

25-28 NOV. 2025
WAGENINGEN, NL

FOOD SYSTEM MICROBIOMES

Draft conference program, status 17.11.2025

Day 1 (Tuesday, 25 November 2025) 13:00 – 20:00

11:00 – 13:00 Arrival & registration

13:00 – 13:15 Welcome (Angela Sessitsch & Hauke Smidt, MicrobiomeSupport Association)

13:15 – 14:00 Opening lecture: Nicola Segata (University Trento, IT) – Human and food microbiomes within a OneHealth perspective

14:00 – 15:40 SESSION 1 – INTERCONNECTEDNESS OF MICROBIOMES ACROSS FOOD SYSTEMS

Session chairs: Daniele Daffonchio (University of Turin, IT) and Jan Sikkema (Holomicrobiome Institute, NL)

14:00 – 14:25 Daniele Daffonchio (University of Turin, IT) - The 'microbial terroir' promotes fruit quality, plant resilience against stresses and carbon sequestration in fruit tree agroecosystems

14:25 – 14:40 Sijmen Schoustra (Wageningen University & Research, NL & University of Zambia, ZM) - Ecological selection shapes microbiomes in traditional fermentation: from ecology inspired experiments to avenues of sustainable development

14:40 – 14:45 Science flash: I Nyoman Sumerta (The University of Melbourne, AU) - Seasonal tapping affects microbial community assembly and flavour formation in palm wine fermentation

14:45 – 14:50 Science flash: Chiara Traina (University of Turin, IT) - Interconnections across microbiomes: how do plant holobionts and food fermentations relate? A focus on the Taggiasca olive tree ecosystem.

14:50 – 15:15 Jan Sikkema (Holomicrobiome Institute, NL) - The Holomicrobiome Institute: Interconnectedness of microbiomes

15:15 – 15:30 Francesca Cristetti (University of Turin, IT) - Characterization of endophytic and epiphytic microbial communities of Nebbiolo grapes

15:30 – 15:35 Science flash: Despoina Langari (Aristotle University of Thessaloniki, GR) - A multi-omics exploration of microbiome dynamics across fermentation styles of cv. Chalkidiki green olives: revealing microbial interconnectedness in table olive food system

15:35 – 15:40 Science flash: Marco van Es (Bac2nature, NL) - BRIDGING microbiome science and practice: Connecting soil, food, and health professionals

15:45 – 16:15 Coffee break & Poster Session 1

16:15 – 18:00 SESSION 2 – THE MANY PATHWAYS TO SUSTAINABLE FOOD SYSTEMS POWERED BY MICROBIOMES (ESR SESSION) - POWERED BY PECHAKUCHA

Session chairs: Kevin Jerez-Bogota (Aarhus University, DK) and Ricardo Garavito Duarte (North Carolina State University, USA)

Session sponsor: Applied Microbiology International

16:15 – 16:25 Presentation by session sponsor: Lucky Cullen & Chloe Radcliffe - Introducing Applied Microbiology International and *Sustainable Microbiology*

16:25 – 17:10 Pecha Kucha Presentations by ESRs

Eugenia Dadzie (University of Waterloo, CA)

Ricardo Garavito Duarte (North Carolina State University, USA)

Applied
Microbiology
International



Shana L. Hepping (Leiden University, NL)
Leonardo Menghi (University of Southern Denmark, DK)
Ally Miners (University of Waterloo, CA)
Sara Pipponzi (AIT-Austrian Institute of Technology, AT)
17:10 – 18:00 Moderated discussion

18:00 – 20:00 Welcome reception (included in the registration fee)

Day 2 (Wednesday, 26 November 2025) 09:00 – 21:00

09:00 – 10:30 SESSION 3 – MICROBIOMES FOR GLOBAL HEALTH

Session chairs: Gerlinde de Deyn (Wageningen University & Research, NL) and Alexandre Soares Rosado (KAUST, SA)

09:00 – 09:25 Gerlinde de Deyn (Wageningen University & Research, NL) - Soil health, soil microbes and one health
09:25 – 09:40 Jowenna Sim (University of South Australia, AU) - From soil to food chain: Microbial responses to triazole fungicides
09:40 – 09:45 Science flash: Joseph Selvin (Pondicherry University, IN) - Urbanization-driven alterations in sediment microbial communities and the prevalence of antimicrobial resistance in freshwater ecosystems
09:45 – 10:10 Alexandre Soares Rosado (KAUST, SA) - Extreme microbes, the ultimate frontier in environmental restoration and planetary health
10:10 – 10:25 Wisnu Adi Wicaksono (Graz University of Technology, AT) - One Health perspective: Large-scale (meta)genomic analyses elucidate the distribution and horizontal transmission of antimicrobial resistance genes from environmental sources to humans
10:25 – 10:30 Science flash: Elena Crotti (University of Milan, IT) - Uncovering antimicrobial resistance pathways in agri-food ecosystems

10:30 – 11:00 Coffee break & Poster Session 1

11:00 – 12:10 SESSION 4 – MICROBIOMES FOR MITIGATING CLIMATE CHANGE

Session chairs: Eiko Kuramae (Netherlands Institute of Ecology, NL) and Ana Portugal Melo (MIRRI, PT)

11:00 – 11:25 Eiko Kuramae (Netherlands Institute of Ecology, NL) - Climate costs of domestication: How rice microbiomes shifted from nitrogen fixers to N₂O emitters
11:25 – 11:50 Ana Portugal Melo (MIRRI, PT) - MIRRI-ERIC and MICROBES-4-CLIMATE: advancing culturomics and synthetic communities for climate action
11:50 – 12:05 Robin Martens (Wageningen University & Research, NL) - Predicting Microbial Functional Diversity for Decomposition along an Aridity Gradient
12:05 – 12:10 Science flash: Edoardo Zaccaria (Wageningen University & Research, NL) - Microbial seeding as an early-life intervention to reduce methane emissions in dairy cattle

12:10 – 13:00 SESSION 5 – MICROBIOMES FOR CIRCULARITY/SUSTAINABILITY

Session chairs: Rosa Doménech (ITENE, ES), Rosa Perez-Gregorio (University of Vigo, ES) and Angela Sessitsch (AIT Austrian Institute of Technology, AT)

12:10 – 12:35 Rosa Doménech (ITENE, ES) - Plant-growth promoting microorganisms to drive wheat microbiome modulation through sustainable practices
12:35 – 12:50 Aranksha Thakor (University of Waterloo, CA) - Engineering *Pseudomonas alloputida* for sustainable bioplastic production from dairy waste
12:50 – 12:55 Science flash: Simone Rampelli (University of Bologna, IT) - From soil to must: Harnessing vineyard microbiomes for circular viticulture and winemaking
12:55 – 13:00 Science flash: Dirkjan Schokker (Wageningen University & Research, NL) - Antimicrobial resistance dynamics in black soldier fly larvae valorizing waste streams

13:00 – 14:30 Lunch break & Poster Session 1

13:30 – 14:30 MicrobiomeSupport General Assembly

14:30 – 16:05 SESSION 5 – MICROBIOMES FOR CIRCULARITY/SUSTAINABILITY (continued)

Session chairs: Rosa Doménech (ITENE, ES), Rosa Perez-Gregorio (University of Vigo, ES) and Angela Sessitsch (AIT Austrian Institute of Technology, AT)

14:30 – 14:55 Rosa Perez-Gregorio (University of Vigo, ES) - Leveraging bioactive compounds and microbiomes for the development of sustainable, low-immunogenic wheat-based foods

14:55 – 15:10 Elisabetta Chiarini (University of Turin, IT) - Sustainable Kombucha fermentation: Microbial dynamics and chemical profiling from plant-based by-products

15:10 – 15:15 Science flash: Annelein Meisner (Wageningen University & Research, NL) - Steering microbiomes for diseases suppression in soilless cultivations systems via the addition of circular waste streams

15:15 – 15:20 Science flash: Enrique Cubas (ITENE, ES) - Exploiting crop microbiomes as a source of biocontrol and biostimulant microorganisms for sustainable agriculture in the Mediterranean

15:20 – 15:45 Angela Sessitsch (AIT Austrian Institute of Technology, AT) - Microbiome interconnectedness and employing microbiomes for a sustainable and healthy soya-based food system

15:45 – 16:00 Sofia Leonti (Wageningen University & Research, NL) - Facilitators and barriers to farmers' acceptance of microbiome technology and other similar technologies for sustainable crop production: a review

16:00 – 16:05 Science flash: Abelardo Margolles (CSIC-IPLA, ES) - Modulation of gut microbiota by oligosaccharide fractions derived from brewer's spent grain in a dynamic colonic fermentation model

**18:00 Conference dinner: De Beekdalhoeve
(bus departure from conference venue @16:30)**

Day 3 (Thursday, 27 November 2025) 09:00 – 18:15

09:00 – 10:20 SESSION 6 – MICROBIOMES FOR NUTRITION AND HUMAN HEALTH

Session chairs: Stephane Chaillou (INRAE, FR) and Christophe Courtin (KU Leuven, BE)

09:00 – 09:25 Stephane Chaillou (INRAE, FR) - The domino-like health effect of fermented food-based diet: What strategies for untangling the complexity?

09:25 – 09:40 Maria Batool (University of Reading, GB) - Microbiota changes and growth impacts associated with oral iron supplementation in neonates

09:40 – 09:55 Julien Tap (micalisfme, FR) - Multiscale associations between diet and the gut microbiome in a nationwide French cohort

09:55 – 10:10 Elisa Di Stefano (APC Microbiome Ireland, IE) - Harnessing *Bifidobacterium* spp. for phytate degradation: activity, regulation, and potential to support early-life nutrition

10:10 – 10:15 Science flash: Davide Buzzanca (University of Turin, IT) - Development of a plant-based psychobiotic yogurt-like for the gut brain axis

10:15 – 10:20 Science flash: Ilario Ferrocino (University of Turin, IT) - Effects of probiotic supplementation on symptoms and microbiome characteristics in patients with non-celiac gluten/wheat sensitivity

10:30 – 11:00 Coffee break & Poster Session 2

11:00 – 12:05 SESSION 6 – MICROBIOMES FOR NUTRITION AND HUMAN HEALTH (continued)

Session chairs: Stephane Chaillou (INRAE, FR) and Christophe Courtin (KU Leuven, BE)

11:00 – 11:25 Christophe Courtin (KU Leuven, BE) - Leveraging food fermentations for health

11:25 – 11:40 Josep Rubert (Wageningen University & Research, NL) - Unveiling microbial lipid signatures: The metabolism of linoleic acid by clostridia and gammaproteobacteria

11:40 – 11:55 Frederick Warren (Quadram Institute, GB) - Spatiotemporal profiling of the human small intestinal microbiome

11:55 – 12:00 Science flash: Gloria Fackelmann (University of Trento, IT) - Gut microbiome signatures of vegan, vegetarian and omnivore diets and associated health outcomes across 21,561 individuals

12:00 – 12:05 Science flash: Emma Saltzman (Monash University, AU) - Live bacteria in fresh foods contribute to human gut microbiome diversity

12:15 – 13:30 REGULATORY WORKSHOP

Chairs: Yolanda Sanz (CSIC, ES) and Javier Moreno (CSIC, ES)

12:15 – 13:00 Introductory talks

Yolanda Sanz (CSIC, ES) - MicrobiomeSupport Regulatory Task Force introduction

Javier Moreno (CSIC-UAM, ES) - Integrating gut microbiome insights into food safety risk assessments

Rosella Brozzi (EFSA, IT) - Scientific criteria for the characterisation of microorganisms of regulated products in the EU

Sandrine Claus (STARFISH Bioscience, FR) - Developing next-generation biosolutions for agriculture within the EU legislative framework -

13:00 – 13:30 Round Table discussion with Rosella Brozzi (EFSA, IT), Sandrine Claus (STARFISH Bioscience, FR), Céline Druart (Pharmabiotic Research Institute, FR), Javier Moreno (CSIC-UAM, ES) and David Yañez (CSIC, ES)

13:30 – 14:30 Lunch break & Poster Session 2

14:30 – 16:00 Project Exhibition

- Session 1: How food system microbiomes contribute to food transition pathways (Microbiomes4Soy, Tribiome, Wheatbiome)
- Session 2: How to predict emerging food system risks (HOLiFOOD, FoodSafeR)
- Session 3: Unlocking microbial potential – accelerating discovery through integrated infrastructure (UNLOCK)

16:00 – 16:30 Coffee break & Poster Session 2

16:30 – 18:10 SESSION 7 – MICROBIOMES FOR MITIGATION OF RISKS IN THE FOOD SYSTEM

Session chairs: Floor van Meer (Wageningen University & Research, NL) and Martin Wagner (University of Veterinary Medicine Vienna, AT)

16:30 – 16:55 Marlous Focker (Wageningen University & Research, NL) - RESLIENCE thinking in management *Salmonella* spp in the pork supply chain

16:55 – 17:10 Eleftheria Trampari (Quadram Institute Bioscience, GB) - The ecology of persistence: How community complexity and composition shape *Salmonella*'s survival in the food chain.

17:10 – 17:15 Science flash: Mohak Gujare (Wageningen University & Research, NL) - Identifying prognostic microbiome biomarkers to predict post weaning diarrhea (PWD) in piglets and disentangling the effects of confounding factors

17:15 – 17:20 Science flash: Felix Spiegel (FFoQSI GmbH, AT) - Genomic characterization of persistent *Listeria monocytogenes* in European food processing facilities

17:20 – 17:45 Martin Wagner (University of Veterinary Medicine Vienna, AT) - The microbiome of biofilms in real food systems

17:45 – 18:00 Barbara Drigo (University of South Australia/Adelaide University, AU) - A novel risk assessment framework to address antimicrobial resistance in the Australian and Asia-Pacific vegetable supply chain

18:00 – 18:05 Science flash: Floor van Meer (Wageningen University & Research, NL) - The effect of climate change on food-borne disease outbreaks in the Netherlands

18:05 – 18:10 Science flash: Garance Leroy (IFREMER, FR) - Assessment of a microbiome engineering strategy using Lactic Acid Bacteria as bioprotective cultures to delay the spoilage of Gilthead Seabream (*Sparus aurata*) fillets

Day 4 (Friday, 28 November 2025) 09:00 – 13:00

09:00 – 11:10 SESSION 8 – NOVEL MICROBIOME CONCEPTS, APPLICATIONS AND TECHNOLOGIES

Session chairs: Paul Cotter (TEAGASC, IE) and Marnix Medema (Wageningen University & Research, NL)

Session sponsor: *Quantum Design Europe*

09:00 – 09:10 Presentation by session sponsor: Igor Poberay: Single-cell Insights: Integrated Microscopy Workstation for Manipulation and Analysis of Microbes and Their Microenvironment



09:10 – 09:35 Marnix Medema (Wageningen University & Research, NL) - Deciphering the chemical language of the microbiome using computational omics

09:35 – 09:50 Narciso M. Quijada (Institute of Functional Biology and Genomics (IBFG), ES) - The neglected side of the microbiome: hotspots in food production and the fungal resistome

09:50 – 10:05 Hrituraj Dey (University of Trento, IT) - Extending curatedFoodMetagenomicData(cFMD) for integrated analysis of food microbiomes

10:05 – 10:10 Science flash: Agata Szymanek (Perseus Biomics, BE) - Robust microbiome profiling with strain resolution using optical mapping

10:10 – 10:15 Science flash: Ananya Pawan Gupta (University of Turin, IT) - Phenotypic characterisation using BIOLOG: microbial strains from cocoa and their novel application

10:15 – 10:20 Science flash: Lakhansing A. Pardeshi (Wageningen University & Research, NL) - Conservation, evolution and recombination of tailocins in the genus *Pectobacterium*; and consequences for species and strain level interactions

10:20 – 10:45 Paul Cotter (TEAGASC, IE) - New developments in studying food-microbiome-gut interactions

10:45 – 11:00 Bhavya Sree Vadlamudi (Wageningen University & Research, NL) - Evolution on autopilot: Engineering functional stability in synthetic microbial communities

11:00 – 11:05 Science flash: Nehir Kizililsoley (WFSR, NL) - Leveraging advanced AI for enhanced food safety through pathogen analysis

11:05 – 11:10 Science flash: Irene Franciosa (University of Turin, IT) - Optimizing long-term storage and propagation strategies for the preservation and reuse of fermented sausage microbiome

11:15 – 11:45 Coffee break & Poster Session 2

11:45 – 12:30 Closing lecture: Michael Wagner (University of Vienna, AT) - The many faces of nitrification: From fundamental understanding to paths toward sustainable nitrogen management

12:30 – 13:00 Poster awards and closing (Hauke Smidt & Tanja Kostic, MicrobiomeSupport Association)