

THE **10TH**
**BENEFICIAL
MICROBES**
CONFERENCE

PRE- AND PROBIOTICS
FOR **LIFELONG** Human
AND Animal HEALTH

PROGRAMME

27-29 NOVEMBER 2023
AMSTERDAM
THE NETHERLANDS

www.BeneficialMicrobes2023.org

THE **10TH** BENEFICIAL MICROBES CONFERENCE

PREBIOTICS, PROBIOTICS, AND POSTBIOTICS

The 10th Beneficial Microbes Conference will provide an overview of the latest scientific results and future developments related to prebiotics, probiotics, and postbiotics and their importance to human and animal health across the lifespan. Topics include but are not limited to the gut microbiome, the gut-brain axis, the microbiome beyond the gut, and more.

The conference promotes the creation of new initiatives for the customised application of prebiotics, probiotics, and postbiotics in food, feed, and healthcare in a networking environment. Interested attendees include basic and translational research scientists, nutritionists, dietitians, physicians, students, policy makers, and key opinion leaders with an interest in prebiotics, probiotics, and postbiotics.

The 10th Beneficial Microbes Conference is a networking event par excellence, the common theme being 'HOW CAN WE LEARN FROM EACH OTHER?'. The conference aims to bring together scientists with different expertise with the possibility of cross-fertilizing each other and to develop new views and applications. Take part and experience the power of networking.

CONFERENCE CHAIR

Prof. Koen Venema

Beneficial Microbes Consultancy and University of Maastricht, the Netherlands

ADVISORY BOARD

Dr Frédérique Chaucheyras-Durand *Lallemand, France*

Dr Maria Carmen Collado *Department of Food Biotechnology, Spanish National Research Council (IATA-CSIC), Spain*

Prof. Richard Ducatelle *Department of Pathology, Bacteriology and Poultry Diseases, Ghent University, Belgium*

Dr Sabrina Green *Department of Biosystems, KU Leuven, Belgium*

Dr Emily Hollister *Microbiome Consultant, USA*

Prof. Michiel Kleerebezem *Host-Microbe Interactomics, Wageningen University & Research, the Netherlands*

Prof. Sarah Lebeer *Department of Bioengineering, University of Antwerp, Belgium*

Dr Thomas D. Leser *Human Health Innovation, Chr Hansen A/S, Denmark*

Dr Jiro Nakayama *Department of Bioscience and Biotechnology, Kyushu University, Japan*

Dr Arthur Ouwehand *IFF, Finland*

Dr Guus Roeselers *Nutricia Research, the Netherlands*

Dr Gabriel Vinderola *Instituto de Lactología Industrial, Universidad Nacional del Litoral, Argentina*

PROGRAMME AT A GLANCE

MONDAY 27 NOVEMBER 2023

12:45 – 13:00	Opening of the 10th Beneficial Microbes Conference
13:00 – 14:00	PLENARY SESSION What's up, Doc?
14:00 – 15:45	PLENARY SESSION Societal impact of beneficial microbes
15:45 – 16:15	NETWORKING BREAK
16:15 – 17:30	PLENARY SESSION The gut microbiome and beneficial microbes
17:30 – 18:00	SPONSOR PITCHES AND SPEED PRESENTATIONS Short presentations by sponsors and by selected poster presenters
18:00 – 19:00	INFORMAL GET-TOGETHER

TUESDAY 28 NOVEMBER 2023

08:45 – 10:05	SESSION 1 Why should human microbiome scientists be interested in animal studies?	SESSION 2 Oral-gut microbiome axis
10:05 – 10:30	POSTER TOUR	
10:30 – 11:00	NETWORKING BREAK	
11:00 – 12:35	SESSION 3 Beneficial microbes in animal health and nutrition	SESSION 4 Beneficial microbes, human health & well-being
12:35 – 14:00	LUNCH BREAK	
14:00 – 15:20	SESSION 5 Fermented foods and health	SESSION 6 Beneficial microbes and the gut-brain axis
15:20 – 15:45	POSTER TOUR	
15:45 – 16:15	NETWORKING BREAK	
16:15 – 17:30	PLENARY SESSION The battle: (Non-)sense of commercial microbiome testing	

WEDNESDAY 29 NOVEMBER 2023

08:45 – 10:30	PLENARY SESSION The focus on prebiotics and synbiotics
10:30 – 11:00	NETWORKING BREAK
11:00 – 12:20	PLENARY SESSION The holomicrobiome – beneficial microbes from farm to fork
12:20 – 12:30	POSTER AWARD CEREMONY
12:30 – 12:45	Top five lessons learned
12:45	Closing of the 10th Beneficial Microbes Conference

MONDAY 27 NOVEMBER 2023

(programme update 18 August 2023)

- 12:45** Introduction to the **10th Beneficial Microbes Conference**
Prof. Koen Venema, conference chair

PLENARY SESSION

Beneficial microbes – What's up, Doc?

Chair: Prof. Koen Venema, *Maastricht University, the Netherlands*

- 13:00** **One Health, Old Friends, and the gut microbiota**
Prof. Olaf Larsen, *Athena Institute, VU Amsterdam and Yakult Nederland, the Netherlands*
- 13:20** **Beyond the brain: microbial-derived metabolites as an early indicator of age-related cognitive decline and dementia**
Prof. David Vauzour, *Norwich Medical School, University of East Anglia, UK*
- 13:40** **Title TBC**
Dr Mathieu Castex, *Lallemand Animal Nutrition, France*

PLENARY SESSION

Societal impact of beneficial microbes

Chair: Prof. Koen Venema, *Maastricht University, the Netherlands*

- 14:00** **Democratizing beneficial microbes – Its time to bring real world science to the consumers**
Dr Adam Baker, *Director of Science, Chr Hansen, Denmark*
- 14:20** **Probiotics in perspective**
Dr Anne van der Geest, *Athena Institute, the Netherlands*
- 14:40** **Fine-scale mapping of the vaginal microbiome with citizen science**
Sarah Ahannach, *Department of Bioscience Engineering, University of Antwerp, Belgium*
- 14:55** **Title TBC**
Magali Cordaillat-Simmons / Céline Druart, *Pharmabiotic Research Institute, France*
- 15:15** **The power of networking and communication**
Michiel Hesselting, *MindPepper, the Netherlands*
- 15:45** **NETWORKING BREAK**

PLENARY SESSION

The gut microbiome and beneficial microbes

Chair: Prof. Sarah Lebeer, University of Antwerp, Belgium

16:15 Diet-host-microbe interaction in preterm infants

Dr Andrea Masi, *Translational and Clinical Research Institute, Newcastle University, UK*

16:35 Human milk bacteria individually or as a synthetic community exhibited contrasted immunomodulatory profiles and impact on the gut epithelial barrier

Charles Le Bras, *Research Unit Science and Technology of Milk and Eggs (STLO), INRAE, France*

16:50 PRELIMINARY TITLE: Application of machine learning in microbiome studies

Dr Laura Judith Marcos-Zambrano, *Computational Biology Group, IMDEA Food Institute, Spain*

17:10 Linking metagenomics and metabolomics in the human small intestine

Prof. Oliver Fiehn, *West Coast Metabolomics Center and Department of Food Science and Technology, University of California, Davis, USA*

PLENARY SESSION

Company pitches and speed presentations

17:30 – 18:00

Short presentations (5-minutes) by our sponsors and by selected poster presenters to inspire the audience to visit their booths and posters, respectively.

Chair: Prof. Koen Venema, *Maastricht University, the Netherlands*

18:00 – 19:00

Informal get-together

TUESDAY 28 NOVEMBER 2023

SESSION 1

Why should human microbiome scientists be interested in animal studies?

Chair: Dr Guus Roeselers, Nutricia Research, the Netherlands

08:45 Bovine animal model for studying the role of microbiome in the developmental origins of health and disease

Dr Samat Amat, *Department of Microbiological Sciences, North Dakota State University, USA*

09:05 NODding to growth: *Lactiplantibacillus plantarum*^{WJL} supports mouse juvenile growth in chronic undernutrition

Dr Martin Schwarzer, *Laboratory of Gnotobiology, Institute of Microbiology of the Czech Academy of Sciences, Czech Republic*

09:25 From the unique properties and specific metabolism of *Saccharomyces boulardii* CNCM 1-1079 to probiotic effects beyond gut microbiota modulation: What impact on host metabolism and immunity?

Dr Caroline Achard, *Lallemand Animal Nutrition, France*

09:45 Why mammalian milk contains lactose

Prof. Richard Ducatelle, *Department of Pathology, Pharmacology and Zoological Medicine, Ghent University, Belgium*

10:05 Poster Tour

Presenting authors are requested to be available at their posters during the Poster Tour.

A Best Poster Award is given to the best poster presented at the conference. It rewards a combination of excellent research, innovation, and presentation. The conference participants will vote for the best poster. The winner will be recognized publicly at the final plenary session.

10:30 NETWORKING BREAK

SESSION 2

Oral-gut microbiome axis

Chair: Dr Sabrina Green, KU Leuven, Belgium

08:45 Oral microbiome: the friend or the foe?

Prof. Egija Zaura, *Department of Preventive Dentistry, Academic Centre for Dentistry Amsterdam, the Netherlands*

09:05 The oral-gut microbiome axis in health and disease

Prof. Paul Wilmes, *Luxembourg Centre for Systems Biomedicine, University of Luxembourg, Luxembourg*

09:25 Gut-mouth axis in periodontitis

Jun-ichi Nagao, *Department of Functional Bioscience, Fukuoka Dental College, Japan*

09:45 Metagenomic analysis of the gut and oral microbiomes reveals cross-cohort signatures to predict pancreatic cancer

Dr Suguru Nishijima, *European Molecular Biology Laboratory, Germany*

10:05 Poster Tour

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10:30 NETWORKING BREAK

TUESDAY 28 NOVEMBER 2023

SESSION 3

Beneficial microbes in animal health and nutrition

Chair: Dr Frédérique Chaucheyras-Durand, *Lallemand SAS and Clermont Auvergne University, INRAE, France*

11:00 Visualising and quantifying rumen microbiome responses to live microbials and prebiotics
Dr Greta Reintjes, *Microbial-Carbohydrate Interactions Group, University of Bremen, Germany*

11:20 Response of the gut-liver axis to stimulation during embryonic development in chickens
Dr Aleksandra Dunisławska, *Bydgoszcz University of Science and Technology, Department of Animal Biotechnology and Genetics, Poland*

11:40 Prebiotic galacto-oligosaccharide feed enhances broiler chicken productivity and *Salmonella* clearance
Prof. Ian Connerton, *School of Biosciences, Nottingham University, UK*

12:00 Development of probiotic feed for salmonids with immunomodulatory potential
Prof. Dagmar Mudroňová, *Department of Microbiology and Immunology, University of Veterinary Medicine and Pharmacy, Slovakia*

12:20 Probac-seq technology, a powerful tool to screen new solutions impacting necrotic enteritis toxin B-like toxin and *C. perfringens* cytotoxicity
Dr Marion Bernardeau, *IFF, France*

12:35 LUNCH BREAK

SESSION 4

Beneficial microbes, human health & well-being

Chair: Dr Thomas D. Leser, *Chr Hansen A/S, Denmark*

- 11:00** The potential of *Dolosigranulum pigrum* AMBR11 as beneficial microbe for respiratory health
Dr Ilke De Boeck, *Department of Bioscience Engineering, University of Antwerp, Belgium*
- 11:20** Extracellular vesicles and surface layer proteins as the post-biotic active ingredient of the probiotic bacterium *Propionibacterium freudenreichii* against colitis and mucositis
Dr Gwénaél Jan, *Research Unit Science and Technology of Milk and Eggs, INRAE, France*
- 11:40** Interactions of microplastics with the human gut microbiota of adults and infants using *in vitro* gut models
Dr Elora Fournier, *Laboratoire des Adaptations Métaboliques à l'Exercice en conditions Physiologiques et Pathologiques, Université Clermont Auvergne, France*
- 12:00** Uncovering the mechanisms of *Lactiplantibacillus plantarum*-mediated type I interferon induction: Role of surface molecules as immunomodulators
Selvin Solis, *School of Biosciences, University of Surrey, UK*
- 12:20** Daily lactose supplementation in lactase non-persistent individuals induces colonic adaptation and reduces intolerance symptoms
Dr Lonneke Janssen Duijghuijsen, *Wageningen Food and Biobased Research, Wageningen University & Research, the Netherlands*
- 12:35** LUNCH BREAK

TUESDAY 28 NOVEMBER 2023

SESSION 5

Fermented foods and health

Chair: Dr Jiro Nakayama, *Kyushu University, Japan*

14:00 TBC

14:20 **Harnessing microbiome data to create the next generation of fermented foods**
Dr Paul Cotter, *Department of Food Biosciences, Teagasc, Ireland*

14:40 **Fermented dairy and legume-based food: from smart design of lactic acid bacteria to innovative products**
Dr Valérie Gagnaire, *Research Unit Science and Technology of Milk and Eggs (STLO), INRAE, France*

15:00 **Fermented milk and its impact on immune health: facts or fiction**
Prof. Johan Garssen, *Utrecht University and Nutricia Research, the Netherlands*

15:20 **Poster Tour**
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15:45 NETWORKING BREAK

PLENARY SESSION

The battle: (Non-)sense of commercial microbiome testing

How to look at commercial microbiome testing from different perspectives? Two speakers will take a different side of the topic followed by a panel discussion and Q&A with the audience.

Chair: Prof. Koen Venema, *Maastricht University, the Netherlands*

16:15 **Chair's introduction to the debate**

16:20 **Title TBC**
Dr Eline Klaassens, *BaseClear, the Netherlands*

16:35 **Title TBC**
Prof. Karen Scott, *The Rowett Institute, University of Aberdeen, UK*

16:50 **Debate and Q&A with the audience**

17:30 END OF DAY 2

SESSION 6

Beneficial microbes and the gut-brain axis

Chair: Prof. Michiel Kleerebezem, *Wageningen University & Research, the Netherlands*

14:00 Modulation of the maternal microbiota and behavioral effects in the offspring

Dr Daniel Radford-Smith, *Department of Pharmacology, University of Oxford, UK*

14:20 Gut microbiome composition and functionality impact the responsiveness to a dairy-based product containing galacto-oligosaccharides for improving sleep quality in adults

Dr Arjen Nauta, *FrieslandCampina, the Netherlands*

14:40 Early-life gut microbiome and neurodevelopmental outcomes

Dr Rochellys Diaz Heijtz, *Department of Neuroscience, Karolinska Institutet, Sweden*

15:00 Disorders of the gut-brain axis as a target for probiotics: Insight into developments of the industry

Cato Wiegiers, *Athena Institute, VU Amsterdam, the Netherlands*

15:20 Poster Tour

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16:50 Debate and Q&A with the audience

17:30 END OF DAY 2

WEDNESDAY 29 NOVEMBER 2023

PLENARY SESSION

The focus on prebiotics and synbiotics

Chair: Dr Maria Carmen Collado, *Spanish National Research Council (IATA-CSIC), Spain*

08:45 **Vitamins and effects on the gut microbiome**
Dr Robert Steinert, *dsm-firmenich, Switzerland*

09:05 **Polyphenol-rich extracts from olive leaves modulate gut microbiota composition and metabolism in the *in vitro* MicroColon model, and show protective effects on the intestinal barrier function**
Dr Guus Kortman, *NIZO food research, the Netherlands*

09:25 **PRELIMINARY TITLE: Prebiotic intervention in elite rugby players**
Dr Neil Williams, *Sport Health and Performance Enhancement Research Centre, Nottingham Trent University, UK*

09:45 **Title TBC**
Dr Anne Salonen, *Human Microbiome Research Program, University of Helsinki, Finland*

10:05 **Effects of synbiotics in children and adolescents with obesity**
Prof. Ener Cagri Dinleyici, *Department of Pediatrics, Eskisehir Osmangazi University, Türkiye*

10:30 **NETWORKING BREAK & POSTER VIEWING**

PLENARY SESSION

The holomicrobiome – beneficial microbes from farm to fork

In our food system, the many separate microbiomes together form one large and tight network: a 'holomicrobiome'. Knowledge about the interaction of all the contributing parts will lead to new and better products for agriculture, food production and healthcare, and thus to a society with better health and more sustainability.

Chair: Prof. Koen Venema, Maastricht University, the Netherlands

11:20 Soil microbiome and soil health as basis of crop quality and gut health

Dr Emilia Hannula, *Institute of Environmental Sciences, Leiden University, the Netherlands*

11:00 Beyond holobiont: Microbiome interconnectedness throughout environments

Dr Tanja Kostić, *Center for Health and Bioresources, AIT Austrian Institute of Technology GmbH, Austria*

11:40 Does the (agricultural) soil microbiome affect human health?

Prof. Harro Bouwmeester, *Swammerdam Institute for Life Sciences, University of Amsterdam, the Netherlands*

12:00 TBC

12:20 Poster Award Ceremony

12:30 Top five lessons learned

Prof. Koen Venema, conference chair

12:45 Closing of the 10th Beneficial Microbes Conference

The background of the entire page is a dense, repeating pattern of various microorganisms, including bacteria, viruses, and fungi, rendered in a light yellow color against a darker orange background. The pattern is composed of small, stylized icons of these organisms. In the lower half of the page, the background transitions to a solid blue color, with the same microbial pattern overlaid in a lighter blue shade. There are also large, semi-transparent geometric shapes: a large orange circle on the right side of the top half, and a large blue circle on the right side of the bottom half. The text is located in the bottom-left quadrant of the page.

Secretariat

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