



INTERNATIONAL SYMPOSIUM
ON RUMINANT PHYSIOLOGY
AUGUST 26-29, 2024



ISRP2024 Conference Program

Ver 110123

Monday August 26, 2024

8:00 AM Organizing Committee/Moderators meeting

8:30 AM – 10:00 AM Registration

Opening Session

10:00 AM Welcome & Recognitions

Session 1: Insights from precision technology and data science and their application to ruminant physiology and management. Kevin Harvatine, Lead

10:10 AM Speaker 1: Big Data and Artificial Intelligence assisted prediction of physiological outcomes. *Joao Dorea, University of Wisconsin*

10:55 AM Speaker 2: What has precision technology taught us about grazing behavior. *Mark Trotter, Central Queensland University, Australia*

11:40 AM Abstract Highlights (15 min)

11:55 AM Lunch

Session 2: Gastrointestinal microbial ecology, the microbiome, and gut physiology spanning from microbial-host interactions to an update on methane production and mineral interactions. Todd Callaway, Lead

1:10 PM Speaker 3: Overall perspective on rumen microbial ecology to improve fiber digestibility. *Jeffrey Firkins, The Ohio State University*

1:55 PM Speaker 4: Protozoa and broad ecology including virome. *Zhongtang Yu, The Ohio State University*

2:40 PM Speaker 5: Archaea, fungi, and their interactions. *Tim McAllister, CSIRO, Australia*

3:25 PM Abstract Highlights (20 min)

3:45 PM Poster Session Break 1

5:15 PM Adjourn

5:15 PM Opening Reception. Dinner on your own.

Tuesday August 27, 2024

Session 3: Whole animal microbiome and integration of effects across systems including the central nervous system, lactation, reproduction, respiration, and immunity. Jeffrey Firkins, Lead

8:00 AM Speaker 6: Holistic involvement of the gut microbiome and human and animal well-being. *Todd Callaway, University of Georgia*

8:45 AM Speaker 7: Interactions with the host. *Samodha Fernando, University of Nebraska-Lincoln*

9:30 AM Speaker 8: Genomic approaches to biological predictions. *Sinead Waters. Teagasc*

10:15 AM Abstract Highlights (15 min)

10:30 AM Poster Session Break 2

12:00 PM Lunch

Session 4: Post-absorptive physiological impacts of nutrients on cellular signaling. Clint Krehbiel, Lead

1:15 PM Speaker 9: Nutrient signaling to muscle/adipose tissue (amino acids and lipids). *Brad Johnson, Texas Tech University*

- 2:00 PM Speaker 10: Advances in Trace Mineral and Vitamin Nutrition. *Stephanie Hansen, Iowa State University*
- 2:45 PM Speaker 11: One Carbon metabolites as essential nutrient? (Liver focus). *Matt Crouse, USDA-ARS*
- 3:30 PM Abstract Highlights (15 min)
- 3:45 PM Poster Session Break 3
- 5:15 PM Adjourn. Dinner on your own.
- 7:00 PM Optional Symposium Party – Chicago Spirit Dinner Cruise on Lake Michigan

Wednesday August 28, 2024

Session 5: Inflammation, metabolic endocrinology, metabolomics, and novel regulators of physiology and metabolism. Laura Hernandez, Lead

- 8:00 AM Speaker 12: Endocrine adaptations to lactation: IGF, FGF21 and beyond. *Yves Boisclair, Cornell University*
- 8:45 AM Speaker 13: Role of the endocannabinoid system in metabolic and inflammatory responses in cows in negative energy balance. *Maya Zachut, Volcani Institute, Israel*
- 9:30 AM Speaker 14: Integration of metabolism during inflammation and metabolic disturbance. *Erminio Trevisi, Catholic University of the Sacred Heart, Italy*

Session 6: Integration of environment, physiology, and wellbeing in face of climate change and resource limitations. Kristin Hales, Lead

- 10:15 AM Speaker 15: Integrating our understanding of physiology to adapt to stress: Causation vs correlation. *Lance Baumgard, Iowa State University*
- 11:00 AM Abstract Highlights (30 min)
- 11:30 AM Lunch**
- 12:45 PM Poster Session Break 4
- 2:15 PM Adjourn. Afternoon free for recreation/ticketed events.
- 7:00 PM Optional Symposium Gala Banquet

Thursday August 29, 2024

Session 7: Genomics and epigenetic impacts on ruminant physiology and efficiency. Joel Caton, Lead

- 8:00 AM Speaker 16: Maternal Nutrient Supply: Impacts on Physiological and Whole Animal Outcomes in Offspring. *Joel Caton, North Dakota State University*
- 8:45 AM Speaker 17: Paternal Nutrient Supply: Impacts on Physiological and Whole Animal Outcomes in Offspring. *Carl Dahlen, North Dakota State University*
- 9:30 AM Speaker 18: Mechanisms of Developmental Programming and Strategies for Mitigating Negative and Fostering Positive Aspects of Developmental Programming in Offspring. *Kevin Sinclair, University of Nottingham*
- 10:15 AM Abstract highlights (30 min)
- 10:45 AM Poster Session Break 5
- 12:15 PM Adjourn (Lunch on your own)
- 1:00 PM Optional Post-Symposium Ticketed Tour – Fair Oaks Farms
- 6:30 PM Tour Returns to Marriott