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Animal Science E-Newsletter, May 2020

University of Arkansas, Fayetteville. Department of Animal Sciences

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Animal Science E-Newsletter

May 2020

UofA
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UNIVERSITY OF ARKANSAS
Dale Bumpers College of
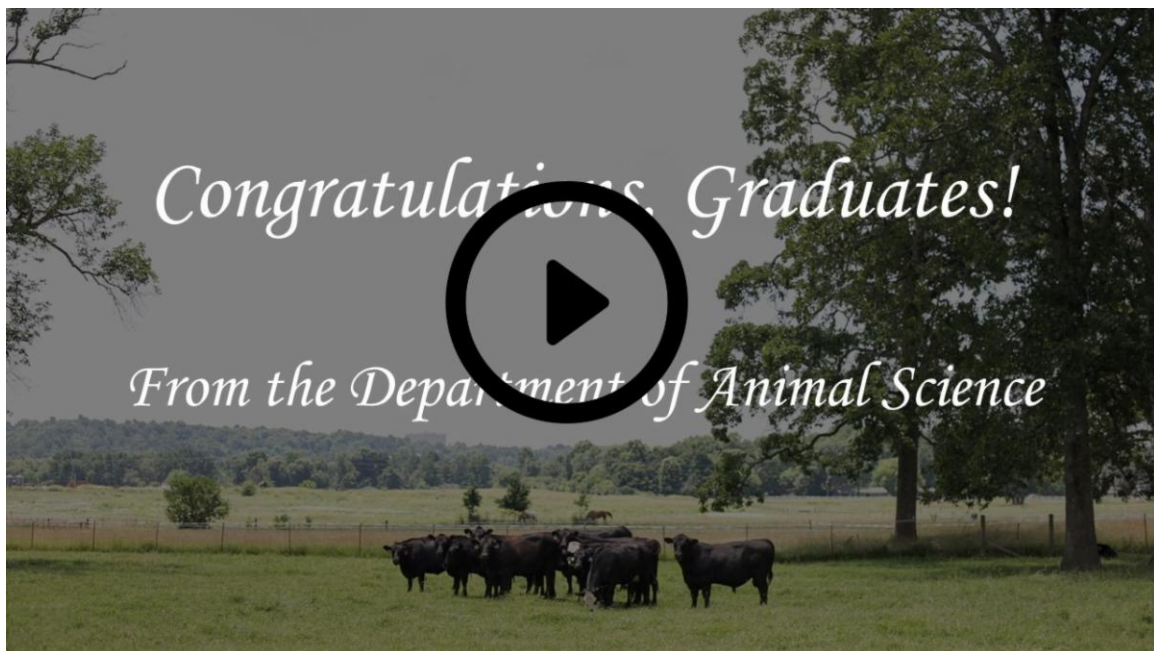Agricultural, Food & Life Sciences
Animal Science

Department of Animal Science Celebrates Spring 2020 Graduation with Virtual Send-off

The Department of Animal Science would like to send its best wishes and a huge congratulations to each of the U of A spring 2020 graduates! Despite the difficulties and unique challenges presented by this semester, our students remained diligently focused and displayed a great level of perseverance.

While being unable to meet on campus for classes or attend an in-person ceremony, members of the Department of Animal Science contributed short video clips offering their congratulations and best-wishes to our graduates. These clips were compiled into a digital send-off and serve as a way to honor and congratulate our students.

To view the video, please click the image below or visit us on Facebook: @DepartmentOfAnimalScienceUA }

Congratulations, Graduates!
From the Department of Animal Science

Animal Science Researchers Awarded Grant

to Study Bovine Respiratory Diseases

A team of researchers from the Department of Animal Science within the Arkansas Agricultural Experiment Station led by principal investigator, Jiangchao Zhao, recently received a grant from the Chancellor's Fund to further study bovine respiratory diseases.

Zhao will be joined in his efforts by two Department of Animal Science faculty, Beth Kegley and Jeremy Powell, along with Animal Science postdoctoral fellow, Xiaofan Wang. The proposal will be funded in the amount of $48,184 through October 31, 2020.

The proposal, titled "Validation of nasal microbiome biomarkers for the prediction of bovine respiratory diseases (BRD)," aims to achieve three primary objectives: To identify bovine respiratory biomarkers using a non-invasive nasal swab collection technology for accurate prognosis, diagnosis and treatment of BRD; to cross-validate the two sets of biomarkers identified from a previous study with a current study; and to optimize the bovine respiratory microbiome biomarkers by combining the data from two studies to improve prediction accuracy.

To achieve these objectives, Zhao and his team have designed a longitudinal study to follow 90 fall-born bull calves collected equally from three University of Arkansas research stations over time and document changes that might occur through the beef production system. These calves were weaned at the end of April and then transferred to a West Texas A&M University (WATMU) feedlot to be commingled with 90 newly-received, high-risk calves recently purchased and shipped to WATMU from auction markets on the same day as the relocation of the Arkansas calves. The calves will be monitored for clinical disease every day and nasal swabs will be collected whenever a BRD case is observed, in addition to the scheduled sampling days (days 0, 4, 8, 12, 16, 20 and 24). These samples will be used to identify and validate the nasal microbiome biomarkers to predict the onset of BRD after sequencing and to develop random forest models for biomarker identification and validation. The team will then optimize the nasal microbiome biomarkers by combining data from the two animal trials to reach a greater sensitivity and specificity.

Given that bovine respiratory disease is one of the main health issues in the beef industry, the leading cause of morbidity and mortality rate in cattle, and contributes to a huge economic loss in the beef industry, Zhao and his team strive to cover the shortcomings in the progress made with respect to current prognosis, diagnosis and treatment therapy.**}**

Department Announces Awards of Distinction

The Department of Animal Science recently announced its 2020 Awards of Distinction. The Awards of Distinction recipients are: Advanced Graduates of Distinction – Johnny Gunsaulis and Paul Beck; Graduate of Distinction – Sam Tabler; Friend of the Department – Buck Pendergraft. Each awardee was recognized for his or her contributions to animal

science industry and research, as well as to the Department of Animal Science.**}**
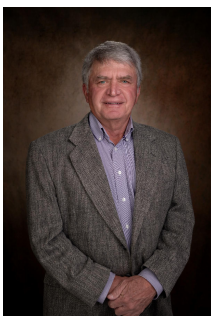
Johnny Gunsaulis received his bachelor's in Animal Science from the U of A at Fayetteville in the fall of 1987 and, during his career with the Extension Service, returned to complete his master's degree with a focus on forages. He spent 15 years in Washington County as a county agent in water quality, agriculture, and 4-H. In 2014, Gunsaulis was promoted to staff chair of the Benton County Cooperative Extension office where he coached state-winning beef quiz bowl teams, along with various livestock and dairy judging and quiz teams. Additionally, he was a shooting sports instructor, ATV safety instructor, and had the chance to travel on several national 4-H trips. During his 20+ year career, he taught thousands of producers in the areas of pesticide safety, forage quality and selection, beef cattle management, and pasture and hay land fertilization and weed control. He served on statewide committees to develop new programs and developed printed materials that were used statewide.**}**

Paul Beck has degrees from Oklahoma State University (B.S., 1990 and M.S., 1993), University of Arkansas (Ph.D., 2003) and Southern Arkansas University (MBA, 2017). Beck joined the faculty of the University of Arkansas Department of Animal Science at the Southwest Research & Extension Center in 2004 with research and Extension appointments. He was promoted to associate professor in 2008, and professor in 2012, before retiring from the University of Arkansas in 2018 after 21 years. Beck returned to Oklahoma State University as associate professor, beef cattle extension specialist occupying the Dennis and Marta White Endowed Chair. He is an internationally recognized expert in beef production systems and grazing cattle management. Nationally, Beck's work has been recognized by the American Forage and Grassland Council, Merit Award, the American Society of Animal Science, Early Career Achievement Award and Animal Management Award. The University of Arkansas awarded Paul with the John W. White Outstanding Team Award, the Extension Excellence Team Issue award, as well as the John W. White Research Award.**}**

Sam Tabler received his B.S. degree in Animal Science from the University of Arkansas. After graduation, he spent the next 37 years with the United States Department of Agriculture working as an animal scientist at the USDA-Agricultural Research Service's Booneville, Arkansas location. The primary focus of his work pertained to research involving beef cattle, forages, and methods to improve the sustainability of family farms. Tabler's research projects included cow/calf and stocker production, heifer development, grass-fed beef, and forage establishment. During his employment with the USDA, he accepted a detail with the USDA-Foreign Agriculture Service and served for 13 months as an agriculture advisor on a Provincial Reconstruction Team in Iraq, working with Iraqi farmers to improve production methods and accessibility to agricultural resources. While there, he received the Meritorious Honor Award from the U.S. Department of State and the Coin for Excellence from the Deputy Commanding General, 34th Infantry Division, during Operation Iraqi Freedom. After retiring from the USDA, Tabler accepted a position with Heifer International, working as a livestock production specialist at Heifer Ranch in Perryville, Arkansas. His time at Heifer Ranch was spent primarily getting the cattle operation started and helping the ranch to begin regenerative agriculture practices.**}**

Buck Pendergraft is a Purina district manager with over 27 years of experience in working with producers in developing feeding programs to

utilize their resources for success. He was raised on a beef and dairy operation in Oklahoma. After graduating from Oklahoma State University in 1992, he went directly to work for what is now Purina as a livestock specialist. Pendergraft became a district manager in 1995 and was relocated to Arkansas in 1998. He is currently active with leadership in ARPAS, Bible Study Fellowship, AWANA and Arkansas Foster Care. Pendergraft is married with three children and lives in Conway Arkansas. Buck's passion for work comes not from his knowledge, but what he has learned from producers across the seven states he has worked.}