



6th International Metaproteomics Symposium

January 13-15, 2025

Oslo



Norwegian
University of
Life Sciences

MONDAY 13/01 2025

09.00 - 10.00 Registration and coffee, poster setup in poster hall

10.00 - 10.15 Opening of the 6th IMS 2025 meeting

Session 1: New methods and trends in metaproteomics

Chairs: Lucia Grenga and Pratik Jagtap

10.15 - 11.00 INVITED LECTURE

Advanced Metaproteomics Approaches to Investigate Diet-Host-Microbiota Interactions

Manuel Kleiner (North Carolina State University, Raleigh, USA)

11.00 - 11.15

Assessment of DIA methods for metaproteomics - Challenges and opportunities

Benoit J. Kunath (University of Luxembourg)

11.15 - 11.30

FASTA Lake: Multi-Omics Framework Reveals Host-Microbe Dynamics in Acute Decompensation of Cirrhosis

Peter Treit (Max Planck Institute for Biochemistry)

11.30 - 11.45 Gold sponsor talk

An ultra-sensitive Metaproteomic solution (uMetaP) redefines the "dark" microbiome, reaches single-bacterium resolution and discovers Host-Microbiota interactions during metabolic injury in-vivo.

David Gomez Varela (Center of Excellence for Metaproteomics University of Vienna - Bruker)

11.45 - 12.00 Quick leg stretch

12.00 - 12.15

Advancing de novo metaproteomics with Kaiko 2.0.

Camilo Posso (Pacific Northwest National Lab)

12.15 - 12.30

Characterization of extracellular vesicles of intestinal microbiota using metaproteomics in patients with Crohn's disease.

Celine Henry (University Paris-Saclay, INRAE)

12.30 - 12.45

Creating microbiome-model harmony between metaproteomics data and the ADM1da model for a two-step anaerobic digester

Patrick Hellwig (Otto von Guericke University Magdeburg)

12.45 - 14.00 Lunch, poster setup in poster hall

Session 2: Animal microbiome and holo-omics

Chairs: Veronika Pettersen and Live H. Hagen

14.00 - 14.45 INVITED LECTURE

Metaproteome plasticity: cause or effects?

Itzhak Mizrahi (Ben-Gurion University of the Negev, Israel)

14.45 - 15.00

Metaproteomics as a contributor to understanding rumen microbiome patterns

Velma Aho (Norwegian University of Life Sciences)

15.00 - 15.15

Spirochetes in marine invertebrates: adversaries or allies?

Grace D'angelo (Max Planck Institute for Marine Microbiology)

15.15 - 15.45 Coffee, refreshments, group photo in sunset

15.45 - 16.00

Metaproteomics to investigate host-microbiota responses in a non-model sentinel species to environmental factors

Thibaut Dumas (Commissariat à l'Énergie Atomique et aux Énergies Alternatives, CEA)

16.00 - 16.15

Discovery of plastic degrading enzymes from the mealworm microbiome using metaproteomics and meta-chemoproteomics

Harrison Hall (Baylor University)

16.15 - 17.30 Poster session

17.30 Norwegian bonfire & blackcurrant toddy

TUESDAY 14/01 2025

8.30 - 9.00 Registration and coffee

Session 3: Environmental microbiome

Chairs: Jean Armengaud and Magnus Arntzen

9.00 - 9.45 INVITED LECTURE

Unlocking marine microbial dynamics: metaproteomic approaches to tackle global pollution

Sabine Matallana-Surget (University of Stirling, UK)

09.45 - 10.00

Temporal dynamics of bacterial species and CAZymes involved in lignocellulose degradation by microbial consortia enriched from cow rumen and termite gut

Guillermina Hernandez Raquet (Toulouse Biotechnology Institute INRAE)

10.00 - 10.15

Metagenome-centric metaproteomic profiling of microbial dynamics in a full-scale biogas plant fed fish-ensilage

Thea Andersen (Norwegian University of Life Sciences)

10.15 - 10.30

Microbial interactions in a high-performance tubular foam-bed reactor for biomethanation

Dirk Benndorf (Anhalt University of Applied Sciences)

10.30 - 11.00 Coffee, visit poster hall

11.00 - 11.45: INVITED LECTURE

Uncovering microbial mysteries: novel peptide sequencing to explore ecosystems across time and space

Emma Timmins-Schiffman (University of Washington, Seattle, USA)

11.45 - 12.00

Profiling the Mushroom Microbiome: Impacts on Developmental and Disease Outcomes through Devome Manipulation

Eoin O'Connor (The Pennsylvania State University)

12.00 - 12.15

Metaproteomic profiling of the secretome of a granular biofilm forming enrichment

Berdien Van Olst (Delft University of Technology)

12.15 - 12.30 Gold sponsor presentation

Sample preparation and 4D-Omics approaches for metaproteomics

Pierre-Olivier Schmit (Bruker Daltonics GmbH & Co. KG)

12.30 - 13.45 Lunch

Session 4: Integrative multi-omics and bioinformatics

Chairs: Bart Mesuere and Tim Ven Den Bossche

13.45 - 14.00

The Peptonizer2000: Confident Taxonomic Insights, Now Just a Click Away!

Tanja Holstein (Ghent University)

14.00 - 14.15

Unipept in 2024: Expanding Metaproteomics Analysis with Support for Missed Cleavages, Semi-Tryptic and Non-Tryptic Peptides

Pieter Verschaffelt, Vande Moortele Tibo (Ghent University)

14.15 - 14.30

MetaPepView: a web interface for visualization and evaluation of metaproteomic data

Ramon Van Der Zwaan (Delft University of Technology)

14.30 - 14.45

Evaluation of statistical approaches for differential metaproteomics

Tjorven Hinzke (University of Greifswald)

14.45 - 15.00

MetaLab Platform Enables Comprehensive DDA and DIA Metaproteomics Analysis

Kai Cheng (University of Ottawa)

15.00 - 15.30 Coffee, refreshments, visit poster hall

15.30 - 15.45

Increased insight into metaproteomics data obtained by advanced bioinformatics tools and modeling

Robert Heyer (ISAS Dortmund/ Universität Bielefeld)

15.45 - 16.00

Metadata in metaproteomics: integrating MlxS into SDRF-Proteomics

Tim Van Den Bossche (VIB - Ghent University)

OPEN DISCUSSION

Chairs: Robert Hettich and Benoit Kûnath

16.00 - 17.30

- Status of CAMPI challenges and future directions
- Metaproteomics Initiative and next IMS

20.00 Conference dinner

WEDNESDAY 15/01 2025

8.30 - 9.00 Coffee

Session 5: Microbiomes in health and disease

Chairs: Mary Lipton and Sabina Leanti La Rosa

9.00 - 9.45 INVITED LECTURE

Pushing the envelope of metaproteomics for more comprehensive characterization of the human microbiome in disease

Robert Hettich (Oak Ridge National Laboratory, Oak Ridge, USA)

09.45 - 10.00

Meta-analysis of fecal metaproteomic datasets reveals robust human and microbial signatures for inflammatory bowel disease

Maximilian Wolf (Bielefeld University)

10.00 - 10.15

The use of probiotics to reduce antibiotic resistance gene carriage in the infant gut

Veronika Pettersen (UiT Arctic University of Norway)

10.15 - 10.30

A new platform to study gut microbiota-derived extracellular vesicles and their impact on the host physiology through a metaproteomics approach

Marcello Manfredi (University of Piemonte Orientale)

10.30 - 11.00 Coffee, visit poster hall, check-out

11.00 - 11.15

Airway microbiota dynamics in response to ETI therapy: a metaproteomic perspective

Hamid Hachemi (CEA)

11.15 - 11.30

Functional biogeography of the colorectal cancer-associated microbiota

Alessandro Tanca (University Hospital of Sassari, Sassari, Italy)

11.30 - 11.45

Metaproteomic Approach to Detect Key Host and Microbial Peptides from Oral Leukoplakia samples.

Pratik Jagtap (University of Minnesota)

11.45 - 12.00

Metaproteomics Uncovers Distinctively Abundant Metabolic Enzymes that Exhibit Correlation With Response to Cancer Immunotherapy

Lior Lobel (Bar-Ilan University)

12.00 - 13.30 Lunch, poster dismount

AWARDS

13.30 - 14.00

Chair: Phil Pope

- **Best talk** award, sponsored by our Gold sponsor: Bruker
- **Best poster** awards, sponsored by our Silver sponsor: DNASense
- **ISME Trailblazer** award to an ECR in microbial ecology
- **Travel awards**, sponsored by EuPA

14.00 - 14.30 Best Manuscript Award and talk

Chair: Madita Brauer

Insights into protein annotation, pathway reconstruction, and species resolved function from the paper "Dietary protein source strongly alters gut microbiota composition and function"

Jose Alfredo Blakeley-Ruiz (North Carolina State University)

14.30 Closing of the 6th IMS 2025 meeting

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