

15th International Symposium on Milk Genomics and Human Health

November 13-15, 2018

Kimpton Sawyer Hotel, Sacramento, California



Day 1- Tuesday, November 13, 2018

Hot Topics

- 8:00 am **Registration**
- 9:00 am **Welcome**
Bruce German, University of California-Davis, Davis, CA, USA
- 9:15 am **Highlights from IMGC's "SPLASH! milk science update" and Upcoming Hot Topics**
Danielle Lemay, Western Human Nutrition Research Center, USDA, Davis, CA, USA
- 9:45 am **KEYNOTE: Maternal Nicotinamide Riboside Enhances Juvenile Development and Adult Neurogenesis**
Charles Brenner, University of Iowa, Iowa City, IA, USA
- 10:30 am **Coffee Break**
- 11:00 am **Invited Speaker: The USDA Dairy Grand Challenge**
John Finley, USDA, Beltsville, MD, USA
- 11:30 am **Genome-wide Association Analysis of Human Milk**
Janet Williams, University of Idaho, Moscow, ID, USA
- 12:00 pm **Lunch**

Genetics and Genomics

- 1:00 pm **KEYNOTE: Gene Editing and the Future of Bovine Genetics**
Alison L. Van Eenennaam, University of California-Davis, Davis, CA, USA
- 1:45 pm **GWAS and Expression of Candidate Genes for Oligosaccharide Synthesis in Danish Dairy Breeds**
Nina Aagaard Poulsen, Aarhus University, Tjele, Denmark
- 2:15 pm **Coffee Break**
- 2:45 pm **Milk Genomics: Variation in Danish Dairy Milk and Its Possible Exploitation**
Lotte Bach Larsen, Aarhus University, Tjele, Denmark
- 3:15 pm **The Genetics of Phosphorylation of Caseins in Bovine Milk?**
Marlene Visker, Wageningen University, Wageningen, Netherlands
- 3:45 pm **Update from 2017's MVP, Benoit Lamarche, Laval University**
Facilitated by Bruce German, University of California-Davis, Davis, CA, USA
- 4:20 pm **In vivo Endogenous Proteolysis Yielding Beta-Casein Derived Bioactive Beta-Casomorphin Peptides in the Human Breast Milk for Infant Nutrition**
Ashwantha Kumar Enjapoori, Deakin University, Geelong, Victoria, Australia

Evening Sessions

- 5:30-6:30 pm **Joint Scientific Advisory Council/Steering Committee Meeting (Closed Session)**
- 6:00-8:00 pm **Poster Reception**

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Day 2- Wednesday, November 14, 2018

Health Impact of the Gut Microbiota

- 9:00 am **Keynote Speaker: A Multi-Disciplinary, Systems Biology Approach to Characterizing the Gut Microbiome of Breastfed Infants**
Steve Frese, Evolve Biosystems, Davis, CA USA
- 9:40 am **Population Duration of Breastfeeding and Prevalence of Bifidobacterium**
Diana H. Taft, University of California-Davis, Davis, CA, USA
- 10:10 am **Coffee Break**
- 10:40 am **Bifidobacterium Longum Subsp. Infantis Stably Restores the Infant Gut Microbiome Over the First Year of Life in Breastfed Infants**
Jennifer Smilowitz, University of California-Davis, Davis, CA, USA (tentative)
- 11:10 am **Student Travel Award Recipient: EchAMP, an Unique Monotreme Antimicrobial Protein**
Alok Kumar, CSIR-Centre For Cellular and Molecular Biology, Habsiguda, Hyderabad, INDIA
- 11:30 am **Moderated Discussion of Morning Session**
- 12:00 pm **Lunch**

Milk microbiomes: Do they matter?

- 1:00 pm **The Human Milk Microbiome**
Michelle K McGuire, University of Idaho, Moscow, ID, USA
- 1:30 pm **Bacterial Population Dynamics in Raw and Processed Milk**
Mary Kable, University of California-Davis, Davis, CA, USA
- 2:00 pm **Panel - Milk as a source of microorganisms: Ecology and Mechanisms**
David Mills, Maria Marco and Steve Frese
- 2:30 pm **Coffee Break**

Milk and Dairy Products Impact on Health - Glycans

- 3:00 pm **Keynote Speaker:**
Carlito Lebrilla, University of California-Davis, Davis, CA, USA
- 3:45 pm **Human Milk Oligosaccharides Directly Enhance Gut Barrier Integrity to Alter Infection**
Ishita Shah, University of California-Davis, Davis, CA, USA
- 4:15 pm **Student Travel Award Recipient: Evaluate the Effect of Industrial Thermal Treatments on the Enzymatic Release of N-Glycans from Milk Glycoprotein**
Apichaya Bunyatratchata, University of California-Davis, Davis, CA, USA

Evening Event

- 6:00-10:30 pm **Group Dinner**

Day 3- Thursday, November 15, 2018

The Lipids of Milk: Globules to Vesicles

- 9:00 am **Keynote: The Milkfat Globule an Ever Evolving Story**
Sophie Gallier, Fonterra Co-operative Group, Palmerston North, New Zealand
- 9:40 am **Student Travel Award Recipient: Commercial Bovine Milk Fat Globule Membrane Fractions- Variations Among Sources**
Lauren Brink, University of California-Davis, Davis, CA, USA
- 10:00 am **Student Travel Award Recipient: The Therapeutic Potential of Bovine Milk-Derived Extracellular Vesicles for Treatment of Osteoarthritis**
Bartijn Pieters, Radboud University Medical Center, Nijmegen, The Netherlands
- 10:20 am **Coffee Break**

The Digestion of Milk

- 10:50 am **Milk Protein Digestion and Bioactive Peptide Release in Term and Preterm Infants**
Dave Dallas Oregon State University, Corvallis, OR, USA
- 11:20 am **Comparison of Human Milk Immunoglobulin Survival during Gastric Digestion between Preterm and Term Infants**
Veronique Demers-Mathieu, Oregon State University, Corvallis, OR, USA
- 11:40 am **Differences in Composition and Structure Between Human Milk and Infant Formula: Do They Affect Their Digestion?**
Didier Dupont, INRA-Agrocampus Ouest, Rennes, France
- 12:00 pm **CLOSING REMARKS**
- 12:30 pm **LUNCH**