&M University,

where her dissertation focused on “epigenetic programming of physiological functions by a prenatal stressor and genetic parameters of temperament in cattle.” She also received both her M.S. and B.S. from Texas A&M as an animal science major.

Littlejohn previously served as a postdoctoral associate within the Department of Animal Sciences at Mississippi State University where she was the principal investigator on various research projects, produced numerous journal articles and was a guest lecturer for an Advanced Physiology of Reproduction course. }



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