



# 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

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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	Prof. Luisa W. Hugerth [Uppsala University]
10.30 – 11.00	Break	
11.00 – 11.30	Gut Microbiome Plasticity and Human Adaptability under Ecological Change	Asst. Prof Rachel Carmody [Harvard University]
11.30 – 12.00	The Hologenome Beyond Biology - An Arctic Indigenous Perspective on the Holobiont	Asst. 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	Prof. 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), Dr. Lars Mølbæk [Head of Innovation, Chr. Hansen A/S], 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)	(Evaluation of Posters by Award Committee)
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	TBA	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	Symposium Wrap Up and Prizes	
18.00	Conference End	