



LIST OF SYMPOSIA

David Baker Symposium: Significance of Intestinal Health in Pig Production and Nutritional Interventions with Amino Acids

- Dr. Adam Moeser, Michigan State University – Weaning stress and intestinal health
- Dr. Sung Woo Kim, North Carolina State University – Biomarkers for intestinal mucosal health and its implication to swine production
- John Pluske, Australasian Pork Research Institute Ltd. – Nutritional interventions for intestinal health of nursery pigs I: Protein supplementation
- Ruurd Zijlstra, University of Alberta – Nutritional interventions for intestinal health of nursery pigs: Carbohydrates

Harlan Ritchie Symposium: Beef Cattle Extension Concerns

- Dr. Kim Stackhouse-Lawson, Colorado State University – Climate Change and the Beef Industry: A Rapid Expansion
- Karen Haugen-Kozyra, Viresco Solutions – TBD
- Dr. Trey Patterson, Padlock Ranch – Sustainability on the Ranch—Defining A Vision for the Future
- Dr. Todd Milton, Midwest PMS – Cattle Feeding in Today’s Challenging Environment: Industry Perspective

Billy Day Symposium: Reproductive Technologies: What is available and used; what is available but not used (why?) and what do we still need to develop for use

Dr. Day always had an interest in finding technologies that might be applicable to production, even if at the time they seemed far-fetched. In this symposium speakers will discuss reproductive technologies: what is available and used; what is available but not used (why?) and what do we still need to develop for use.

- Benny Mote, University of Nebraska – Evaluation of measures to predict gilt longevity
- Dr. Robert V. Knox, University of Illinois – Tools used and needed in the gilt pool
- Mark Knauer, North Carolina State University – Technology to efficiently and effectively evaluate body condition
- Dr. Brad Belstra, MB Swine Reproduction – Trials and tribulations of countering insufficient sperm quantity with sperm quality, fertility, synchrony and deeper site of insemination
- Dr. Kara R. Stewart, Purdue University – Technologies for farrowing efficiency and piglet survival
- Karl Kerns, Iowa State University – Semen evaluation technologies: not as far-fetched as you think?
- Amanda Minton, Acuity Genetics – In the boar stud and in the breeding barn, technology matters
- Hyatt Frobose, JYGA Technologies – Sow feeding technologies: challenges and opportunities



MIDWEST SECTION MEETING

March 14-16 • Omaha, Nebraska

2022

Animal Behavior and Well-Being Symposium: Humane Stunning, Slaughter, and Euthanasia of Animals

A recent focus on validation of humane euthanasia methods by industry groups such as the National Pork Board and governmental funding sources, such as the USDA, have prompted the publication of new research on the validation of humane endpoints and methods for farm animals. This symposium will focus on the dissemination of results from some of those studies.

- Dr. Andrew Bowman, The Ohio State University – Assessing water-based foam for the mass depopulation of swine
- Ruth Woiwode, University of Nebraska-Lincoln – TBD
- Dr. Angela Bayslinger, Merck Animal Health – TBD
- Dr. Clayton Johnson, Carthage Veterinary Services Ltd. – Experiences in Swine Depopulation
- Dr. Nathaniel Kollias, American Veterinary Medical Association – TBD

Genetics, Genomics and Bioinformatics: Opportunities and applications for sensing technologies to enhance phenotyping within the animal sciences and the AG2PI

The USDA has realized the need to bridge the genotype to phenotype gap and has created funding opportunities through the Agricultural Genome to Phenome Initiative (AG2PI). This program promotes interdisciplinary activities to advance infrastructure and research to accelerate our understanding of the various factors impacting variation in phenotypes. An important goal of the AG2PI initiative is evaluating the use of high-throughput phenotyping technologies (e.g. precision agriculture) to advance phenotypic prediction, which may contribute to animal breeding but also many other disciplines. Genomic and phenomic analyses are no longer just tools for geneticists. Sensing and high-throughput data technologies are broadly applicable and used commonly across animal science disciplines to better understand animal behavior and welfare, genetics, reproduction, nutrition and management. This symposium will explore new technology driven phenotyping opportunities, applications of new sensing technologies, and potential uses to improve our ability to monitor and predict phenotypes. The symposium will conclude with a roundtable discussion that will consider future opportunities for applications of predictive phenomics in the animal sciences.

- Dr. Frank Siewerdt, USDA – AG2PI funding opportunities at USDA
- Dr. Tom Rathje, DNA genetics – Swine perspective of precision ag for genetics and management
- Dr. Richard Gates, Iowa State University – Poultry perspective of sensing technologies and applications
- Dr. Santosh Pandey, Iowa State University – An engineer's perspective on sensor development and future applications in livestock
- Dr. Soumik Sarkar, Iowa State University – Plant phenomics and artificial intelligence to glean information from plant sensing technologies
- Dr. Yujie Xiong, University of Nebraska-Lincoln – Beef precision sensing technologies and applications
- Dr. Joao Dorea, University of Wisconsin – Computer vision in dairy cattle as a phenotyping tool



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Growth, Development, Muscle Biology and Meat Science Symposium: Objective Approaches to Meat Quality Evaluation and Prediction

- Dr. Neal Matthews, PIC Commercial – Commercial Management of Fresh Pork Quality using Post-mortem pH and Temperature Declines
- Dr. Bailey Harsh, University of Illinois – Characterizing pork color shelf life: Foundational visual and biochemical bases of pork discoloration
- Dr. Ranjith Ramanathan, Oklahoma State University – Novel approaches to characterize beef color changes

Equine Translation Symposium: Sport Horse Management

- Dr. Sarah White-Springer, Texas A&M University – Relationship of mitochondrial phenotypes to muscle function and performance

Nonruminant Nutrition Symposium: Connecting Basic and Applied Nutrition for Gut Health in Young Pigs

In recent years, e coli/gut health in the early nursery stage has been a growing issue— believed to be predominately worse in duroc sired piglets versus others. The industry and pork producers desperately need answers, and nutrition continues to get most of the attention with little "effective" and "practical" answers that we can provide with a scientific bases or even practical data that moves the needle. This symposium is filled with production nutritionist sharing ideas with suppliers and academia so they can help provide answers.

- Dr. Andre M. Gomez, University of Minnesota – Early microbiome development for gut health: Intrinsic and extrinsic drivers
- Dr. Nicholas Gabler, Iowa State University – Shaping gut health in young pigs through macro-nutrient and ingredient manipulation
- Dr. Amanda Gerhart, JBS Live Pork – Feeding the E. coli challenged pig: What we have learned to date
- and/or general gut health in young pigs?
- Omarh Mendoza, The Maschhoffs – TBD
- Noel H. Williams and Ben Haberi, Iowa Select Farms – TBD

Physiology Symposium: Direct and Indirect Impacts of Climate Change on Livestock Physiology and Subsequent Performance

- Dr. Wendy Rauw, Spain National Institute of Agricultural and Food Research and Technology (INIA) – Prospects of swine production in the context of climate change
- Dr. Joel Tallaksen, University of Minnesota – Swine Production and Greenhouse Gases
- Dr. Sarah Pearce, USDA – Nutritional influences on climate change and strategies to improve swine performance
- Dr. Luiz F. Brito, Purdue University – Improving climatic resilience in pigs through physiological genomics
- Dr. Brett Ramirez, Iowa State University – Engineering strategies and solutions to improve swine resilience and alleviate physiological stress in a changing climate



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Ruminant Nutrition Symposium: Nutrition and management of feedlot cattle to optimize performance, carcass value, and environmental compatibility

- Dr. John Wagner, Colorado State University – Feedlot nutrition research: A Historical Perspective and Future Needs
- Dr. Alfredo DiCostanzo, University of Minnesota – Alternative protein sources to distillers grains and solubles in finishing diets
- Dr. Fred Owens, Professor Emeritus, Oklahoma State University – Understanding factors that cause variation in growth within pens of cattle
- Dr. Stephanie Hansen, Iowa State University – State of the art: Zinc and copper nutrition for feedlot cattle
- Dr. Pedro Carvalho, University California, Davis – Feeding and managing dairy cattle genetics for beef
- Dr. Josh McCann, University of Illinois – Interrelationships between the microbiome, gut health, and animal growth
- Dr. Alejandro Relling, Ohio State University – Effects of late gestation energy and protein restriction in beef cows on offspring growth and carcass characteristics

Sustainability Symposium: Sustainability in Animal Science: Current State and Future Outlook

The winds of change are blowing strongly in the sustainability arena, including for animal agriculture. The growing environmental pressures, public perception, and population growth all lead to the need to produce quality protein for human consumption in more efficient and sustainable ways. This symposium will feature experts to give the current status of sustainability by species, and the future path forward.

- Sara Crawford, Assistant VP Sustainability, National Pork Board – The Future of Sustainable Pork Production
- Ryan Bennett, Executive Director, US Roundtable for Sustainable Poultry & Eggs – A Framework for Sustainable Poultry & Eggs
- Sara Place, Chief Sustainability Officer, Elanco Animal Health – State of the Art of Sustainable Beef Production: Framework and Sector Targets

Swine Translational: Leading Measures of Health and Production

- Jeff Mahoney, The Maschhoffs – At the slat level: Data needed versus what's a waste of time
- Ron Ketchem, Swine Management Services, LLC – What does "found dead" mean? Tools for better record keeping
- Dr. Kara R. Stewart, Purdue University – What does the vaginal lipidome tell us?
- Aidan Connolly, Cainthus – Reaching genetic potential in pigs: 10 disruptive digital technologies
- Marcel Sarzen, AGL Technology – What's measured in other food animal species to predict disease?



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Teaching and Extension Education Symposium: Expanding Extension and Education Beyond the Traditional Presentation Format: New Programming, Travel Opportunities, Service Learning, and Student Organizations

Unique ways to reach desired audiences is the focus of this symposium. It is designed to highlight activities that promote deeper reflection and attract individuals with broad interests, while enhancing the scope of Animal Sciences programming. A panel discussion will be held at the end for participants to further engage with the speakers and one another.

- Mattilyn Wheeler, National Pork Board – Development of the National Pork Board’s Pork Scholars Program
- Dr. Karol Fike, Kansas State University – Kansas State University Feedlot Boot Camp and Teaching Program: Growing Student Interest and Engagement in the Feedlot Industry
- Tara Swanson, North Dakota State University – Enhancing Student Experiences Outside the Classroom: Industry Tour and Study Abroad Opportunities
- Dr. Rocio Rivera, University of Missouri – Beyond the Classroom: Community Engaged Learning in Animal Sciences
- Addison Byrne, University of Missouri – CAFNR Connections: Building Community for Underrepresented Students in Agriculture