

## PROGRAMME

updated 09/11/2022

### MONDAY 14 NOVEMBER 2022

13:00 – 13:15	Opening of the <b>9th Beneficial Microbes Conference</b>
13:15 – 14:15	Plenary session <i>Beneficial microbes: new and unexpected insights</i>
14:15 – 15:15	Plenary session <i>Postbiotics, definition and scope – a panel debate</i>
15:15 – 15:45	Networking break & poster viewing
15:45 – 17:25	Plenary session <i>Beneficial microbes and early life</i>
17:25 – 18:00	Sponsor pitches and Speed presentations <i>Short presentations by our sponsors and by selected poster presenters</i>
18:00 – 18:45	Poster viewing & drinks

### TUESDAY 15 NOVEMBER 2022

08:45 – 10:30	Session 1 <i>Beneficial microbes in animal health and nutrition – Part 1</i>	Session 2 <i>Beneficial microbes and human health – Part 1</i>
10:30 – 11:00	Networking break & poster viewing	
11:00 – 12:45	Session 3 <i>Bacteriophage-bacteria interactions in the gut</i>	Session 4 <i>Beneficial microbes in personal care</i>
12:30 – 14:00	Lunch break & poster viewing	
14:00 – 15:45	Session 5 <i>Beneficial microbes and the gut-brain-axis</i>	Session 6 <i>Towards renewable-based prebiotics</i>
15:45 – 16:15	Networking break & poster viewing	
16:15 – 17:35	Session 7 <i>Beneficial microbes in animal health and nutrition – Part 2</i>	Session 8 <i>Beneficial microbes and human health – Part 2</i>

### WEDNESDAY 16 NOVEMBER 2022

08:45 – 10:30	Plenary session <i>Structure and function of non-digestible carbohydrates in the gut microbiome in co-operation with ILSI Europe</i>
10:30 – 11:00	Networking break & poster viewing
11:00 – 12:00	Plenary session <i>Beneficial microbes and healthy ageing</i>
12:20 – 12:30	Top five lessons learned
12:30	Closing of the <b>9th Beneficial Microbes Conference</b>

## **MONDAY 14 NOVEMBER 2022**

13:00 Introduction to the **9th Beneficial Microbes Conference**  
Prof. Koen Venema, conference chair

### **PLENARY SESSION**

#### **BENEFICIAL MICROBES – NEW AND UNEXPECTED INSIGHTS**

Chair: Prof. Koen Venema, Centre for Healthy Eating and Food Innovation, Maastricht University, the Netherlands

13:15 Role of the lung microbiome in CNS autoimmunity  
Dr Francesca Odoardi, Institute for Neuroimmunology and Multiple Sclerosis Research, University Medical Center Göttingen, Germany

13:35 Genetics and exposome factors shaping the Dutch microbiome landscape  
Prof. Alexandra Zhernakova, Department of Genetics, University Medical Center Groningen, the Netherlands

13:55 Polyunsaturated fatty acids as prebiotics and the concept of the 'correct prebiotic diet': innovation or confirmation?  
Dr Lara Costantini, Department of Ecological and Biological Sciences, Tuscia University, Italy

### **PLENARY SESSION**

#### **POSTBIOTICS, DEFINITION AND SCOPE – A PANEL DEBATE**

*A panel debate on the International Scientific Association of Probiotics and Prebiotics (ISAPP) consensus statement on the definition and scope of postbiotics, and its caveats.*

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

14:15 The rationale behind ISAPP's definition of postbiotics  
Dr Gabriel Vinderola, Instituto de Lactología Industrial (CONICET-UNL), National University of Litoral, Argentina

14:30 Looking for 'solid' definitions  
Prof. Lorenzo Morelli, Department for Sustainable Food Processes, Università Cattolica del Sacro Cuore, Italy

14:45 Panel debate between the panellists and the audience  
Panellists:

- Dr Gabriel Vinderola, University of Litoral, Argentina
- Prof. Seppo Salminen, Functional Foods Forum, University of Turku, Finland
- Prof. Lorenzo Morelli, Università Cattolica del Sacro Cuore, Italy
- Dr Guus Roeselers, Danone Nutricia Research, the Netherlands

15-15 – 15:45 **Networking break & poster viewing**

### **PLENARY SESSION**

#### **BENEFICIAL MICROBES AND EARLY LIFE**

Chair: Dr Guus Roeselers, Danone Nutricia Research, the Netherlands

15:45 On the origin of species – host, dietary and environmental factors shaping the early-life microbiome  
Dr John Penders, Department of Medical Microbiology, Maastricht University Medical Center, the Netherlands

- 16:05 The ying and yang of microbiome signatures in early life  
Prof. Lindsay Hall, Quadram Institute, UK
- 16:25 The respiratory microbiome in early life: key to infection protection  
Prof. Debby Bogaert, Centre for Inflammation Research, The University of Edinburgh, UK
- 16:45 Using probiotics for maternal depression  
Prof. Sabina Fijan, Faculty of Health Sciences, University of Maribor, Slovenia
- 17:05 The gut microbiota and the maternal immune response in pregnant mice; effect of antibiotics and probiotics  
Dr Marijke Faas, Division of Medical Biology, Department of Pathology and Medical Biology, University of Groningen and University Medical Center Groningen, the Netherlands

## PLENARY SESSION

### SPONSOR PITCHES AND SPEED PRESENTATIONS

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

17:25 – 18:00

Chair: Dr Guus Roeselers, Danone Nutricia Research, the Netherlands

#### *Sponsor pitches*

- BaseClear, the Netherlands
- ILSI Europe, Belgium

#### *Speed presentations*

- Longitudinal gut mycobiota changes in Japanese infants during first three years of life  
Riko Mishima, Kyushu University, Japan
- Short chain fatty acid inhibition of bacterial plasmid conjugation in broth and chicken ceca explants  
Logan C. Ott, Iowa State University, USA
- The role of galacto-oligosaccharides in the recovery from dysbiosis in patients on long-term atypical antipsychotic treatment  
Nienke de Bles, Leiden University Medical Center, Leiden, the Netherlands
- Study protocol: effects of butyrate on affective patterns, microbiome composition and depressive symptoms in young adults – a randomized clinical trial  
Vera Korenblik, Amsterdam University Medical Center, the Netherlands
- *Lactocaseibacillus rhamnosus* HA-114: an innovative probiotic strain to support weight management efforts through the gut-brain axis  
Dr Mélanie Le Barz, Lallemand Health Solutions, Canada
- A predictive model for microbiome-dependent response to dietary fibres bases on *in vitro* biological data predicts microbiota response to dietary intervention  
Clémentine Thabuis, Roquette, France

18:00 – 18:45

### **Poster viewing & drinks**

## TUESDAY 15 NOVEMBER 2022

### SESSION 1

#### BENEFICIAL MICROBES IN ANIMAL HEALTH AND NUTRITION – PART 1

Chair: Dr Frédérique Chaucheyras-Durand, Lallemand, France

- 08:45 Evolution of the microbiome in female dogs around parturition and in early lactation, and impact of live yeast *Saccharomyces boulardii* CNCM I-1079  
Quentin Garrigues, École Nationale Vétérinaire de Toulouse, France
- 09:05 Gut neuroimmune axis and the microbiota: elucidating crosstalk to control bacterial infections in poultry  
Dr Melha Mellata, Department of Food Science and Human Nutrition, Iowa State University, USA
- 09:25 Plant extracts: gut microbiota and beyond  
Naiana Einhardt Manzke, Animal Health Concepts, the Netherlands
- 09:45 King of the Hill – modulating the rainbow trout microbiome  
Dr Kasper Rømer Villumsen, Department of Veterinary and Animal Sciences, University of Copenhagen, Denmark
- 10:05 Probiotics impact on *Tenebrio molitor* performance, microbial composition and pathogen infection  
Carlotta Savio, INRAE, France
- 10:30 **Networking break & poster viewing**

### SESSION 2

#### BENEFICIAL MICROBES AND HUMAN HEALTH – PART 1

Chair: Dr Emily Hollister, Diversigen Inc., USA

- 08:45 Impact of a maternal supplementation with prebiotics on the microbiota, the immune system and allergy development in offspring  
Dr Carole Brosseau, Biopolymères Interactions Assemblages, INRAE, France
- 09:05 Immunomodulation by biotics: preventive effect against rotavirus infection  
Prof. Francisco J. Pérez Cano, Department of Biochemistry and Physiology, University of Barcelona, Spain
- 09:25 How we can treat irritable bowel syndrome and obesity by modulating the gut microbiota  
Dr Goran Hauser, Department of Gastroenterology, University of Rijeka, Croatia
- 09:45 *Clostridium butyricum* MIYAIRI588® strain, as a potential live biotherapeutic product – stimulation of cancer immunotherapy  
Prof. Shigeru Kamiya, Department of Infectious Diseases, Kyorin University School of Medicine, Japan
- 10:05 Submitted abstracts:
- Effect of gut microbiota of children with autism spectrum disorder on behaviour and ASD-related biological markers in germ-free mice  
Léa Roussin, M.Sc., Mycalis Institute, INRAE, France
  - Pre- and probiotics to relieve constipation-related complaints in irritable bowel syndrome  
Maartje van den Belt, M.Sc., Food and Biobased Research, Wageningen University & Research, the Netherlands
- 10:30 **Networking break & poster viewing**

## TUESDAY 15 NOVEMBER 2022

### SESSION 3

#### BACTERIOPHAGE-BACTERIA INTERACTIONS IN THE GUT

Chair: Dr Sabrina Green, Department of Biosystems, KU Leuven, Belgium

- 11:00 Bacteriophages in the human gut microbiome: opportunities or threats?  
Dr Evelien Adriaenssens, Quadram Institute, UK
- 11:20 Mucosal interactions as a bridge between past and future prophylactic phage therapy  
Dr Gabriel Magno de Freitas Almeida, The Arctic University of Norway, Norway and University of Jyväskylä, Finland
- 11:40 Development of phage-based feed additives to enhance fed cattle health and performance  
Dr Jacques Mathieu, Rice University, USA
- 12:00 Manufacturing and formulation of bacteriophages for oral dosage forms  
Dr Danish Malik, Department of Chemical Engineering, Loughborough University, UK
- 12:20 Phage therapy for the gut and beyond  
Dr Sabrina Green, Department of Biosystems, KU Leuven, Belgium
- 12:45 **Lunch break & poster viewing**

### SESSION 4

#### BENEFICIAL MICROBES IN PERSONAL CARE

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

- 11:00 Preclinical model to evaluate the beneficiality of cosmetic ingredients for skin microbiota  
Maria João Carvalho, Center for Biotechnology and Fine Chemistry, Universidade Católica Portuguesa, Portugal
- 11:20 Probiotic supplement for personal care  
Laura Huuskonen, M.Sc., Global Health and Nutrition Science, IFF Health & Biosciences, Finland
- 11:40 Nitrate as a prebiotic and nitrate-reducing bacteria as probiotics for the oral microbiome  
Dr Bob Rosier, Department of Health and Genomics, FISABIO Foundation, Spain
- 12:00 The potential of precision probiotic *Hafnia alvei* HA4597 to support weight loss  
Nina Vinot, TargEDys, France
- 12:20 Submitted abstracts:
- The skin microbiome in atopic dermatitis patients in Belgium and how to modulate it with probiotics  
Lize Delanghe, M.Sc., University of Antwerp, Belgium
  - Effect of 10-12 months supplementation with the probiotic *Lactobacillus rhamnosus*, LGG® (DSM33156) and *L. paracasei* subsp. *paracasei*, L. CASEI 431® (DSM33451) and arginine on caries increment in healthy children: A randomized, parallel-grouped, placebo-controlled clinical trial  
Camilla Juhl Pørksen, M.Sc., University of Copenhagen, Denmark
- 12:45 **Lunch break & poster viewing**

## TUESDAY 15 NOVEMBER 2022

### SESSION 5 BENEFICIAL MICROBES AND THE GUT-BRAIN AXIS

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

14:00 An apple a day keeps the psychiatrist away  
Jenny Borkent, M.Sc., Research Institute Brain and Cognition, University Medical Center Groningen, the Netherlands

14:20 The microbiome and cognition domains  
Prof. José-Manuel Fernández-Real, Department of Medical Sciences, University of Giron, Spain

14:40 Anxiolytic effects of a daily prebiotic in healthy young female volunteers  
Dr Kathrin Cohen Kadosh, School of Psychology, University of Surrey, UK

15:00 Efforts to understand the impact of the gut microbiota on human neurobiology  
Dr Alejandro Arias Vásquez, Donders Institute for Brain, Cognition and Behaviour, Radboudumc, the Netherlands

15:20 Overcoming the brain barrier: a challenge for bacteria?  
Prof. Roosmarijn Vandenbroucke, Department of Biomedical Molecular Biology, Ghent University, Belgium

15:45 **Networking break & poster viewing**

### SESSION 6 TOWARDS RENEWABLE-BASED PREBIOTICS

Chair: Dr Guus Roeselers, Danone Nutricia Research, the Netherlands

14:00 Prebiotic tea phenolics: gut microbial conversions, renewable sourcing, and sustainable extraction  
Dr Wouter de Bruijn, Department of Agrotechnology and Food Sciences, Wageningen University & Research, the Netherlands

14:20 Cello-oligosaccharides: potential prebiotics and their biosynthesis from renewable carbohydrate-based resources  
Dr Chao Zhong, Institute of Biotechnology and Biochemical Engineering, Graz University of Technology, Austria

14:40 Turning waste/byproducts into novel (personalized) prebiotics that modulate the gut microbiota  
Prof. Koen Venema, Centre for Healthy Eating and Food Innovation, Maastricht University, the Netherlands

15:00 Biomass as a renewable source of prebiotics  
Prof. James Clark, Circa Renewable Chemistry Institute, Green Chemistry Centre of Excellence, University of York, UK

15:20 New opportunities to design next-generation prebiotics from renewable sources: from sustainability to precision nutrition?  
Dr Lorena Ruiz, Department of Microbiology and Biochemistry of Dairy Products, Instituto de Productos Lácteos de Asturias, Spain

15:45 **Networking break & poster viewing**

## TUESDAY 15 NOVEMBER 2022

### SESSION 7

#### BENEFICIAL MICROBES IN ANIMAL HEALTH AND NUTRITION – PART 2

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

- 16:15 Beneficial impact of *Saccharomyces boulardii* I-1079 probiotic on functionally important gut anaerobes, experimental proofs  
Dr Frédérique Chaucheyras-Durand, Lallemand SAS and Clermont Auvergne University, INRAE, France
- 16:35 Abnormal diet, abnormal behaviour – reviewing the role of diet and the microbiota-gut-brain axis in tail biting pigs  
Dr Cecilie Kobek-Kjeldager, Department of Animal Science, Aarhus University, Denmark
- 16:55 Novel molecular mechanisms from wildlife probiotics to inform immunomodulatory microbiome therapies  
Dr Jorge Gutierrez-Merino, Department of Nutritional Sciences, University of Surrey, UK
- 17:15 Probiotics for honeybees (*Apis mellifera* L.)  
Dr Adriana Nowak, Department of Environmental Biotechnology, Lodz University of Technology, Poland

### SESSION 8

#### BENEFICIAL MICROBES AND HUMAN HEALTH – PART 2

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

- 16:15 Probiotic *Bifidobacterium* in the prevention of cognitive impairment – clinical evidence and mechanism studies  
Dr Jinzhong Xiao, Next Generation Science Institute, Morinaga Milk, Japan
- 16:35 Advanced analysis for identification of key microbial biomarkers in microbiome data from clinical trials  
Dr Eline Klaassens, BaseClear, the Netherlands
- 16:55 Bacterial probiotic and postbiotics from *Lactobacillus helveticus* HA122 and *L. plantarum* HA-119 allow reinforcing gut barrier function in a zebrafish model  
Dr Emmanuelle Apper, Lallemand SAS, France
- 17:15 Submitted abstracts:
- *Lacticaseibacillus casei* isolate from the human respiratory tract as potential probiotic against cystic fibrosis  
Eline Cauwenberghs, M.Sc., Department of Bioscience Engineering, University of Antwerp, Belgium
  - Targeting the gut-brain axis in autism: machine learning analysis of the gut microbiome shows association with autism spectrum disorder  
Lucía Peralta Marzal, Department of Pharmacology, Utrecht University, the Netherlands

## WEDNESDAY 16 NOVEMBER 2022

### PLENARY SESSION

#### STRUCTURE AND FUNCTION OF NON-DIGESTIBLE CARBOHYDRATES IN THE GUT

##### MICROBIOME (in co-operation with ILSI Europe)

*This session will focus on what we know and what we need to know about the structure-function relationship in dietary carbohydrates.*

Chair: Dr Alexandra Meynier, Mondelēz International, France

08:45 Introduction by the chair

08:55 Structure-function relationships in dietary carbohydrates: what do we know and what do we need to know?  
Prof. Robert Rastall, Department of Food and Nutritional Sciences, University of Reading, UK

09:15 Systemic effects of prebiotics  
Prof. Koen Venema, Centre for Healthy Eating and Food Innovation, University of Maastricht, the Netherlands

09:35 Modelling prebiotic activity  
Dr Maria Wiese, Department of Microbiology and Systems Biology, TNO, the Netherlands

09:55 Future prebiotics: enabling technologies  
Dr F. Javier Moreno, Institute of Food Science Research (CSIC-UAM), Spain

10:15 Q&A

10:30 **Networking break & poster viewing**

### PLENARY SESSION

#### BENEFICIAL MICROBES AND HEALTHY AGEING

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

11:00 Microbiome and neurological disorders: Alzheimer's and ageing  
Prof. Satya Prakash, Department of Biomedical Engineering, McGill University, Canada

11:20 Nutritional strategies for health promotion in elderly; present and future of the 'biotics' family  
Dr Miguel Gueimonde, Department of Microbiology and Biochemistry of Dairy Products, Instituto de Productos Lácteos de Asturias (IPLA-CSIC), Spain

11:40 Targeting the gut to prevent or counteract age-related metabolic disturbances and pathologies: combining old and new concepts in nutrition  
Dr Isabelle Savary-Auzeloux, Unité Nutrition Humaine, Université Clermont Auvergne, INRAE, France

12:00 Beneficial microbes, should it get personal?  
Dr Patrick Veiga, INRAE, France

12:20 Top five lessons learned  
Prof. Koen Venema, conference chair

12:30 Closing of the **9th Beneficial Microbes Conference**