

16th International Symposium on Milk Genomics and Human Health

November 12-14, 2019

Radisson Blu Scandinavia Hotel

Aarhus, Denmark



MILK AND HEALTH IN A SUSTAINABILITY PERSPECTIVE

Day 1 – Tuesday, November 12, 2019

8:00 a.m. Registration

Hot Topics – Sustainability

Chairman: Henrik J. Andersen, Arla Foods Ingredients, Aarhus, Denmark

9:00 a.m. **Welcome: Where We Have Been, Where We Are Going**
Bruce German, University of California-Davis, CA, USA

9:15 a.m. **Invited Speaker: ½ Liter of Milk a Day – What are the Implications?**
Troels Kristensen, Aarhus University, Tjele, Denmark

9:45 a.m. **Keynote Speaker: The Role of Dairy in a Sustainable Healthy Diet: Evidence from a Large Australian Population Health Survey**
Brad Ridoutt, CSIRO Agriculture, Clayton South, Australia

10:30 a.m. Coffee Break

11:00 a.m. **Keynote Speaker: Food Systems for Health, Env and Enterprise: The SUSFANS Project and Its Findings**
Monika Zurek, Oxford University, Oxford, United Kingdom

11:45 a.m. **Sustainable Dairy Production and Its Exploitation into Healthy Dairy Products**
Nina Aagaard Poulsen, Aarhus University, Tjele, Denmark

12:15 p.m. **Student Travel Award Recipient: Genetic Variants and Post-Translational Modifications of Milk Proteins in Relation to Non-Coagulating Milk**
Kajsa Nilsson, Lund University, Lund, Sweden

12:35 p.m. Lunch

The Microbiome and the Metagenome

Chairman: Bruce German, University of California-Davis, CA, USA

1:30 p.m. **Keynote Speaker: Microbiota Impact in the Early Stages of Life and the Effects on Health Later in Life**
Christopher Stewart, Newcastle University, Newcastle upon Tyne, United Kingdom

2:15 p.m. **Invited Speaker: The Composition of the Perinatal Intestinal Microbiota in Cattle**
Mikael Niku, University of Helsinki, Helsinki, Finland

2:45 p.m. Coffee Break

3:15 p.m. **The Composition of the Postprandial Metabolome of Human Blood and Urine Depends on the Human Genome and the Dairy Products Consumed**
Guy Vergères, Agroscope, Bern, Switzerland

3:45 p.m. **Student Travel Award Recipient: Infant Commensal Complexed with Secretory IgA Prevents Enteric Infection**
Vanessa Dunne-Castagna, University of California-Davis, CA, USA

- 4:05 p.m. **Panel Discussion: Linking Sustainability to the Microbiome and Metagenome**
Moderator: Bruce German, University of California-Davis
Panelists: Troels Kristensen, Aarhus University; Brad Ridoutt, CSIRO Agriculture; Monika Zurek, Oxford University; Mikael Niku, University of Helsinki; Christopher Stewart, Newcastle University
- 4:30 p.m. **Update from 2018's Most Valuable Presentation: Human Milk Oligosaccharides Directly Enhance Gut Barrier Integrity to Alter Infections**
Ishita Shah, University of California-Davis, CA, USA
- 4:50 p.m. **Highlights from IMGC's "SPLASH!® milk science update" and Upcoming Hot Topics**
Danielle Lemay, Western Human Nutrition Research Center, USDA, CA, USA
- 5:15-7:15 p.m. **Poster Reception with Refreshments**
- 6:15-8:15 p.m. **Joint Scientific Advisory Council/Steering Committee Meeting (Closed Session)**

Day 2 – Wednesday, November 13, 2019

Comparative Biology and Genomics

Chairman: Danielle Lemay, Western Human Nutrition Research Center, USDA, CA, USA

- 8:30 a.m. **Invited Speaker: Composition, Structure and Digestive Dynamics of Milks from Different Species**
Debashree Roy, Riddet Institute, Massey University, Palmerston North, New Zealand
- 9:15 a.m. **Invited Speaker: Functionality and Structural Aspects of Milk Genetic Variants**
Jared Raynes, Food and Nutrition, Commonwealth Scientific and Industrial Research Organization (CSIRO), Werribee, Australia
- 9:45 a.m. **Genomic Variation in Milk Proteins in European Cattle Breeds**
Bernt Guldbbrandtsen, Aarhus University, Tjele, Denmark
- 10:15 a.m. **Coffee Break**
- 10:45 a.m. **Sequence-Based GWAS, Network and Pathway Analyses Reveal Genes Co-Associated with Milk Cheese-Making Properties and Milk Composition in Montbéliarde Cows**
Marie-Pierre Sanchez, INRA, Jouy-en-Josas, France
- 11:15 p.m. **Student Travel Award Recipient: Variability of Oligosaccharides in Milk from Native Nordic Cattle Breeds**
Anne Vuholm Sunds, University of Aarhus, Tjele, Denmark
- 11:35 a.m.-12.30 p.m. **Lunch**

Inherent Milk Characteristics and Functionalities

Chairman: Marie Paulsson, Lund University, Lund, Sweden

- 12:30 p.m. **Keynote Speaker: Casein Micelle Mineralization**
Thom Huppertz, Friesland Campina, The Netherlands
- 1:15 p.m. **Invited Speaker: Milk Cathepsins – Implications for Health and Functionality**
Lotte Bach Larsen, Aarhus University, Tjele, Denmark
- 1:45 p.m. **Student Travel Award Recipient: High Proportion of Transient Neonatal Zinc Deficiency (TNZD) Causing Alleles in the General Population**
Yarden Golan, Technion-Israel Institute of Technology, Haifa, Israel
- 2:05 p.m. **Coffee Break**
- 2:30 p.m. **Invited Speaker: Understanding the Function of the Milk Fat Globule Membrane**
Carolyn M. Slupsky, University of California-Davis, CA, USA
- 3:00 p.m. **Isolation, Characterization, and Biological Properties of Milk Extracellular Vesicles**
Jan Trige Rasmussen, Aarhus University, Aarhus, Denmark
- 3:30 p.m. **Invited Speaker: The Role of Whey Protein in Postprandial Glycaemic Control**
Daniela Jakubowicz, Tel Aviv University, Israel
- 4:00 p.m. **Natural Glycosidases in Bovine Milk**
Søren Drud-Heydary Nielsen, Aarhus University, Tjele, Denmark
- 4:30 p.m. **End of day 2**
- 6:30-10:30 p.m. **Symposium Group Dinner at Smedjen (The Smitty), Centralværkstedet**

Day 3 – Thursday, November 14, 2019

Matrix Effects of Milk and Milk Components

Chairman: Peter Langborg Wejse, Arla Foods, Aarhus, Denmark

- 9:00 a.m. **Keynote Speaker: The Dairy Matrix and Health: Current Evidence and Knowledge Gaps** Michelle McKinley, Queens University Belfast, Belfast, United Kingdom
- 9:45 a.m. **Invited Speaker: Dairy Matrix Effects: Response to Consumption of Dairy Fat Differs when Eaten within the Cheese Matrix – a Randomized Controlled Trial**
Emma Feeney, University College Dublin, Dublin, Ireland
- 10:15 a.m. **Coffee Break**
- 10:45 a.m. **Discovering Added-Value Compounds in Dairy Streams: Proteomic Profiling Reveals the Presence of Xanthine Oxidase with Remarkable Antimicrobial Activity**
Gulustan Ozturk, University of California-Davis, CA, USA
Being presented by Bruce German, University of California-Davis, CA, USA
- 11:15 a.m. **Student Travel Award Recipient: Maternal Allergy and the Presence of Non-Human Proteinaceous Material in Human Milk**
Pieter Dekker, Wageningen University, Wageningen, The Netherlands
- 11:35 a.m. **Panel Discussion: The Dairy Matrix**
Moderator: Merete Myrup, Danish Agriculture & Food Council
Panelists: Michelle McKinley, Queens University Belfast; Emma Feeney, University College Dublin; Bruce German, University of California-Davis
- 12:00 p.m. **Closing Remarks**
- 12:15 p.m. **Lunch**
- 12:45 p.m. **End of Conference**