



Day 1 – Tuesday, October 13, 2020

All times are shown in Pacific Daylight Time

Microbiome 2.0

- 7:45-8:00 a.m. **Welcome- Lactation Research: Changing the Pandemic World**
Bruce German, University of California Davis, CA, USA
- 8:00-8:25 a.m. **Keynote Speaker: How to Enrich Specific Taxa within the Gut Microbiome? Lessons from Human Milk**
David Mills, University of California Davis, CA, USA
- 8:30-8:55 a.m. **Metagenomic Survey of the Gut Microbiome of Term Infants in the US Reveals Widespread Dysbiosis, Absence of *B. infantis*, and High Abundance of Antibiotic Resistance Genes**
Giorgio Casaburi, Evolve Biosystems Inc., Davis, CA, USA
- 9:00-9:25 a.m. **2'-Fucosyllactose Supplementation Improves Gut Barrier Function and Lipid Metabolism in Low-Fat and High-Fat Fed Mice Associated with Changes in the Gut Microbiota and its Metabolites**
Sunhye Lee, University of California Davis, CA, USA
- 9:30-9:45 a.m. **Update from 2019's Most Valuable Presentation- Breast Milk and Gut Microbiome in Term and Preterm Infants**
Christopher Stewart, Newcastle University, Newcastle upon Tyne, United Kingdom
- 10:00-11:00 a.m. **Coffee Chat Hour with the Speakers**
- 11:00 a.m.-12 p.m. **Student Social Mixer: Milk Science Games and Prizes**

Microbiome 2.0 and Immunity/Autoimmunity and Inflammation: the 21st Century's BIG Challenge

- 1:00-1:25 p.m. **Outstanding Mid-Career Investigator Award: Milk, Nose, Gut: Microbiomes in the CHILD Cohort Study**
Meghan Azad, University of Manitoba, Winnipeg, Canada
- 1:30-1:55 p.m. **Early Colonization with Firmicutes is Associated with More Rapid Infant Weight Gain in the STRONG Kids 2 Cohort**
Sharon Donovan, University of Illinois Urbana, Illinois, USA
- 2:00-2:25 p.m. **Outstanding Early-Career Investigator Award: *B. infantis* EVC001 Colonization in Breastfed Infants Modulates Cytokine Profile Linked to Autoimmune and Allergic Diseases**
Bethany Henrick, Evolve Biosystems Inc., Davis, CA, USA
- 2:30-2:55 p.m. **Difference in Levels of SARS-CoV-2 Spike Protein- and Nucleocapsid-Reactive SIgM/IgM, IgG and SIgA/IgA Antibodies in Human Milk**
Veronique Demers Mathieu, Medolac Laboratories/University of Massachusetts Amherst, USA

3:00-4:00 p.m. Coffee Chat Hour with the Speakers

Day 2 – Wednesday, October 14, 2020

Immunity/Autoimmunity and Inflammation: the 21st Century's BIG Challenge

- 8:00-8:25 a.m. **Keynote Speaker: Human Milk and Immune Development Early in Life**
Belinda van't Land, Danone Nutricia Research BV, Utrecht, The Netherlands
- 8:30-8:45 a.m. **Student Award Recipient: Loss of Allergy-Protective Capacity of Raw Cow's Milk After Heat Treatment Coincides with Loss of Immune Active Whey Proteins**
Ling Xiong, Wageningen University and Research, Wageningen, The Netherlands
- 9:00-9:25 a.m. **The Effect of 50 Years of Breeding on the Ability of Holsteins to Fight Mastitis**
John Lippolis, NADC/ARS/USDA, Ames, IA, USA
- 9:30-9:55 a.m. **Evidence of a Significant Secretory-IgA-Dominant SARS-CoV-2 Immune Response in Human Milk Following Recovery from COVID-19**
Rebecca Powell, Icahn School of Medicine at Mount Sinai, New York, NY, USA
- 10:00-10:25 a.m. **SARS-CoV-2, Breastfeeding, and Human Milk**
Michelle McGuire, University of Idaho, Moscow, ID, USA
- 10:30-11:30 a.m. **Coffee Chat Hour with the Speakers**

Milk Structure-Function: Molecules in the Matrix

- 1:00-1:25 p.m. **Posttranslational Modifications of α S1- and k-Caseins can be Affected by Feed Protein Source and Stage of Lactation**
Nina Poulsen, Aarhus University, Aarhus, Denmark
- 1:30-1:55 p.m. **Keynote Speaker: On the Self-Assembly of Milk Lipids During Digestion**
Benjamin Boyd, Monash University, Victoria, Australia
- 2:00-2:15 p.m. **Student Award Recipient: Milk Peptides in the Intestinal Tract of Breast Milk Fed Infants Have Antimicrobial and Bifidogenic Activity**
Robert Beverly, Oregon State University, Corvallis, OR, USA
- 2:30-3:30 p.m. **Coffee Chat Hour with the Speakers**

Day 3 – Thursday, October 15, 2020

Milk Structure-Function: Molecules in the Matrix

- 8:00-8:25 a.m. **Outstanding Mid-Career Investigator Award: Milk Fat Globule Size; Mechanism of Regulation and Physiological and Health Implications**
Nurit Argov-Argaman, Hebrew University of Jerusalem, Rehovot, Israel
- 8:30-8:55 a.m. **Dose-Dependent Improvement in Glucose Metabolism Mediated by Casein-Sugar Maillard Reaction Products**
Robert Ward, Utah State University, Logan, UT, USA

Comparative Biology: Mining the Wisdom of Evolution

- 9:00-9:25 a.m. **Outstanding Mid-Career Investigator Award: Co-Organization of Complex Systems: Mother's Milk and BioBehavioral Development in a Non-Human Primate Model**
Katie Hinde, Arizona State University, Tempe, AZ, USA
- 9:30-9:55 a.m. **Prediction and Characterization of Regulatory Long Non-Coding RNAs in Virgin and Lactating Cow Mammary Gland**
Yue Xing, Texas A&M University, College Station, TX, USA
- 10:00-11:00 a.m. **Coffee Chat Hour with the Speakers**

Comparative Biology: Mining the Wisdom of Evolution

- 1:00-1:25 p.m. **Keynote Speaker and Career Award: Exploiting the Evolution of Lactation: Does the Marsupial Provide a Model for Developing Innovative Strategies to Improve Health Outcomes of Preterm Babies?**
Kevin Nicholas, Monash University, Victoria, Australia
- 1:30-1:45 p.m. **Student Award Recipient: Patterns in Milk Oligosaccharides Across Species: Building a Platform to Visualize and Compare Free Oligosaccharide Profiles in the Milk of Humans and Other Mammals**
Sierra Durham, University of California Davis, CA, USA

Artificial Intelligence for the Future of Agriculture, Food, and Health

- 2:00-2:25 p.m. **Keynote Speaker: Developing a Virtual Dairy Brain: The Next Big Leap in Dairy Farm Management Using Coordinated Data Ecosystems and Artificial Intelligence**
Victor Cabrera, University of Wisconsin Madison, WI, USA
- 2:30-2:55 p.m. **Comparing Machine Learning Algorithms for Prediction of Clinical Mastitis in Early Lactation**
Liliana Fadul-Pacheco, University of Wisconsin Madison, WI, USA
- 3:00-4:00 p.m. **Coffee Chat Hour with the Speakers**
- 4:00-5:00 p.m. **Student Social Mixer: Milk Science Games and Prizes**

Day 4 – Friday, October 16, 2020

Artificial Intelligence for the Future of Agriculture, Food, and Health

- 8:00-8:25 a.m. **Outstanding Mid-Career Investigator Award: The Future of Artificial Intelligence for the Future of Agriculture, Food, and Health in Nutrition Research**
Danielle Lemay, Western Human Nutrition Research Center, USDA, Davis, CA, USA
- 8:30-8:55 a.m. **Artificial Intelligence Reveals Key Biomarkers of Necrotizing Enterocolitis in the Preterm Infant Gut Microbiome**
Sufyan Kazi, Evolve Biosystems Inc., Davis, CA, USA

Innovative Technologies in Milk Science for Human Health

- 9:00-9:25 a.m. **Keynote Speaker: Characterization of Fiber in Human Milk and Weaning Foods**
Carlito Lebrilla, University of California, Davis, CA, USA
- 9:30-9:55 a.m. **A One-Year Longitudinal Quantification of Human Milk Oligosaccharides: Insights for Infant Formulas and Milk Banks**
Randall Robinson, University of California Davis, CA, USA
- 10:00-11:00 a.m. **Coffee Chat Hour with the Speakers**

Innovative Technologies in Milk Science for Human Health

- 1:00-1:25 p.m. **Keynote Speaker: Omics for Discovering New Value in Milk: New Opportunities and Challenges**
Daniela Barile, University of California, Davis, CA, USA
- 1:30-1:45 p.m. **Student Award Recipient: Differences in the Self-Assembly of Lipids in Human Colostrum and an Emulsified Colostrum Lipid Mixture During Digestion**
Syaza Binte Abu Bakar, Monash University, Victoria, Australia
- 2:00-2:25 p.m. **Single Cell RNA Sequencing of Human Milk Derived Cells Identifies Heterogeneity Among Mammary Epithelial Cells**
Jayne Martin Carli, University of Colorado Anschutz Medical Campus, Aurora, CO, USA
- 2:30-2:45 p.m. **Special Feature: Highlights from IMGC's "SPLASH!® milk science update" and Upcoming Hot Topics**
Danielle Lemay, Western Human Nutrition Research Center, USDA, Davis, CA, USA
- 3:00-4:00 p.m. **Coffee Chat Hour with the Speakers**
- 4:00 p.m. **End of Conference**