



# APPLIED HOLOGENOMICS CONFERENCE 2024

## Hologenomic Solutions for 21st Century Challenges

30th June - 2nd July 2024, Copenhagen, Denmark

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### Sunday, 30th of June 2024

15.00 – 16.30	<i>Arrival / Registration / Poster Setup / Networking</i>	
16.30 – 16.40	Welcome Talk	Prof. Tom Gilbert [UCPH]
16.40 – 17.30	<b>Introductory Keynote:</b> The Holobiont Imperative – Why We Have to Rethink (Our) Nature	Prof. Thomas Bosch [Kiel Life Science Center]
17.30 – 18.30	<b>Moderated Discussion with Audience / Q&amp;A:</b> Life, the Holobiont, and Everything	Assoc. Prof. Antton Alberdi [UCPH] (Moderator) Prof. Thomas Bosch [Kiel Life Science Center] Prof. Monica Medina [Pennsylvania State University]
18.30 – 20.30	<i>Welcome Reception</i>	

#### Venue information

The Christian Hansen Auditorium, Kommunehospital, Øster Farimagsgade 5, Copenhagen, Denmark

[Click here](#) for venue details.



#### Funding and Acknowledgement

The Applied Hologenomics Conference 2024 has been principally funded by the Novo Nordisk Foundation.

The conference is locally organised by the Center for Evolutionary Hologenomics (CEH) at the University of Copenhagen, Denmark. Co-organised by 3D'omics, a H2020 EU project (No. 101000309).

8.00 – 9.00	Coffee and Networking	
Session 1: Human Health		
9.00 – 9.35	Devices and Materials for Sampling/Manipulating the Human Microbiome	Prof. Anja Boijssen [Technical University of Denmark]
9.35 – 10.10	Plasmid Dynamics and Maturation of the Infant Gut Microbiome	Prof. Søren Sørensen [University of Copenhagen]
10.10 – 10.20	Metabolic Microbiome-Host Interactions and its Role in Inflammatory Bowel Disease	Dr. Jan Taubenheim [University Kiel/University Hospital Kiel]
10.20 – 10.30	SFB: Screening Metagenomic Data for an Ancient Human Symbiont	Asst. Prof. Luisa W. Hugerth [Uppsala University]
10.30 – 11.00	Break	
11.00 – 11.30	Gut Microbiome Plasticity and Human Adaptability under Ecological Change	Assoc. Prof. Rachel Carmody [Harvard University]
11.30 – 12.00	The Hologenome Beyond Biology - An Arctic Indigenous Perspective on the Holobiont	Assoc. Prof. Aviaja Hauptmann [University of Greenland]
12.00 – 12.10	Saliva Shotgun Metagenomics Reveal Insights Into Diversity and Function of Oral Microbiome in Pregnancy	Anusha Thakkutte Antony [Uppsala University]
12.10 – 12.20	Building the World's Largest Plasmid-Host and Phage-Host Interaction Atlas Using Proximity Ligation Sequencing	Prof. Ivan Liachko [Phase Genomics]
12.20 – 12.30	From Starting Cultures to Gut Health: The Importance of Lactic Acid Bacteria in the Life of Mongolian Pastoralists	Dr Alexander Hübner [Max Planck Institute for Evolutionary Anthropology]
12.30 – 13.20	Lunch (Provided)	
Session 2: Agrisciences and Sustainability		
13.20 – 13.55	Engineering Algal Microbiomes for Sustainable Food and Feed Production	Prof. Lone Gram [Technical University of Denmark]
13.55 – 14.30	Rewilding Plant Microbiomes	Prof. Jos Raaijmakers [Netherlands Institute of Ecology]
14.30 – 14.40	Trait-Based Study Predicts Glycerol/Diol Dehydrates as a Key Function of the Gut Microbiota of Hindgut-Fermenting Carnivores	Prof. Clarissa Schwab [Aarhus University]
14.40 – 14.50	Enterosignatures of the Pig Gut Microbiota	Dr Ioanna-Theoni Vourlaki [Institute of Agrifood Research and Technology]
14.50 – 15.00	Co-Diversification of an Intestinal Mycoplasma and Atlantic Salmon	Dr Jacob Agerbo Rasmussen [University of Copenhagen]
15.00 – 15.10	Soil Microbiome Histories Impact Plant-Microbiome Interactions and Plant Phenotypes Under Drought-Stress	Dr Nichole Ginnan [Pennsylvania State University]
15.10 – 15.40	Break	
15.40 – 16.05	Insects (and their Microbiome) as Food and Feed – Challenges and Solutions	Assoc. Prof. Simon Bahrndorff [Aalborg University]
16.05 – 16.25	Crop Drought Resilience in the Era of Hologenomics	Asst. Prof. Chris Barnes [Aarhus University]
16.25 – 16.35	Analysis of Variability Through the Relative Site Frequency Spectrum (rSFS): Applications to Host-Microbiota Interactions	Dr Sebastian E. Ramos-Osins [Centre for Research in Agricultural Genomics]
16.35 – 16.45	Nematode Holobiont – Role of Microbes in Nematode Suppression and Protection	Dr Olivera Topalovic [University of Copenhagen]
16.45 – 16.55	Genome-Resolved Metagenomic Analysis of the Gut Microbiome in Reared House Fly Larvae ( <i>Musca domestica</i> )	Asmus Toftkær Muurmann [Aalborg University]
16.55 – 17.05	Long-Read Metagenomics of Shanghai Pet Dogs Enables the Retrieval of Hundreds of Bacterial Species as High-Quality MAGs	Dr Anna Cusco [Fudan University]
17.05 – 17.15	Microbiome Dynamics Across the Lifespan of Australian Angus Cattle	Dr Thibault Legrand [CSIRO]
17.15 – 18.00	Panel Discussion: Multi'omics and the Future of Sustainable Agrisciences	Assoc. Prof. Morten Limborg [University of Copenhagen] (Moderator), Prof. Lone Gram [Technical University of Denmark], Dr Stinus Lindgreen [Radikale Venstre], Prof. Claus Felby [Novonordisk Foundation]
18.00 – 19.45	Poster Session	Presented by Early-Stage Researchers (Drinks and Light Snacks Provided)

8.00 – 9.00	Coffee and Networking	
Session 3: Biodiversity and Conservation		
9.00 – 9.35	Eco-Evo-Devo Drivers of Microbial Assemblage Dynamics in Tropical Marine Holobionts	Prof. Monica Medina [Pennsylvania State University]
9.35 – 10.10	Keep One Another Close: The Importance of Wildlife-Microbe Symbioses in a Changing World	Assoc. Prof. Kevin Kohl [University of Pittsburgh]
10.10 – 10.20	Gut Microbiome Characteristics are Associated with Conservation Practices and Host Genetic Diversity in a Wild Vertebrate Species	Dr Sarah F. Worsley [University of East Anglia]
10.20 – 10.30	Pleistocene Reindeer Dental Calculus as a Source for Ancient Oral, Rumen and Dietary Flora	Dr Jaelle Brealey [Norwegian Institute for Nature Research]
10.30 – 11.00	Break	
11.00 – 11.30	Temporal Hologenomics: A New Approach in Biodiversity Research, Conservation and Evolutionary Biology	Assoc. Prof. Katerina Guschanski [University of Edinburgh]
11.30 – 11.55	The Hologenomics of Invasion Biology	Senior Scientist Cornelia Jaspers [Technical University of Denmark]
11.55 – 12.05	ASG Project: First Insights About Microbial-Rich Sponge Metagenomes	Dr Camilla Santos [Wellcome Sanger Institute]
12.05 – 12.15	The Role of Microbial Symbiosis in Insular Adaptation: A Hologenomic Approach	Prof. Laura Baldo [University of Barcelona]
12.15 – 12.25	A Comprehensive Investigation of Woolly Mammoth Remains Associated Microbes	Dr Benjamin Guinet [Swedish Museum of Natural History]
12.25 – 13.15	Lunch (Provided)	
Session 4: Future Technical Trends		
13.15 – 13.55	Population Theory for the Hologenome and the Assembly of Holobionts	Prof. Joan Roughgarden [University of Hawaii]
13.55 – 14.30	TBA	Prof. Ana Pombo [Max Delbrück Center for Molecular Medicine]
14.30 – 15.05	Intertwining Plasmids, Microbial Interactions and Adaptations to Gut Environments	Prof. Itzik Mizrahi [Ben Gurion University]
15.05 – 15.30	Break	
15.30 – 15.50	Unveiling Animal-Microbiota Interactions Through the Study of Metabolic Capacities of Microbial Genomes and Metabolite Exchange Capabilities of Microbiomes	Assoc. Prof. Antton Alberdi [University of Copenhagen]
15.50 – 16.10	Exploring Evolutionary Host-Microbiota Interactions Across Vertebrates Using Gut-On-a-Chip	Asst. Prof. Ostaizka Aizpurua [University of Copenhagen]
16.10 – 16.30	Epigenetic Control of the Gut Microbiome	Assoc. Prof. Morten Limborg [University of Copenhagen]
16.30 – 16.40	Deep Viral Metagenomics Reveals Dynamic Changes in Mobile Element Interaction Networks Following Intestinal Microbiota Transplantation	Dr Benjamin Auch [Phase Genomics]
16.40 – 16.50	Holo-omic Workflow Utilizing Network Analysis Reveals Compositional Bistability Between Rumen Microbiomes	Carl Mathias Kobel [Norwegian University of Life Sciences]
16.50 – 17.00	Advancements in Applying Zebrafish as a Model Organism in Hologenomics	Eiríkur Andri Thormar [University of Copenhagen]
17.00 – 17.10	Spatially Resolved Multi-omic Landscape of the Animal Gut Microbiome	Dr Bryan Wang [University of Copenhagen]
17.10 – 17.55	Closing Keynote: Winds of Change - Breathing a New Disciplinary Matrix Into Biology	Prof. Seth Bordenstein [Director Penn State University Microbiome Center]
17.55 – 18.00	Conference Wrap Up	

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