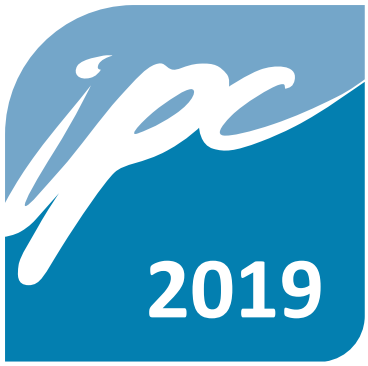

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Proceedings

17 – 20 June 2019
Prague, Czech Republic

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13th International Scientific Conference on Probiotics, Prebiotics, Gut Microbiota and Health

Proceedings

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Monday / June 17

Bacteriocins and Antimicrobial Peptides Symposium – BAMP2019
Chairman: **Svetoslav Todorov**, Co-chair: **Michael Chikindas**
TERRACE 2A

13:00 Chairman: **Svetoslav Todorov**, *Universidade Federal de Viçosa, Brazil*
O001 – Bacteriocinogenic and Probiotic Lactic Acid Bacteria – from GIT Point of View

13:40 Invited Speaker: **Michael Chikindas**, *Rutgers University, New Jersey, USA*
O002 – Peptidomimetics and New Antimicrobial Agents

14:20 **Suporn Foongladda**, *Mahidol University, Faculty of Medicine, Siriraj Hospital, Thailand*
O003 –Antimicrobal Resistant Genes Screening in Animal Agriculture Probiotics

14:35–15:05 Coffee Break

15:05 Keynote Speaker: **Santosh Kumar Tiwari**, *Department of Genetics, Maharshi Dayanand University, India*
O004 – Enterocin LD3 from Enterococcus hiraeLD3 Causing Efflux of Intracellular Ions and UV Absorbing Materials in Gram-negative Bacteria

15:45 Keynote Speaker: **Dzung Diep**, *Norwegian University of Life Sciences, Norway*
O005 – Bacteriocins as Alternative Means to Fight Bacterial Infections

16:25 Invited Speaker: **Djamel Drider**, *Université de Lille, France*
O006 – Antagonism-s, Safety and Impact on Microbiota of Enterocin DD14; a Class IIb Bacteriocin Produced by Enterococcus faecalis DD14

17:05 **J. Eric Line**, *United States Department of Agriculture, Agricultural Research Service, U.S. National Poultry Research Center, Athens, GA. USA*
O007 – In Vitro Inhibition of Campylobacters by Selected Antimicrobial Peptides

18:00 **Poster Visit**

Regulatory Workshop – From Retro to Repro? Stakeholder Engagement for Improved Harmonisation & Better Animal Welfare
Lecturer: **Elinor McCartney, Atte von Wright**
TERRACE 2B

13:00 Plenary Speaker: **Elinor McCartney**, *European Union Food Chain Legislation Expert Pen & Tec Consulting, Spain*
O041 – Regulatory Hurdles for EU Food & Feed Probiotics – How Best to Hit Those Moving Targets

15:30 Keynote Speaker: **Atte von Wright**, *Institute of Public Health & Clinical Nutrition, University of Eastern Finland*
O042 – Probiotics and Resistance to Antimicrobials, Intrinsic Resistance in the Genomic Era

Fermentation Design Workshop – Japanese Fermentation Food Culture
Lecturer: **Hiraku Ogura**
TERRACE 2B

18:00 Lecturer: **Hikaru Ogura**, *Fermentation Designer, Japan*
Japanese Traditions of Fermented Health Food Amazake and Miso Workshop at IPC2019
Only for IPC2019, Regulatory Workshop & BAMP2019 participants, free admittance. NB! limited places

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Tuesday / June 18

Session 1: Probiotic Surface Compounds (MAMP) and Corresponding Host Receptors (PRR)
Chairman: **Gwénael Jan**, Co-chair: **Sarah Lebeer**
FORUM HALL

8:30 Chair of the OC of IPC2019: **Alojz Bomba**, *Pavol Jozef Šafárik University in Košice, Slovakia*
Opening Ceremony

8:35 President of IPC2019: **Sin-Hyeog Im**, *Institute for Basic Science / POSTECH, Republic of Korea*
Opening Speech

8:40 Plenary Speaker: **Hiroshi Ohno**, *Team Leader, Laboratory for Intestinal Ecosystem, RIKEN Center for Integrative Medical Sciences, Japan*
O008 – Impact of Small Intestinal Bacteria on the Pathogenesis of Experimental Autoimmune Encephalomyelitis, an Animal Model of Multiple Sclerosis

9:30 Keynote Speaker: **Sarah Lebeer**, *Department of Bioengineering, University of Antwerp, Begium*
O009 – Probiotics for Skin and Nasal Applications: Lost in Translation?

10:10 Invited Speaker: **Gwénaël Jan**, *Science et Technologie du Lait et de l'Œuf, INRA, Rennes, France*
O010 – MAMP and PRR Interaction at the Centre of Probiotic/Host Interaction

10:30 YSA: **Faustine Gomand**, *Université de Lorraine, LIBio – Laboratoire d'Ingénierie des Biomolécules, Vandoeuvre-lès-Nancy, France*
O011 – The Impact of Shear Stress on Bacterial Functionality and Bacterial Physical State: a Theoretical and Experimental Study

10:40–11:10 Coffee Break

Session 2. The Brain-Gut-Liver Axis: Lipids and Probiotics
Chairman: **Vincenzo Cesi**, Co-chair: **Robert JM Brummer**
FORUM HALL

11:10 Plenary Speaker: **Robert JM Brummer**, *Nutrition-Gut-Brain Interactions Research Centre, Food and Health, Örebro University, Sweden*
O012 – Pro- and Prebiotics and the Gut-Brain Axis – What are the Knowledge Gaps and Why are RCT's Often Not Appropriate?

12:00 Keynote Speaker: **Min-Tze Liong**, *Bioprocess Technology, School of Industrial Technology, Universiti Sains Malaysia, Penang, Malaysia*
O013 – Lactobacillus plantarum DR7 and the Brain: From Fruit Flies to Human

12:40–13:40 Lunch Break

13:40 Invited Speaker: **Laura Stronati**, *Department of Cellular Biotechnology and Hematology, Sapienza University of Rome, Italy*
O014 – Synthesis of Silver Nanoparticles by Lactobacillus Reuteri Grown in the Microalgae Isochrysis sp. as a Culture Medium

14:00 Keynote Speaker: **Salvatore Cucchiara**, *Director of the Complex Operative Unit of Gastroenterology and Digestive Endoscopy at Umberto I, Policlinico di Roma, Rome, Italy*
O015 – Gut Microbiota May be an Attractive Therapeutic Target in Pediatric Inflammatory Bowel Disease

14:40 Invited Speaker: **Ying-Chieh Tsai**, *Institute of Biochemistry and Molecular Biology, National Yang-Ming University, Taiwan*
O016 – Psychobiotic for Alzheimer's Disease and Parkinson's Disease

15:00 **Gang Wang**, *Jiangnan University, School of food science and technology, Wuxi, China*
O017 – Bifidobacterium breve CCFM1025 Alleviates the Symptom od Depression and Related Microbiota Dysbiosis Induced by Chronic Upredictable Mild Stress

15:15 **Yen-Wenn Liu**, *Institute of Biochemistry and Molecular Biology, National Yang-Ming University, Microbiome Research Center, Taipei, Taiwan*
O018 – Gut Microbiota Alternation by Lactobacillus planatarum PS128

Session 3. Clinical Trials and Health Claim Substantiation
Chairman: **Vincenzo Cesi**, Co-chair: **Robert JM Brummer**
FORUM HALL

Jing-Seng Lin, *Symbio Tech Inc., Culture Collection & Research Institute, Kaohsiung City, Taiwan Province of China*
O019 – Lactobacillus Plantarum TWK10 Supplementation Improves Energy Metabolism and Exercise Performance

15:45 **Radhika Bongoni**, *BaseClear BV, Bianomics, Leiden, Netherlands*
O020 – Validated Sampling Methods for Microbiota Analysis in Clinical Trials

16:00–16:30 Coffee Break

16:30 **Akira Sen**, *Morinaga Milk Industry Co.-Ltd., Food Ingredients & Technology Institute R&D Division, Kanagawa, Japan*
O021 – Effects of Bifidobacterium Supplementation on Healthy Overweight Adult in a Randomized Controlled Trial

16:45 **In Kyu Lee**, *Korea Yakult, Republic of Korea*
O022 – The Effects of Probiotics on Symptom and Surgical Outcome after Anterior Resection of Colon Cancer; Multicenter Double-blind, Randomized, Placebo-controlled Trial (POSTCARE study) NCT03531606

17:00 **Karl Richir**, *Vesale Pharma, Medical, Noville sur Mehaigne, Belgium*
O023 – Role of Lactobacilli in Recurrent Bacterial Vaginosis: A Randomized Study (RELIEFS STUDY)

17:15–17:25 Break

Skin Health Symposium
Chair: Wilhelm Holzapfel, Co-chair: Lionel Breton
FORUM HALL

17:25 **Lionel Breton**, *L'oreal Research, France*
O025 – Human Skin and the Use of Suitable Bacteria (or Their Extracts) for Maintaining or Improving Skin Health

17:40 **O026 – Lorenzo Drago**, *Department of Biomedical Sciences for Health, University of Milan, Italy*
Gut-skin Axis and the Role of Microbiota in Skin Diseases

17:55 **Rudolf Luetticken**, *DWI Leibniz-Institute for Interactive Materials e. V., Microbiology, Aachen, Germany*
O027 – The Diffusible Antimicrobial Activity of Probiotic Bacteria Enclosed in Polymer Pads Could be Topically Applied Against Common Skin Pathogens

17:25 Workshop & Networking Bar
Martin Haranta, *Cassovia Life Sciences, Košice, Slovakia*
TERRACE 2A
By Collaboration Towards New Ideas and Opportunities in Research
Poster Session
Networking Bar Open & Welcome Drink

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Wednesday / June 19

Session 4: Clinical Application of Probiotics
Chairman: Bruno Pot, Co-Chair: Paul de Vos
FORUM HALL

8:30 Keynote Speaker: **Bruno Pot**, *Science Director at Yakult Europe, Guest Professor at the Vrije Universiteit Brussels, PRI president, France*
O028 – Pharmabiotics; Current Status and Future Prospect

9:10 Keynote Speaker: **Sin-Hyeog Im**, *Pohang University of Science and Technology (POSTECH), Republic of Korea*
O029 – How to Develop Probiotics as Immunomodulatory Pharmabiotics?

9:50 Keynote Speaker: **Paul de Vos**, *University Medical Center Groningen (UMCG), Pathology and Medical Biology, Immunoendocrinology, Groningen, The Netherlands*
O030 – Immunological Effects of Dietary Fiber Intake

10:30–11:00 Coffee Break

11:00 Invited Speaker: **Irma Schabussova**, *Institute of Specific Prophylaxis and Tropical Medicine, Medical University of Vienna, Austria*
O031 – Poking the Nose in the Probiotics: Nasal Route of Probiotics Delivery to Treat Lung Allergy

11:20 **Byung-Yong Kim**, *ChunLab- Inc., Microbiome institute, Seoul, Republic of Korea*
O032 – Next-generation Assessment of Microbial Composition in Commercial Probiotics by Means of Precision Bacterial Identification and Precision Metagenomic Profiling

11:35 **Corinne Grangette**, *Institut Pasteur of Lille, Center for Infection and Immunity, Lille, France*
O033 – Autophagy: A Novel Mechanism Involved in the Anti-inflammatory Abilities of Probiotics

11:50 **Jiri Hrdy**, *First Faculty of Medicine Charles University, Institute of Immunology and Microbiology, Prague, Czech Republic*
O034 – Effect of Early Postnatal Administration of Probiotic Strain Escherichia Coli on Allergy Development and Selected Immune Characteristics in Ten-year-old Children

12:05 **Pei Lei Tan**, *Centre Hospitalier Universitaire Vaudois CHUV, Clinical Neuroscience, Lausanne, Switzerland*
O035 – Unveiling the Potential Role of Probiotics in Focal Epilepsy

12:20 **Roberta Prete**, *University of Teramo, Italy and APC Microbiome Institute, University College Cork, Cork, Ireland*
O036 – Food-associated Lactobacillus Plantarum Characterization by the Means of Targeted Metabolomics Analysis of Bile Salts Hydrolase Activity

12:35 YSA: **Yuki Sasaki**, *The Unitged Graduate School of Agricultural Sciences Kagoshima University, Biological Science and Technology, Kagoshima, Japan*
O037 – Discovery and Characterization of a Key Enzyme for the Assimilation of Gum Arabic in Bifidobacterium Longum Subsp. Longum JCM 7052

12:45 **Katrine Vogt Møller**, *Aalborg University, Chemistry and Bioscience and Aarhus University, Molecular Biology and Genetics, Denmark*
O038 – Characterization of the Metabolome of C. Elegans Following a Probiotic Diet

13:00 **Maria Grymer Metz Mørch**, *Aalborg University, Department of Chemistry and Bioscience, Aalborg, Denmark*
O039 – L. Brevis Strain Increases the Tolerance against Pathogenic S, aureus in C, elegans Model via the TGF-B Pathway

13:15 **Stefania Silvi**, *Synbiotec Srl_Spin-off of University of Camerino, Research & Development, Camerino, Italy*
O040 – Diet-Induces Obesity Management: Modulation of Gut Microbiota Composition and Body Weight Control after Lactobacillus planatarum IMC 510 Administration

13:30–14:30 Lunch Break

Session 5: Probiotics Regulatory realities and Recognised Mode of Action
Chairman: **Elinor McCartney**, Co-chair: **Atte von Wright**
FORUM HALL

14:30 Keynote Speaker: **Elinor McCartney**, *European Union Food Chain Legislation Expert Pen & Tec Consulting, Spain*
O041 – Probiotics – Matching Commercial Aspirations with Regulatory Realities in the EU Food Chain

15:10 Invited Speaker: **Atte von Wright**, *University of Eastern Finland, Institute of Public Health and Clinical Nutrition, Finland*
O042 – Intrinsic Antibiotic Resistance in the Genomic Era – What to Conclude?

15:30 **Pradeep Dudeja**, *University of Illinois, Jesse Brown VA Medical Center, Chicago, USA*
O043 – Mechanisms Underlying Probiotic Bacteria Induced Increase in Intestinal Epithelial Secretory Cells

15:45 **Hui-Yu Huang**, *Shih Chieh University, Department of food science- Nutrition- and Nutraceutical Biology, Taipei, Taiwan Province of China*
O044 – Long Term Supplementation Lactobacillus Plantarum PS128 Attenatued High-Intensity, Exercise-Induced Oxidative Stress, Inflammation, and Performance in Triathlon

16:00–16:30 Coffee Break

Session 6: The Leaky Gut and Probiotic
Chairman: Eric Guillemard, Co-chair: Fredy J. Troost
FORUM HALL

16:30 Invited Speaker: **Freddy J. Troost**, *Div. Gastroenterology-Hepatology, Maastricht University, The Netherlands*
O045 – The Effects of Pectin, Arabinoxylan, and L. Plantarum Supplementation on Intestinal Barrier Function in Healthy Subjects

16:50 Invited Speaker: **Bart van der Hee**, *Host-Microbe Interactomics group, Animal sciences, Wageningen University, Wageningen, The Netherlands*
O046 – Organoids as Models to Study Probiotics

17:10 **Lucas Wauters**, *KU Leuven, Translational Research in Gastrointestinal Disorders TARGID, University Hospitals Leuven, Leuven, Belgium*
O047 – Effect of Lactobacillus Rhamnosus Strain on Stress-related Intestinal Permeability in Healthy Adults (ProSPer): a Randomized, Double-blind Placebo-controlled Trial

17:25 **Caroline Gonzalez-Vega**, *Evonik Nutrition and Care GmbH, Animal Nutrition, Hanau-Wolfgang, Germany*
O048 – Effects of Bacillus Subtilis DSM32315 and Dietary Protein Level on Gut Microbiota and Barrier Function Profile in Weaned Piglets

17:40 YSA: **Alexia Lapiere**, *IRSN, SERAMED/LRMed, Fontenay-aux-Roses, France*
O049 – Faecalibacterium Prausnitzii Treatment Reduces Radiation-induced Colorectal Injury: Application to the Management of Pelvic Radiotherapy Complications

17:50 **Damien Preveraud**, *Adisseo France SAS, Health by Nutrition, Antony, France*
O050 – Bacillus Subtilis 29784 Reinforces the Gut Barrier and Prevents Pro-inflammatory Response

18:05 **Yala Stevens**, *Maastricht University Medical Center & BioActor B.V., Department of Clinical Research, Maastricht, Netherlands*
O051 – The Effects of Citrus Flavonoids on Intestinal Permeability and Inflammation in Vitro and in Human Volunteers

20.00 Conference Dinner – Retro Garden Grill Party with Music and View on Prague

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Paralel Sessions on Wednesday / June 19

Animal Health Symposium
Chairman: **Ajay Awati**, Co-Chair: **Majsa Duijster**
TERRACE 2A

8:30 Keynote Speaker: **Ajay Awati**, *Global Category Manager, EW Nutrition GmBH, German*
O052 – Animal Production Profitability and Sustainability Jigsaw- is "Gut Health" the Missing Piece?

9:10 **Masja Duijster**, *R&D Manager, Poultry Nutrition at De Heus Animal Nutrition, The Netherlands*
O053 – Nutrition and Gut Health-Conjointly Responsible for Optimal Animal Performance

9:30 Invited Speaker: **Michael Chikindas**, *Rutgers University, New Jersey, USA*
O054 – Bacilli Probiotics for Poultry: an Emerging Group of Health Promoting Supplement

9:50 **Dae-Kyung Kang**, *Dankook University, Department of Animal Resources Science, Cheonan, Republic of Korea*
O055 – Surface Display of the Epitopes of Porcine Epidemic Diarrhea Virus on Lactobacillus Plantarum and its Efficacy in Murine Model

10:10 **Bruce Johnson**, *Corporate Vice President, Business Development at Phibro Animal Health Corporation, Tenesee, USA*
O056 – Post R&D Probiotics in Animal Nutrition – Tips, Tricks & What I've Learned

10:30–11:00 Coffee Break

11:00 **Alexia Lépine**, *ORFFA Additives B.V., Central Technical Manager, Werkendam, The Netherlands*
O057 – Bacillus Subtilis C-3102 In-feed Supports Gut Health and Microbiota Development of Post-weaning Piglets after ETEC Challenge

11:15 YSA: **Rongrong Liu**, *College of Animal Sciences, Zhejiang University, Hangzhou, China*
O058 – Regulation of Macrophage Activation and Polarization by Bacillus Amyloliquefaciens Treatment of Porcine Intestinal Epithelial Cells Derived Exosomes

11:25 YSA: **Paula Rey**, *Instituto de Ciencia y Tecnología de Alimentos Universidad Nacional de Colombia, Bogotá, Colombia*
O059 – Potential high antioxidant activity in chicken feathers hydrolysates by probiotic bacteria

11:35 YSA: **Eric Daliri**, *Kangwon National University, Food Science and Biotechnology, Chuncheon, Republic of Korea*
O060 – Fermented Soy Protein Hydrolysates Modulate Gut Microbiota and Reduces High Blood Pressure in Spontaneous Hypertensive Rats

11:45 **Karin Bjerre**, *Chr. Hansen A/S, Bacterial Physiology, Hoersholm, Denmark*
O061 – Investigating of Bacillus subtilis and Bacillus amyloliquefaciens Spores and Vegetative Cells in Fecal Samples from Pigs

12:00 **Vania Patrone**, *Università Cattolica del Sacro Cuore, Department for Sustainable food process, Piacenza, Italy*
O062 – NUTRIOSE® FB06 Decreases Fecal Abundance of Opportunistic Pathogens and Predicted Bacterial Pathways Associated with Inflammation in Weaned Piglets

12:15 **Tadele Kiros**, *Phileo-Lesaffre Animal Care, Research and Development, University of Saskatchewan, Saskatoon, Canada*
O063 – Effect of Live Yeast Saccharomyces Cerevisiae Supplementation on the Performance and Cecum Microbial Profile of Suckling Piglets

12:30 **Billy Hargis**, *University of Arkansas, Poultry Science, Fayetteville, USA*
O064 – Selection and Evaluation of In-feed Probiotics (Direct-fed Microbials) for in Situ Enzyme Production, Mitigating Enteric Pro-inflammatory Dietary Substrates

12:45 **Stéphanie Blanquet-Diot**, *Lallemand SAS, Animal Nutrition, Blagnac, France*
O065 – Evaluation of a Probiotic to Limit Escherichia Coli Expansion at Weaning Using an In Vitro Fermentation Model of Piglet Colon

13:00 **Véronique Julliand**, *Université Bourgogne Franche-Comté- Agrosup Dijon, Dijon, France*
O066 – Effect of a Live Yeast Probiotic Strain on Fibre-Digesting Capacity and Hindgut Balance in Equine

13:15 YSA: **Li Tang**, *College of Animal Sciences, Zhejiang University, Hangzhou, China*
O067 – Effects of Bacillus Amyloliquefaciens on Digestion and Absorption, Antioxidant and Immune Functions in Fattening Pigs

13:25 **Caroline Achard**, *Lallemand SAS, Lallemand Animal Nutrition R&D, Blagnac, France*
O068 – Saccharomyces Cerevisiae var. Boulardii CNCM I-1079 Modulates the Fecal Microbiota of Sows and Subsequently Beneficially Affects Weanling Piglets

13:25–14:25 Lunch Break

14:25 **Lisa Bielke**, *Ohio State University, Animal Sciences, Wooster, USA*
O069 – Proteome Changes of Neonatal Chicken Intestine Related to Inflammation, Endocrine, and Metabolism Pathways Impacted by In Ovo Administered Bacteria

14:40 **Samy Julliand**, *Lab To Field, Equine research, Dijon, France*
O070 – Live Yeast Modulates Gastric Ecosystem of Horses Fed a High-starch Diet

14:55 **Hoaanh Nguyen**, *ANABIO Research and Development JSC, Management, Hanoi, Viet Nam*
O071 – Cooperative Effects of Color and Non-color Bacillus Spores on Growth Performance and Health of White-leg Shrimp

15:10 YSA: **Yu Chun Lin**, *Livestock Research Institute- Council of Agriculture- Executive Yuan, Animal Nutrition Division, Tainan, Taiwan Province of China*
O072 – Development of Novel Metabolic Molecules Producing Lactobacilli as an Anti-stress Feed Additive for Animal Health Care

15:20 **Kampon Kaeoket**, *Faculty of Veterinary Science- Mahidol University, Department of Clinical Sciences and Public Health, Nakhon Pathom, Thailand*
O073 – Feeding Sow with Multi-strains Probiotic (BACTOSAC-P) During Late Gestation Improve Colostrum Production

15:35 **Dagmar Mudronova**, *University of Veterinary Medicine and Pharmacy in Košice, Department of Microbiology and Immunology, Košice, Slovakia*
O074 – A New Probiotic Preparation for Honey Bees – from Strain to Patent

17.30 Poster Session

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Thursday / June 20

Session 7: Probiotics for Health
Chairman: **Arthur Ouwehand**, Co-Chair: **Wilhelm Holzapfel**
FORUM HALL

8:30 Invited Speaker: **Mario Guslandi**, *MD FACG Consultant Gastroenterologist & Adjunt Professor, S. Raffaele University Hospital, MIlan, Italy*
O075 – Probiotics for Treatment of IBD and IBS. An Update

9:00 Keynote Speaker: **Arthur Ouwehand**, *R&D group manager, Active Nutrition in Kantvik, DuPont Nutrition & Health, Finland*
O076 – Supporting the Developing Microbiota in Infants and Beyond

9:40 Invited Speaker: **Wilhelm Holzapfel**, *Professor at Handong Global University, South Korea*
O077 – Functionality of Lactobacillus Rhamnosus – an Interesting Example of Intraspecies Diversity

10:00 **Alojz Bomba**, *Institute of Experimental Medicine, Faculty of Medicine, Pavol Jozef Safarik University in Kosice, Slovakia*
O078 – Gut Microbiome and its Targeted Modulation: Where it is Heading?

10:20 **Soyoung Park**, *Holzapfel Effective Microbes, Research and Development, Suwon-si, Republic of Korea*
O079 – A Gut Microbiota-based In-vitro Screening System for Developing Personalized Probiotics

10:35–11:05 Coffee Break

11:05 **Alexander Suvorov**, *Institute of Experimental Medicine & Saint-Petersburg State University, Fundamental Medicine, Russian Federation*
O080 – Autoprobiotics. Time for the Personal Treatment of Dysbiosis

11:20 **Femke Hoevenaars**, *TNO Healthy Living, Microbiology and Systems Biology, Zeist, Netherlands*
O081 – Measuring Gut Health: Combining Microbiome Measurement and Phenotypic Flexibility to Evaluate Health Effects of Microbiome Modulation

11:35 YSA: **Lucy Mailing**, *University of Illinois at Urbana-Champaign, Division of Nutritional Sciences, Urbana, USA*
O082 – Effects of Transplanted Exercised vs. Sedentary Gut Microbiota on Gene Expression in Gnotobiotic Mice

11:45 YSA: **Camila Bernal-Castro**, *Instituto de Ciencia y Tecnología de Alimentos Universidad Nacional de Colombia, Bogotá, Colombia*
O083 – Assessment of Viability of a Probiotic Bacteria in a Tropical Red Fruit Beverage with Inulin and In Vitro Gastrointestinal Survival

11:55 YSA: **Floriane Gaucher**, *STLO- INRA- Agrocampus Ouest- 35000 Rennes, Mica, Rennes, France*
O084 – Osmotic Adjustments May Exert Benefits or Drawbacks on Propionibacterium Freudenreichii Viability During Freeze-drying

12:05 YSA: **Zhonghua Zeng**, *College of Animal Sciences, Zhejiang University, Hangzhou, China*
O085 – Bacillus amyloliquefaciens SC06 Protects Mice Against High-Fat Diet-Induced Obesity and Liver Injury via Regulating Host Metabolism and Gut Microbiota

12:15 YSA: **Yanping Wu**, *Zhejiang University, College of Animal Sciences, Hangzhou, China*
O086 – Probiotic Bacillus Attenuates Oxidative Stress-induced Intestine Injury: New Insights Into its Protective Mechanism

12:25 YSA: **Masami Tsukagoshi**, *Faculty of Agriculture- Shinshu University, Department of Agricultural and Life Sciences, Nagano, Japan*
O087 – Recombinant Anti-VEGF Single Chain Fv Produced by Lactococcus Lactis Binds to Human Vascular Endothelial Growth Factor

12:35 YSA: **Shoko Kajikawa**, *Graduate School of Science and Technology- Shinshu University, Department of Agriculture, Nagano, Japan*
O088 – Ribosome Engineering Enhances Production of p40, a Lactobacillus Rhamnosus GG-derived Soluble Protein, in S12 Mutant Strains

12:45 YSA: **Fu Namai**, *Graduate School of Medicine, Science and Technology, Shinshu University in Nagano, Japan Society for the Promotion of Science, Tokyo, Japan*

O089 – Oral Administration of a Genetically Modified Osteocalcin-secreting Lactococcus Lactis Improves Carbohydrate Metabolism in High-fat Diet-induced Obese Mice

12:55 YSA: **Alicia Froidurot**, *Université de Bourgogne Franche-Comté – AgroSup Dijon, France*

O090 – Identification and Characterization of One Cellulolytic Bacteria Strain: Case Study of the Potential Probiotic Effect in Equine Nutrition and Health

13:05–14:05 Lunch Break

14:05 **Catherine Daniel**, *Institute Pasteur of Lille, Center for Infection and Immunity, Lille, France*

O091 – In Vivo Imaging to Study the Behavior of Bioluminescent and Fluorescent Probiotics in the Gut

14:20 **Robert Schiestl**, *UCLA, Pathology, Los Angeles, USA*

O092 – Lactobacillus johnsonii 456 as probiotic stays in the human gut more than 60 days and reduces inflammation in all organs

14:40 **Sae Hun Kim**, *Korea University- College of Life Sciences and Biotechnology, Department of Food Bioscience and Biotechnology, Seoul, Republic of Korea*

O093 – Lactobacillus Strains Prevent Bone Loss via BMP-2 Signaling in Dexamethasone-induced Secondary Osteoporosis

15:00 **Bo Yang**, *Jiangnan University, School of Food Science and Technology, Wuxi, China*

O094 – Lactobacillus Plantarum ZS2058 Produces Conjugated Linoleic Acid to Ameliorate DSS-induced Colitis in Mice

15:15 **Kannan Alpadi**, *Ansh Labs, Research and Development, Webster, USA*

O095 – Probiotics and Prebiotics Decrease Circulating Levels of Glucagon, Oxyntomodulin, and GLP 2, but not GLP 1 Gut Hormones in Canines

15:30–16:00 Coffee Break

Session 8: Future of Probiotics and Prebiotics and Delivery Vehicles
Chairman: **Alojz Bomba**, Co-chair: **Sin-Hyeog Im**
FORUM HALL

16:00 **Xiaowei Zhang**, *BGI-Research, Precise Health Institution, Shenzhen, China*

O096 – From Metagenome-wide Association Studies (MWAS) to Functional Strains—A Novel Species (Lachnospiraceae Bacterium TF01–11) Lacking in Type 2 Diabetes Patients

16:15 **Regis Stentz**, *Quadram Institute Bioscience QIB, Gut Microbes and Health, Norwich, United Kingdom*

O097 – Gut Bacteria-derived Nanovesicles: A New and Revolutionary Platform for the Delivery of Biologics

16:30 **Ramachandran Chelliah**, *Kangwon National University, Department of Food Science and Biotechnology, Republic of Korea*

O098 – Isolation and Characterization of Pediocin L50, A Novel Bacteriocin from Pediococcus Acidilactici Based on Caenorhabditis Elegans and Gut Model

16:45 **Elke Brockmann**, *Chr. Hansen A/S, Microbial Screening, Hørsholm, Denmark*

O099 – Generalized Multi Locus Sequence Typing Scheme for Lactic Acid Bacteria

17:00 **Adele Costabile**, *University of Roehampton, Life Sciences, London, United Kingdom*

O100 – Impact of SlimBiome on Satiety, Satiation, Weight Loss and Gut Microbiome Composition in Overweight and Obese Women

17:15 **Yi-Fan Ma**, *Microbiome Research Center, National Yang-Ming University, Taipei, Taiwan Province of China*

O101 – Lactobacillus Plantarum PS128 Alleviates Pathological Beta-oscillation and Motor Deficits in the 6-hydroxydopamine Model of Parkinson's Disease

17:30 **Jan Markus**, *MatTek In Vitro Life Science Laboratories, Bratislava, Slovakia*

O102 – Ligand-Induced Inflammation and Live Bacteria in the In Vitro Reconstructed 3D Model of Small Intestine Epithelium

17:45 **Young Scientist Awards and Best Poster Awards ceremony**

18:00 **Farewell Drink & Going Downtown with Organisers**

Oral Presentations

P090 – Characterization of Microbiota That Influence the Immunomodulatory Effects of Fermented *Brassica Rapa* L.

Bayanjargal Sandagdorj[1], Chisato Hamajima[2], Takeshi Kawahara[2], Jun Watanabe[3], Sachi Tanaka[2]
[1]University of Tsukuba, School of Integrative and Global Majors, Tsukuba, Japan
[2]Shinshu University, Academic Assembly Institute of Agriculture, Minami-minowa, Japan
[3]National Agriculture and Food Research Organization, Food Research Institute, Tsukuba, Japan

Introduction
Lactic acid bacteria (LAB) are widely distributed in nature and are used to produce fermented foods. LAB exert beneficial health effects through the regulation of the immune responses. The supplementation of LAB prevents chemically induced colitis, asthma, and allergic rhinitis by downregulating inflammatory cytokine production or inducing anti-inflammatory cytokine production. *Brassica rapa* L., known as Nozawana, is typically consumed as a lactic-acid fermented food called Nozawana-zuke. The previous study reported that fermented *B. rapa* L. and the LAB isolates showed immune enhancement effects. However, few studies address changes in the bacterial community and cytokine production activities during the fermentation of *B. rapa* L. The aim of this work was to analyze the bacterial community during fermentation of *B. rapa* L. and to identify the LAB strains involved in the induction of cytokines by fermented *B. rapa* L.

Methods
Fresh *B. rapa* L. was fermented in 7% (w/w) NaCl, and part of vegetables were collected for microbiota and cytokine production tests. The amplicons of 16S rRNA gene V3-V4 regions were sequenced using a MiSeq system. Quantification of *Lactobacillus* species was carried out by qPCR using species-specific primers. Splenocytes of C57BL/6 mice were co-cultured with vegetable samples or isolated LAB strains, and interferon (IFN)-γ and interleukin (IL)-10 levels in the supernatants were quantified by ELISA.

Results
Lactobacillales predominated during fermentation, and the microbiota became less diverse on day 7 or later. Fermented *B. rapa* L. induced more IFN-γ and IL-10 production by mouse spleen cells compared with non-fermented vegetables. *L. curvatus* was the predominant species during fermentation, followed by *L. plantarum* and *L. brevis.* Correlation analysis showed that IFN-γ was positively correlated with the numbers of *L. curvatus* and *L. plantarum*, and IL-10 was correlated with the numbers of *L. sakei* in addition to these 2 species. Among 46 *Lactobacillus* isolates from fermented *B. rapa* L, the Lp4 (*L. plantarum*) and Lc3 (*L. curvatus*) strains induced the highest levels of IFN-γ and IL-10 respectively. These strains were implemented as starter culture for the fermentation of *B. rapa* L. Production of IFN-γ and IL-10 was significantly induced by Lp4- and Lc3-fermented *B. rapa* L. compared with naturally fermented vegetables.

Discussion
Microbial community analysis suggests that *L. curvatus, L. plantarum* and *L. brevis* are primary contributors to the fermentation of *B. rapa* L. Among these species, *L. curvatus* and *L. plantarum* were typically correlated with enhanced levels of cytokines IFN-γ and IL-10 production in fermented *B. rapa* L. Addition of *Lactobacillus* isolates Lp4 and Lc3 as starter cultures increased the number of lactobacilli from an early stage of fermentation with resulting enhanced cytokine induction. Thus, such LAB strains may be applied to produce future immunomodulatory effective functional food products.

Keywords: Lactic acid bacteria; *Brassica rapa* L.; fermentation; IFN-gamma; IL-10

INTERNATIONAL SCIENTIFIC CONFERENCE PROBIOTICS, PREBIOTICS GUT MICROBIOTA AND HEALTH | 17 – 20 June 2019 Prague Congress Centre

P091 – Topical Probiotics: The Future of Dermatology to Improve the Health of the Skin Microbiome

Francine Schutz[1], Pedro Barata[2], Rita Oliveira[3]
[1]Faculty of Health Sciences University of Fernando Pessoa, Research Centre of the Fernando Pessoa, Porto, Portugal
[2]University of Fernando Pessoa, Biomedical Research Centre CEBIMED, Porto, Portugal
[3]University of Fernando Pessoa Biomedical Research Centre CEBIMED, Research Centre of the Fernando Pessoa Energy- Environment and Health Research Unit FP-ENAS, Porto, Portugal

Introduction
Recent advances of the function of the skin and its microbiome have shown that there is a strong symbiotic relationship between the microbiota of the skin and its host immune functions. There is growing evidence that an intact microbiota supports the skin barrier. The skin dysbiosis can shift the skin barrier function and many common skin diseases are associated with changes in the skin microbiota like acne, eczema, atopic dermatitis, psoriasis, chronic wounds and aging. Although studies of probiotics in skin health have generally focused on oral probiotics, there is increasing interest in the potential use of topically applied beneficial microorganisms to modulate the skin microbiota. Topical applications of probiotic bacteria have a direct effect at the site of application by enhancing the skin natural defense barriers. Over the past few years, the use of probiotics in the cosmetics segment has increased. Growing awareness about their clinical evidences and efficacy has also added to the growth.

Methods
A literature search was performed in 2019 in MEDLINE, EMBASE, and Cochrane databases. By using the keywords “topical probiotic”, “probiotic skin” and “skin microbiota”.

Results
Studies showed that the topical administration of a *S. thermophilus*-containing cream demonstrates a significant and relevant increase of skin ceramide amounts and improvement of the signs and symptoms characteristic of AD skin (i.e. erythema, scaling, pruritus). The application of a lotion containing heat-treated *L. johnsonii* to the lesional skin of patients with AD for 3 weeks controlled *S. aureus* colonization and was associated with local clinical improvement (SCORAD). Likewise, *Vitreoscilla filiformis* lysate significantly improved AD, in part due to reduction of *S. aureus*, in parts to a direct immunomodulatory effect on skin-associated immune responses. An emollient supplemented with a biomass of V. *filiformis* was able to promote a greater clinical improvement, significantly increased population of *Xanthomonas* genus and decrease *Staphylococcus* genus bacteria in AD patients. The application of a cream containing a sonicated *S. thermophilus* support a relevant increase of stratum corneum ceramide levels and the hydration values in healthy female. Patients with reactive skin who applied the cream with lysate *B. longum* sp. extract had a significant decrease in skin sensitivity after two months. *L. paracasei* topical play a key role in biological process associated with barrier function and skin reactivity. In wound treatment, local probiotic therapy with L. *plantarum* improvement in tissue repair, enhanced phagocytosis of *P. aeruginosa* by tissue phagocytes, and a decrease in apoptosis in a few days. The topical application of a gel formula containing *Bifidobacterium*-fermented soy milk extract to the human forearm for three months significantly lessened the decrease in skin elasticity. Topical application of probiotics was considered be a novel treatment approach for diabetic foot ulcer.

Discussion
Conclusion: The gaining popularity of probiotics as a key functional ingredient, supported by numerous clinical evidences in various skin disorders is expected to remain one of the favorable factors over the coming years and can be considered the future of dermatology to improve the health of the skin microbiome

Keywords: topical probiotic; probiotic skin; skin microbiota; dermatology; cosmetology