



GLOBAL ENGAGE'S 3RD
**MICROBIOME R&D AND BUSINESS
COLLABORATION FORUM**

COLLABORATIONS IN MICROBIOTA RESEARCH, LIVE BACTERIAL THERAPEUTICS, HUMAN HEALTH & DISEASE

GLOBAL ENGAGE'S 2ND
PROBIOTICS CONGRESS

RESEARCH, DEVELOPMENT & APPLICATION OF PROBIOTICS AND PREBIOTICS IN HUMAN AND ANIMAL HEALTH

—HONG KONG—
1-2 March 2017





Thank you for your interest in the **3rd Global Engage Microbiome R&D and Business Collaboration Forum and Probiotics Congress**. As part of its international microbiome series, Global Engage is pleased to announce the co-located event which will be held on 1-2 March, 2017 in Hong Kong.

Developments in the field of metagenomics have allowed researchers to explore the diverse microbiota in the human body. Research has shown that the microbiome is linked to natural immunity, metabolism, behavioural traits, and broadly speaking, plays an instrumental role in health and disease. With large-scale collaborative projects underway and sequencing data placed in the public domain, there is a rich source of information for researchers and companies looking for opportunities in this exciting field. Increasingly, there are indications that the human microbiome is key to curative and preventative medicine, so efforts are being focused on expanding investment opportunities, performing more clinical trials and spurring innovative research in this area. Coupled with an increasing focus on healthy living, and a therapeutics market that is expected to grow to \$1.2 trillion by 2016, microbiome research is set to make waves in the science and medical world through its applications in preventative treatments, cures, therapies and supplements.

Attracting over 250 attendees, the 10th meeting in the global series will build upon the success of last year's meeting which attracted over 200 attendees as well as on our highly popular European and American forums. Bringing together experts in all areas of microbiome and probiotics research, the congress will explore the interface between the microbiome and our evolving cultures and technologies as well as the development of next generation probiotics, prebiotics and functional foods. During the two-day conference, there will be networking breaks to promote interaction with your peers, expert led case study presentations, a dynamic exhibition room filled with technology providers showcasing their technologies and solutions, and panel discussions exploring key issues in the field. Together, we can further develop microbiome and probiotics research across the Asia-Pacific region, and begin to look towards forging collaborations and commercializing the research.

EXPERT SPEAKERS Include:



YUAN KUN LEE

Associate Professor, Department of Microbiology, National University of Singapore



PHILIP HUGENHOLTZ

Director, Australian Centre for Ecogenomics; Professor, School of Chemistry & Molecular Biosciences, The University of Queensland, Australia



LARRY WEISS

Chief Medical Officer, AOBiome, LLC, USA



NEERJA HAJELA

General Manager – Science and Regulatory Affairs, Yakult Danone India Pvt. Ltd.

GUT MICROBIOTA IN HEALTH AND DISEASE

- Updates on the Asian gut microbiome project
- Novel models for studying gut-microbe interactions
- Connections to IBD, IBS and diarrheal diseases
- Fecal transplantation
- Innate immune system and host-pathogen interaction
- Associations with obesity and metabolic disease
- The virome and its role in health and disease
- Role of synthetic biology
- Gnotobiotic mice studies
- Gut-brain interactions – depression, anxiety and autism?
- Development of bacteriophage therapeutics
- Metagenomics – microbiome sequencing and bioinformatics

SKIN, ORAL AND VAGINAL MICROBIOTA

- Diversity of skin communities
- Interactions between host genotype and microbial abundances
- Skin and scalp microbiomes
- Case studies and therapeutic potential in acne, eczema, atopic dermatitis, and microbiomes of chronic and acute wounds
- Oral cancer associated microbiome
- Microbiome of the female urogenital tract and pregnancy
- Research into the microbiome and HIV

PREBIOTICS AND DIET

- Dietary modulation of the human gut microbiome
- Gut microbiota in varying nutritional states
- Role of short-chain fatty acids
- Milk-oriented microbiota
- Developing nutritional products utilising microbiome research

COMMERCIALIZATION OF THE MICROBIOME & PROBIOTICS

- Collaborations/partnerships – the global scope of microbiome research/structuring successful collaborations
- Bringing live microbial products to market – IP, regulation
- Bugs as drugs – microbiome therapeutic development
- Contemplating novel antibiotic therapies that do not destroy the healthy microbiome
- Probiotic strain identification, designation and safety

PROBIOTICS AND DISEASE

- Probiotics and digestive health
- Probiotics in pediatrics
- Probiotics and dietary interactions

PROBIOTICS IN WOMEN'S HEALTH

- Reducing the recurrence of urogenital infections in women
- Probiotics in bacterial vaginosis
- Vaginal microbiome

PROBIOTICS FOR ANIMAL HEALTH

- Feed additives to target disease
- Antibacterial resistance
- Aquaculture, companion and production animals

PANEL DISCUSSIONS

- What is a healthy, balanced microbiome? How important is gut microbial diversity?
- Current research and future developments in animal probiotics



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HIROSHI OHNO

Group Director, Laboratory for Intestinal Ecosystem, RIKEN Center for Integrative Medical Sciences (IMS), Japan



YUAN KUN LEE

Associate Professor, Department of Microbiology, National University of Singapore



G. BALAKRISH NAIR

Ag Regional Advisor, Research Policy Cooperation Unit, Communicable Diseases Department, World Health Organization, India



MARIE DRAGO

Founder, Gallinée, UK



MARGARET MORRIS

Professor, Chair and Head of Pharmacology, School of Medical Sciences, University of New South Wales, Australia



HEENAM STANLEY KIM

Professor, College of Medicine, Korea University



GERALD MURRAY

Senior Researcher, Murdoch Childrens Research Institute, Australia



SYLVIA PENDER

Associate Professor, Mucosal Immunology, Faculty of Medicine, University of Southampton, UK



LARRY WEISS

Chief Medical Officer, AOBiome, LLC, USA



YOGESH SHOUCHE

Scientist 'G', Microbial Culture Collection, National Center for Cell Science, Pune University, India



SENIOR REPRESENTATIVE

Danone



SABINA LUKOVAC

Project Leader/Scientist Microbiota NIZO Food Research, The Netherlands



PHILIP HUGENHOLTZ

Director, Australian Centre for Ecogenomics; Professor, School of Chemistry & Molecular Biosciences, The University of Queensland, Australia



SUSAN FINSTON

CEO, Amrita Therapeutics, USA



LYNNETTE FERGUSON

Director of Mutagen Testing, Auckland Cancer Society Research Centre (ACSRC) & Professor of Nutrition, The University of Auckland, New Zealand



HONGWEI ZHOU

Professor, Director, Division of Laboratory Medicine, Zhujiang Hospital, Southern Medical University, China



COLLEEN CUTCLIFFE

Co-Founder & CEO, Whole Biome, USA



PETER CHI KEUNG CHEUNG

Professor, School of Life Sciences, Director, Food and Nutritional Science Program, Chinese University of Hong Kong



YOSHIHISA YAMASHITA

Professor & Chairperson, Section of Preventive and Public Health Dentistry, Kyushu University, Japan



WENDY WEN-LUAN HSIAO

Professor, Macau University of Science & Technology, State Key Laboratory of Quality Research in Chinese Medicine, Macau, China



GILDA TACHEDJIAN

Associate Professor & Principal for Sexual and Reproductive Health, Head Retroviral Biology and Antivirals Laboratory, Burnet Institute, Australia



YUNN-HWEN GAN (TRACK CHAIR)

Associate Professor, Department of Biochemistry, National University of Singapore



NIRANJAN NAGARAJAN

Associate Director and Group Leader, Genome Institute of Singapore, A*STAR, Singapore



ELIANA MARIÑO

Head of Immunology and Diabetes Laboratory, Adjunct Research Fellow, Sydney University, Australia



NICOLE ROY

Principal Scientist and Science Team Leader, Food Nutrition & Health, AgResearch Grasslands, Adjunct Associate Professor, Riddet Institute, Massey University, New Zealand



KIYOSHI TAKEDA

Professor, Graduate School of Medicine, Osaka University, Japan



KIM BINDERUP

Vice President, Human Nutrition & Health Innovation, DSM Nutritional Products, Switzerland



DAVID WOOD

Postdoctoral Research Officer, School of Chemistry and Molecular Biosciences, Australian Centre for Ecogenomics, The University of Queensland, Australia



SIEW NG

Professor, Department of Medicine & Therapeutics, Institute of Digestive Disease, The Chinese University of Hong Kong



PHILIPPE LESNIK

Principal Investigator, Integrative Biology of Atherosclerosis, INSERM UMRS 1166, University Pierre & Marie Curie, ICMAN Institute of Cardiometabolism & Nutrition, France



JASNA RAKONJAC

Associate Professor, Institute of Fundamental Sciences, Massey University, New Zealand



SENIOR REPRESENTATIVE

Beijing QuantHealth, China



MARGARET IP

Professor, Department of Microbiology, The Chinese University of Hong Kong



JAGMEET MADAN (TRACK CHAIR)

Principal and Professor, Department of Food and Nutrition, SVT College of Home Science, SNDT Women's University, India



RUI LI

Senior Scientist, Procter & Gamble, Singapore

CONFIRMED MICROBIOME SPEAKERS



ERIC HUANG
(TRACK CHAIR)

Professor, Department of
Dermatology, University of
California, San Diego, USA



NICHOLAS WEST

Research Fellow, Microbiology
& Immunology Research Group,
Griffith University, Australia



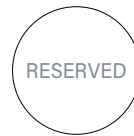
**SENIOR
REPRESENTATIVE**

DNA Genotek



LOUISE VIGSNAES

Preclinical Development
Manager, Glycom A/S, Denmark



YEHUDA RINGEL

Chief, Division of Gastroenterology,
Rabin Medical Center, Beilinson
Hospital, Israel; Professor in
Medicine, University of North
Carolina, Chapel Hill, USA



CONFIRMED PROBIOTICS SPEAKERS



GORDON HOWARTH

Professor of Gastrointestinal Physiology, School of Animal and Veterinary Sciences, University of Adelaide, Australia



PATRICIA CONWAY

Professor, Microbiology and Immunology, University of New South Wales, Australia



HAU YANG TSEN

Department of Food Science and Technology, Hungkuang University, Taiwan



ROBERT MOORE

Research Professor of Biotechnology, RMIT University, Melbourne, Australia



KANWALDEEP CHADHA

Country Manager, CD Pharma; Director of Asia Pacific, VSL Pharmaceuticals, India



YING-CHIEH TSAI

Professor, Institute of Biochemistry and Molecular Biology; Director, Probiotics Research Center, National Yang Ming University, Taiwan



ŞEBNEM HARŞA (TRACK CHAIR)

Professor, Faculty of Engineering, Food Engineering Department, İzmir Institute of Technology, Turkey



NAGENDRA SHAH

Professor of Food Science and Technology, Discipline Leader, Food and Nutritional Sciences, School of Biological Sciences, The University of Hong Kong



J.B. PRAJAPATI

Principal/Dean, Faculty of Dairy Science, SMC College of Dairy Science, Anand Agricultural University, India



SEAN HALL

MD, MBA, CFEO/MD – Medlab Clinical Ltd, Australia



HANI EL-NEZAMI

Associate Professor, School of Biological Sciences, The University of Hong Kong



SUNEE NITISINPRASERT

Associate Professor, Department of Biotechnology, Faculty of Agro-Industry, Kasetsart University, Thailand



RAMA CHAUDHRY (TRACK CHAIR)

ASM International Ambassador to India; Professor, Department of Microbiology, All India Institute of Medical Sciences, India



ROSHADA HASHIM

Professor, Fish Nutrition and Feeding Management, Faculty of Science and Technology, Universiti Sains Islam Malaysia



YASUHIRO KOGA

Professor, Tokai University School of Medicine; President, Japanese Society for Probiotic Science, Japan



HARSHARN GILL

Professor Food and Health Biosciences, RMIT University, Australia



MOHD REDZWAN SABRAN

Senior Lecturer, Department of Nutrition and Dietetics, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia



NEERJA HAJELA

General Manager – Science and Regulatory Affairs, Yakult Danone India Pvt. Ltd.



PRAMOD GOPAL

Science Group Leader, Food, Nutrition & Health Food Innovation, Plant & Food Research, New Zealand



SHIVANANDA MURTHY

Professor & Head, Karnataka Veterinary & Fisheries Sciences University, College of Fisheries, Mangalore, India



HARJINDER SINGH

Distinguished Professor and Director, Massey Institute of Food Science and Technology, Massey University, New Zealand

RESERVED



08:00-08:50

Registration & Refreshments

08:50-09:00

Global Engage Welcome Address and Morning Chair's Opening Remarks

MICROBIOME CONGRESS

09:00-09:35

**KEYNOTE ADDRESS:
PHILIP HUGENHOLTZ**

Director, Australian Centre for Ecogenomics; Professor, School of Chemistry & Molecular Biosciences, The University of Queensland, Australia

Common but uncharacterised microbial populations in the healthy human gut development?

The structure and function of the human gut microbiome is rapidly being revealed through culture-independent molecular techniques. Despite a great deal of interpersonal variability due to factors such as diet, age and ethnicity, there are a small number of relatively abundant microbial species that are widespread in the human population. Some of these are well known, such as *Faecalibacterium prausnitzii*, but others are as yet uncultured and uncharacterised. In this talk, I will introduce the audience to some of the lesser-known but potentially important members of the healthy human gut microbiome.

09:35-10:00

**KIYOSHI TAKEDA**

Professor, Graduate School of Medicine, Osaka University, Japan

Regulation of intestinal homeostasis by a colonic epithelial molecule, Lypd8

Separation of intestinal microbiota and colonic epithelia is essential for the maintenance of intestinal homeostasis. However, its mechanism remained unknown. We demonstrated that Ly6/PLAUR domain containing 8 (Lypd8) was secreted into the colonic lumen, bound to flagella of intestinal bacteria, and inhibited their motile activity. We also found that the Lypd8-dependent suppression of bacterial motility was required for prevention of intestinal inflammation. Thus, Lypd8 is essential for the maintenance of intestinal homeostasis.

10:00-10:30

**SOLUTION PROVIDER PRESENTATION:
SENIOR REPRESENTATIVE**

Beijing QuantiHealth, China

Title TBC



PROBIOTICS CONGRESS

09:00-09:35

**KEYNOTE ADDRESS:
HARSHARN GILL**

Professor Food and Health Biosciences, RMIT University, Australia

Title TBC

09:35-10:00

**NAGENDRA SHAH**

Professor of Food Science and Technology, Discipline Leader, Food and Nutritional Sciences, School of Biological Sciences, The University of Hong Kong

Nutraceuticals: Current trends and future perspectives

The term "nutraceutical" combines two words – "nutrient" and "pharmaceutical". The philosophy behind nutraceuticals is to focus on prevention. Dietary supplement is a product that contains nutrients derived from food products that are concentrated in liquid or capsule form. Foods can be modified by the addition of phytochemicals, bioactive peptides, n-3 polyunsaturated fatty acids, and addition of probiotics and prebiotics in order to become functional. This presentation will highlight nutraceuticals/functional foods based on probiotics and prebiotics, milk protein and whey proteins, nutritional properties of whey proteins, roles of whey proteins and bioactive from whey proteins, lactoferrin, whey protein products in sports nutrition, and bioactive peptides and their release and functional properties. The presentation will also cover current trends in nutraceuticals and finally future perspectives of nutraceuticals.

10:00-10:30

SOLUTION PROVIDER PRESENTATION

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shahul@global-engage.com, Tel: +60321175196, Cell: +60166564828

10:30-11:40

Morning Refreshments / Even Numbered Poster Presentations & Scheduled One-to-One Meetings

GUT MICROBIOTA IN HEALTH & DISEASE

11:40-12:05

**PHILIPPE LESNIK**

Principal Investigator, Integrative Biology of Atherosclerosis, INSERM UMRS 1166, University Pierre & Marie Curie, ICAN Institute of Cardiometabolism & Nutrition, France

Dendritic cells at the crossroad of microbiota, cholesterol metabolism and atherosclerosis

One key feature of gut barrier function is the cross-talk between host microbiota and intestinal immune system. Particularly, dendritic cells display the ability to sense their microbial environment and transduce antigenic stimuli initiating an appropriate broad spectrum of innate and adaptive immune responses. We suggest that dendritic cells orchestrate metabolic responses through local adaptive immunity (sensing of gut microbiota), through mechanisms that involve gut barrier alterations (modulation of enterocytes, goblet cells functions) and through profound effects on intestinal microbiota composition and metabolic activities (sterols, bile acids), thus affecting cholesterolemia as well as insulin sensitivity and adiposity. Thus, the challenge for the future is to delineate the crosstalk between the host immune system and specific bacteria in the gut, so as to define their impact on metabolic diseases.

12:05-12:30

**HIROSHI OHNO**

Group Director, Laboratory for Intestinal Ecosystem, RIKEN Center for Integrative Medical Sciences (IMS), Japan

The impact of gut microbiome on the pathogenesis of experimental autoimmune encephalomyelitis in mice, a model of multiple sclerosis

- Pathogenesis of experimental autoimmune encephalomyelitis (EAE) is affected by the gut microbiota composition.
- Small intestinal bacteria affect the EAE pathogenesis by inducing Th1 and Th17 cells in the small intestinal lamina propria.
- A combination of bacteria, rather than a specific strain of bacterium, seems to play a role in the strong induction of EAE.

MICROBIOTA & SKIN CONDITIONS

11:40-12:05

**TRACK CHAIR:
ERIC HUANG**

Professor, Department of Dermatology, University of California, San Diego, USA

**HEENAM STANLEY KIM**

Professor, College of Medicine, Korea University

Faecalibacterium prausnitzii dynamics in the human gut microbiome underlying atopic dermatitis

Although decades of research have stressed the significance of dysbiosis in the gut microbiota in atopic dermatitis (AD), the specific microbial dysfunction adversely affecting the regulation of inflammation underlying AD remained unknown. We recently discovered that subspecies-level dysbiosis in *F. prausnitzii* is strongly associated with AD. Our results provide lines of evidence supporting that subspecies-level dysbiosis in *F. prausnitzii* and inflammation in the gut epithelial layer are mutually stimulatory, and the establishment of this feedback loop is the basis of the chronic nature of AD, ultimately leading to aberrant immune responses to allergens in the skin. These results demonstrate the significance of the competitive dynamics among the bacteria within the same species in the microbiota, affecting the function of the entire microbiota.

12:05-12:30

**NIRANJANA NAGARAJAN**

Associate Director and Group Leader, Genome Institute of Singapore, A*STAR, Singapore

Atopic dermatitis

11:40-12:05

**NEERJA HAJELA**

General Manager – Science and Regulatory Affairs, Yakult Danone India Pvt. Ltd.

Role of gut microbiota and the impact of probiotics throughout the lifespan

12:05-12:30

**GORDON HOWARTH**

Professor of Gastrointestinal Physiology, School of Animal and Veterinary Sciences, University of Adelaide, Australia

Identification of new probiotics utilizing animal models and non-invasive breath tests

Increasingly, dysbiotic characteristics are being associated with a range of gastrointestinal disorders including the inflammatory bowel diseases, ulcerative colitis and Crohn's disease; as well as a range of other bowel conditions such as chemotherapy-induced mucositis and colon cancer. Animal models of these disorders provide a viable tool to test and identify new probiotic species able to restore microbiota homeostasis and intestinal integrity. This presentation will describe utility of animal model systems to identify new clinically-applicable probiotic species. Moreover, the application of new breath-testing techniques to these models enables a range of gastrointestinal functions to be determined non-invasively by the simple collection of expired breath.

PROBIOTICS CONGRESS

12:30-13:00


**SOLUTION PROVIDER
PRESENTATION:
NICHOLAS WEST**

Research Fellow, Microbiology & Immunology
Research Group, Griffith University, Australia

**Probiotics for allergy care: growing
evidence of benefit**

The benefit of probiotics is based on growing knowledge that the gut microbiota plays an important role in health and disease. Reduced microbial diversity is considered a key factor in the increase in allergies observed in developed countries. The World Allergy Organisation recommends the use of probiotics for the primary prevention of eczema while clinical trial evidence indicates a moderate benefit for allergy in a number of population groups. This talk will review the latest research on the use of probiotics for allergy, limitations to the research and whether sufficient evidence is available for clinical recommendations on the use of probiotic supplements in allergy.



12:30-12:45

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12:30-12:45

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13:00-13:30


**PANEL CHAIR:
YUAN KUN LEE**

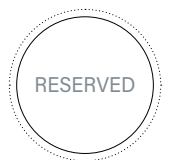
Associate Professor, Department of Microbiology,
National University of Singapore


**PANELLIST:
PHILIP HUGENHOLTZ**

Director, Australian Centre for Ecogenomics;
Professor, School of Chemistry & Molecular
Biosciences, The University of Queensland, Australia


**PANELLIST:
YOGESH SHOUCHE**

Scientist 'G', Microbial Culture Collection, National
Center for Cell Science, Pune University, India


**PANELLIST:
SENIOR REPRESENTATIVE**

Senior Representative, Danone

13:00-13:30


YING-CHIEH TSAI

Professor, Institute of Biochemistry and
Molecular Biology; Director, Probiotics Research
Center, National Yang Ming University, Taiwan

Title TBC

13:30-14:30

Lunch

GUT MICROBIOTA IN HEALTH & DISEASE

**TRACK CHAIR:
YUNN-HWEN GAN**

Associate Professor, Department of
Biochemistry, National University of Singapore

MICROBIOTA & SKIN CONDITIONS

**TRACK CHAIR:
ERIC HUANG**

Professor, Department of Dermatology,
University of California, San Diego, USA

PROBIOTICS CONGRESS

**TRACK CHAIR:
ŞEBNEM HARSA**

Professor, Faculty of Engineering, Food Engineering
Department, İzmir Institute of Technology, Turkey

14:30-14:55

**SIEW NG**

Professor, Department of Medicine & Therapeutics, Institute of Digestive Disease, The Chinese University of Hong Kong

Gut microbiota and fecal microbiota transplantation

Alterations in the intestinal microbiota is associated with several digestive diseases and systemic diseases, including clostridium difficile infections, inflammatory bowel disease, irritable bowel syndrome, colorectal cancer, obesity, atherosclerosis, diabetes and metabolic syndrome. Faecal microbiota transplantation (FMT) represents a clinically feasible way to restore the gut microbial ecology, via infusion of intestinal microbiota from a healthy donor into a diseased recipient. FMT has proven to be a breakthrough for the treatment of recurrent Clostridium difficile infection. There are many unanswered questions regarding FMT, including donor selection and screening, routes of administration including the development of a fecal capsule, long-term safety, and regulatory issues. We will share the Chinese University of Hong Kong's experience in FMT for digestive diseases and address the current status and future perspective of FMT for treating human diseases.

14:55-15:25

**SYLVIA PENDER**

Associate Professor, Mucosal Immunology, Faculty of Medicine, University of Southampton, UK

Microbiome and obesity - what do you want to know

- Is obesity related to changes in the Microbiome?
- Are genetics and environment involved?
- Can obesity be treated?

15:25-15:50

**SENIOR REPRESENTATIVE**

Danone

Title TBC

15:50-16:05

**COMPANY SHOWCASE:
SABINA LUKOVAC**

Project Leader/Scientist Microbiota NIZO Food Research, The Netherlands

Title TBC



14:30-14:55

**DAVID WOOD**

Postdoctoral Research Officer, School of Chemistry and Molecular Biosciences, Australian Centre for Ecogenomics, The University of Queensland, Australia

A natural history of the actinic keratosis microbiome in immunocompetent men

Actinic keratosis is a condition where pre-malignant lesions develop on sun-damaged skin, and if untreated, a small percentage progress to cutaneous squamous cell carcinoma (cSCC). Human skin hosts resident bacterial and fungal populations that may be associated with AK and cSCC. We applied culture-independent community profiling and shotgun metagenomics to longitudinally investigate the AK and cSCC microbiome in a cohort of ten immunocompetent men with a history of cSCC. Our results indicate highly patient-specific communities and taxa significantly associated with AK and cSCC lesions and also different taxa associated with non-lesional skin. These findings indicate the personalised nature of AK lesion pathology, and may aid in the treatment of AK and subsequent cSCC lesions.

14:55-15:25

**RUI LI**

Senior Scientist, Procter & Gamble, Singapore

Title TBC

15:25-15:50

**MARIE DRAGO**

Founder, Gallinée, UK

Gallinée: how to launch a bacterial beauty brand?

Launched in 2016, Gallinée is one of the first skincare brand to openly talk about bacteria and how they can bring your skin to life. In this presentation, founder Marie Drago will share the journey, challenges and the insights in creating the range.

15:50-16:05

COMPANY SHOWCASE

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14:30-14:55

**MOHD REDZWAN SABRAN**

Senior Lecturer, Department of Nutrition and Dietetics, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia

Dietary approach using probiotics to prevent human exposure to aflatoxin

- Human dietary aflatoxin exposure is ubiquitous and probiotics are used to prevent the absorption of aflatoxin in the gastrointestinal tract
- Probiotics act as biological barrier by binding aflatoxin into the bacterial cell walls
- Findings from animal and human intervention studies showed the potential use of probiotics as a detoxification agent of aflatoxin.

14:55-15:25

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15:25-15:50



TBC

15:50-16:05

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16:05-16:55

Afternoon Refreshments / Odd Numbered Poster Presentations / Scheduled One-to-One Meetings

GUT MICROBIOTA IN HEALTH & DISEASE

16:55-17:20

**JASNA RAKONJAC**

Associate Professor, Institute of Fundamental Sciences, Massey University, New Zealand
Phase display

17:20-17:45

**HONGWEI ZHOU**

Professor, Director, Division of Laboratory Medicine, Zhujiang Hospital, Southern Medical University, China

Population survey reveals regional distribution of gut microbiota with universal microbiome signatures for metabolic syndrome

- We performed a cross-sectional survey of gut microbiome for 8600 individuals using stratified randomized sampling in Guangdong Province, China.
- Gut microbiome from different sampling sites obviously aggregated, and social-economic factors showed great impact on the distribution.
- Even though the baseline of gut microbiome were different from various regions, there were similar patterns of microbiome signatures for people with metabolic syndrome from different regions.

17:45-18:10

**G. BALAKRISH NAIR**

Ag Regional Advisor, Research Policy Cooperation Unit, Communicable Diseases Department, World Health Organization, India

Are enteric pathogens a part of the microbiota of the impoverished gut?

Diseases caused by microbial pathogens exhibit a spectrum of symptoms in the human host, ranging from severe disease to asymptomatic infections. Symptoms of cholera, an acute dehydrating diarrhoeal disease, can range from asymptomatic infections to very severe disease known as 'cholera gravis'. Our studies in urban slum settings in Kolkata have shown the presence of enteric pathogens in the gut of apparently healthy children for extended periods. Further, more than two thirds of the diarrhoea cases hospitalized at the Infectious Diseases hospital in Kolkata excreted or had DNA of more than one enteric pathogen in their faecal samples. Our approach in studying disease has been incomplete and not integrative and we have ignored the interactions of the host microbiota which could modify disease phenotype.

THERAPEUTICS DEVELOPMENT

16:55-17:20

**LARRY WEISS**

Chief Medical Officer, AOBiome, LLC, USA

Ammonia Oxidizing Bacteria – A Live Topical Biotherapeutic

AOBiome is exploring the role of Ammonia Oxidizing Bacteria (AOB) as an ancestral human skin commensal. The company is developing live topical therapeutic and cosmetic formulations on Nitrosomonas Eutropha for the prevention and treatment of inflammatory disorders of the skin. This presentation will discuss discovery of AOB as skin commensals; biology of Nitrosomonas Eutropha; clinical development of AOB as a dermatologic therapeutic, and consumer products as a tool in therapeutic development.

17:20-17:45

**SUSAN FINSTON**

CEO, Amrita Therapeutics, USA

Developing microbiome-based therapeutics

17:45-18:10

**COLLEEN CUTCLIFFE**

Co-Founder & CEO, Whole Biome, USA

Translating the microbiome

As various academic and commercial teams begin to develop interventions targeting the microbiome, we all find ourselves needing to answer 2 key questions: (1) Can we change an already existing microbial ecosystem in a predictable and desired way and (2) Can we change a person's disease or healthy state in predictable and desired ways? The keys to answering these questions lie in the interventions themselves, but also in the methods that are used to measure and monitor the microbiome. In this talk, I will share some of Whole Biome's learnings as we begin to explore the complexity of data acquisition and analytics required to enable us to answer these 2 key questions.

PROBIOTICS CONGRESS

16:55-17:20

**PATRICIA CONWAY**

Professor, Microbiology and Immunology, University of New South Wales, Australia
Infant Health

17:20-17:45

**J.B. PRAJAPATI**

Principal/Dean, Faculty of Dairy Science, SMC College of Dairy Science, Anand Agricultural University, India

Development of probiotic cream for bacterial vaginosis

- The causes of bacterial vaginosis, management of pH and control of pathogens. Screening of Lactobacilli for reduction in pH and inhibition of selected vaginal pathogens
- Development of probiotic cream, optimization of fermentation conditions to produce cell biomass of probiotic culture and formulation with stearic acid and KOH.
- In vitro tests suggested for checking activity of probiotic cream and the viability of lactobacilli and its storage stability.
- Evaluation of probiotic cream for sub-acute toxicity in guinea pig.

17:45-18:10

**KANWALDEEP CHADHA**

Country Manager, CD Pharma; Director of Asia Pacific, VSL Pharmaceuticals, India

Probiotics for HIV & neonatal care; probiotic regulation – Title TBC

18:10

Chair's Closing Remarks / End of Day One

08:00-08:40

Networking Meetings & Refreshments

MICROBIOME CONGRESS

08:40-09:15

**KEYNOTE ADDRESS:
YUAN KUN LEE**

Associate Professor, Department of Microbiology, National University of Singapore

Human microbiota: A bioresource for gene mining and microbial prospecting

- Human microbiota highly concentrated and diverse, adapting to extreme ecological environment.
- Produce wide range of enzymes that react with food constituent, for food application and processing.
- Produce signal molecules, which control host gene expression in local and remote organs, for medical application and modulation of gut microbiota.

09:15-09:40

**LYNNETTE FERGUSON**

Director of Mutagen Testing, Auckland Cancer Society Research Centre (ACSRC) & Professor of Nutrition, The University of Auckland, New Zealand

Can we modify the microbiome of an inflammatory bowel disease population using a dietary supplement without prebiotics or recognised probiotics?

- We have set up a randomised double blind placebo controlled intervention study in Inflammatory bowel disease patients, with two six week intervention periods and a six week washout.
- The supplement under consideration, Lester's oilR, contains long chain omega -3 polyunsaturated fatty acids, vitamin D and antioxidants.
- The effects on microbiota will be described.

09:40-10:10

**SOLUTION PROVIDER
PRESENTATION:
LOUISE VIGSNAES**Preclinical Development
Manager, Glycom A/S, Denmark**Title TBC**

09:40-10:10

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08:40-09:15

**KEYNOTE ADDRESS:
YASUHIRO KOGA**

Professor, Tokai University School of Medicine; President, Japanese Society for Probiotic Science, Japan

Functional dyspepsia: A novel field for the introduction of probiotics

Functional dyspepsia (FD) is defined as the presence of symptoms thought to originate in the gastrointestinal region, in the absence of any organic or systemic diseases that can explain the symptoms. Epidemiological surveys suggest that ~30% of the general population has the symptoms over the course of one year. To date no drug has definitely been approved for the treatment of FD. This lecture will mention about a clinical trial to examine the effect of a probiotic strain LG21 on the FD symptoms, which was performed using 116 FD subjects. We also speak about the structure of gastric microbiota in FD and its role in the pathophysiology of FD, which were performed using 44 healthy controls and 44 FD patients treated with LG21.

09:15-09:40

**SEAN HALL**

MD, MBA, CFEO/MD – Medlab Clinical Ltd, Australia

Mitigating chronic disease through manipulation of the human microbiome

- The role of bacteria within the microbiome is still evolving, medical understanding is increasing
- There are direct relationships between Chronic Diseases and the microbiome
- Evidence supports new therapeutic roles of bacteria for patients diagnosed with NAFLD, Depression and Obesity/Pre-Diabetes.

09:40-10:10

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10:10-11:20

Morning Refreshments / Odd Numbered Poster Presentations & Scheduled One-to-One Meetings

PREBIOTICS & DIET

**NICOLE ROY**

Principal Scientist and Science Team Leader,
Food Nutrition & Health, AgResearch Grasslands,
Adjunct Associate Professor, Riddet Institute,
Massey University, New Zealand

The first 2000 days of life, a milk story

11:20-11:45

R&D OUTSIDE THE GUT

**YOSHIHISA YAMASHITA**

Professor & Chairperson, Section of Preventive
and Public Health Dentistry, Kyushu University

**Diagnostic value of salivary microbiome
to grasp periodontal health condition and
susceptibility to periodontal disease**

We previously showed the association between salivary microbiome composition and oral health related factors in the study with 2,343 community-dwelling subjects. In the study, we proposed core oral OTUs composed of 72 OTUs commonly observed. On the other hand, we recently found that most of bacteria species corresponding to minor OTUs in saliva of subjects exhibiting higher phylogenetic diversity are periodontal pathogens mainly harboring in subgingival pocket. Furthermore we defined two community types (Type I and Type II) of salivary microbiome based on relative abundances of major 22 core OTUs occupying $\geq 1\%$ of mean relative abundance. Type II showed close relationship with better periodontal health condition. I will discuss diagnostic value of salivary microbiome to grasp periodontal health condition and susceptibility to periodontal disease.

11:20-11:45

PROBIOTICS CONGRESS

**HANI EL-NEZAMI**

Associate Professor, School of Biological
Sciences, The University of Hong Kong

**Liver cancer a potential target for
probiotic intervention**

Hepatocellular carcinoma (HCC) is the sixth

most common cancer and the second leading cause of all-cancer related deaths in the world. It is a disease with poor prognosis with unsatisfactory long-term survival of patients, and thus new strategies to control this disease are warranted. This presentation describes a series of studies showing the path from laboratory-based findings in vitro and animal experiments to confirm the in vitro findings in vivo, to field studies in human subjects. The relevance of the data collected in various stages is discussed, and a proof of concept study on the interaction of well-defined probiotic bacteria with a liver cancer associated dietary contaminant will be presented.

11:20-11:45

ROUNDTABLE DISCUSSIONS:

**TABLE 1:
SUSAN FINSTON**

CEO, Amrita Therapeutics, USA

MICROBIOME-DERIVED THERAPEUTICS

**TABLE 2:
MARGARET IP**

Professor, Department of Microbiology, The
Chinese University of Hong Kong

ANTIMICROBIAL RESISTANCE

**TABLE 3:
YING-CHIEH TSAI**

Professor, National Yang Ming University, Taiwan

GUT-BRAIN AXIS

**TABLE 4:
LARRY WEISS**

Chief Medical Officer, AOBiome, LLC, USA

SKIN MICROBIOME

11:45-12:35

GILDA TACHEDJIAN

Associate Professor & Principal for Sexual and
Reproductive Health, Head Retroviral Biology and
Antivirals Laboratory, Burnet Institute, Australia

**Role of vaginal microbiota in HIV
susceptibility**

- Vaginal microbiota can affect HIV risk. Vaginal lactobacilli appear to be protective while polymicrobial species (dysbiosis) is associated with increased HIV risk through promoting a pro-inflammatory environment in the cervicovaginal mucosa. Dysbiosis is also associated with reduced efficacy of female-initiated topical pre-exposure prophylaxis (PrEP) that contain HIV specific antivirals to prevent the sexual transmission of HIV.
- Vaginal lactobacilli produce lactic acid, a metabolite that has potent HIV virucidal activity and antimicrobial activity. Lactic acid also elicits the production of an anti-inflammatory cytokine and dampens the production of pro-inflammatory mediators from cervicovaginal epithelium elicited by pathogen associated molecular patterns and semen that may protect against HIV.
- Is there a role for lactic acid and/or probiotics in reversing vaginal dysbiosis/inflammation and as an adjunct for HIV PrEP?

11:45-12:10

ROUNDTABLE DISCUSSIONS:

**TABLE 7:
PRAMOD GOPAL**

Science Group Leader, Food, Nutrition & Health Food
Innovation, Plant & Food Research, New Zealand

PREBIOTICS, DIET AND MICROBIOTA

**TABLE 8:
PROBIOTICS AND DIARRHEAL DISEASES****TABLE 9:
SEAN HALL**

MD, MBA, CFEO/MD – Medlab Clinical Ltd, Australia

**BUSINESS DEVELOPMENT AND
REGULATION**

- 1. What is the attraction to research in this area?
- 2. What are some of the major stumbling blocks in conducting research in this area?

11:45-12:10

**TABLE 10:
HARJINDER SINGH**

Distinguished Professor and Director, Massey
Institute of Food Science and Technology, Massey
University, New Zealand

**PROBIOTICS DELIVERY – ENCAPSULATION,
SURVIVAL, QUALITY CONTROL**

ROUNDTABLE DISCUSSIONS CONTINUED:

TABLE 5:
MICROBIOME DATA ANALYSIS
- ESTABLISHING CORRELATION & CAUSATION

RESERVED

TABLE 6:
YEHUDA RINGEL

Chief, Division of Gastroenterology, Rabin Medical Center, Beilinson Hospital, Israel;
 Professor in Medicine, University of North Carolina, Chapel Hill, USA

MICROBIOME & GI ISSUES

GERALD MURRAY

Senior Researcher, Murdoch Childrens Research Institute, Australia

How does the composition of vaginal microbiota contribute to the development of bacterial vaginosis?

- Bacterial vaginosis (BV) is a common condition of unknown aetiology. BV is characterised by transition of the vaginal microbiota from a low diversity, Lactobacillus-dominated state to a high diversity state dominated by anaerobic bacteria.
- To determine the contribution of microbiological and lifestyle factors to BV-development, we analysed the vaginal microbiota from a two-year longitudinal cohort of 97 women (including 47 BV cases)
- BV caused a pronounced shift in the vaginal microbiota of women. High Gardnerella vaginalis levels were associated with destabilisation of the vaginal microbiota and BV development, while Lactobacillus crispatus had a stabilising effect. Elevated vaginal-microbial-diversity and instability were evident in cases months prior to BV development, potentially reflecting a higher exposure to new sexual partners, leading to exchange of BV-precursor bacteria.

ROUNDTABLE DISCUSSIONS:
 CONTINUED FROM PREVIOUS PAGE

COMPANY SHOWCASE:
SENIOR REPRESENTATIVE

DNA Genotek

Title TBC

DNA genotek

COMPANY SHOWCASE

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11:45-12:35

12:10-12:35

12:10-12:35

12:35-12:50

12:35-12:50

12:50-13:50

Lunch

PREBIOTICS & DIET

**TRACK CHAIR:
JAGMEET MADAN**

Principal and Professor, Department of Food and Nutrition, SVT College of Home Science, SNDT Women's University, India

**SOLUTION PROVIDER PRESENTATION:
SENIOR REPRESENTATIVE**

Evolve Biosystems

Title TBC



EVOLVE
BIOSYSTEMS, INC

**KIM BINDERUP**

Vice President, Human Nutrition & Health Innovation, DSM Nutritional Products, Switzerland

Prebiotic effects of oat beta-glucan

- Beta-glucans from cereals have been shown to act as effective prebiotics, improving intestinal function by promoting beneficiary microorganisms, acidifying the intestinal tract and decreasing the concentration of harmful metabolites in the intestine
- Using a in-vitro fermentation model, we demonstrate that oat beta-glucan may modulate the gut microflora by significant production of short-chain fatty acids (SCFA) such as butyrate and propionate
- Compared to other prebiotics, oat beta-glucan leads to higher production of the SCFA propionate, while less gas is formed during the fermentation

PROBIOTICS IN ANIMAL HEALTH & AQUACULTURE

PANEL DISCUSSION:**Probiotics in animal health & aquaculture****PANELLIST:****SUNEE NITISINPRASERT**

Associate Professor, Department of Biotechnology, Faculty of Agro-Industry, Kasetsart University, Thailand

**PANELLIST:****ROBERT MOORE**

Director, Australian Centre for Ecogenomics; Professor, School of Chemistry & Molecular Biosciences, The University of Queensland, Australia

**PANELLIST:****HAU-YANG TSEN**

Department of Food Science and Technology, Hungkuang University, Taiwan

**PANELLIST:****SHIVANANDA MURTHY**

Professor & Head, Karnataka Veterinary & Fisheries Sciences University, College of Fisheries, Mangalore, India

**ROBERT MOORE**

Research Professor of Biotechnology, RMIT University, Melbourne, Australia

Are in vitro assays of value in assessing potentially probiotic strains of bacteria?

In vitro assays have been widely used to screen collections of bacterial strains for properties that are believed to indicate the potential in vivo merits of probiotics.

Assays that are routinely used include resistance to acid and bile, adhesion to cultured eukaryotic cells, and production of antimicrobial compounds. Surprisingly, there is little formal proof that performance in such assays is linked to probiotic performance in vivo. The presentation will explore this issue and ask if there are more effective ways to identify probiotic bacteria by directly screening strain collections in vivo.

14:45-15:10

**PETER CHI KEUNG CHEUNG**

Professor, Food and Nutritional Sciences Program, School of Life Sciences, Director, The Chinese University of Hong Kong

Beta-Glucans as novel prebiotics and their effects in mouse microbiome modulation

Long chain beta-glucans from mushrooms and plants are non-digestible carbohydrates with potential to be prebiotics. 16S rDNA sequencing of fecal samples from BALB/c mice fed with beta-glucans indicated shift of the mouse gut microbiome with an increase of Bifidobacterium population. Beta-glucans confer beneficial effects to the host via directly by immune-stimulatory effects and indirectly via the modulation of gut microbiome.

14:45-15:10

**ROSHADA HASHIM**

Professor, Fish Nutrition and Feeding Management, Faculty of Science and Technology, Universiti Sains Islam, Malaysia

Opportunities in probiotic intervention for warm freshwater fish aquaculture

Probiotic supplementation in fish feeds is now widely accepted as a possible solution to address the emergence of a large variety of pathogens and bacterial resistance caused by the indiscriminate use of chemotherapeutic agents in fish health management. However, little attention is given to understand how probiotics improve growth and nutrient utilization in diets specifically in feeds containing plant based proteins. This presentation will highlight how probiotic intake enhances growth by influencing digestive enzyme activities, gut morphology and microbiota in Channa straita and Pangasianodon hypophthalmus fingerlings compared to prebiotics. It also discusses how long the advantages attained from probiotic intake is retained and if growth can be further enhanced when a combination of probiotics and prebiotics is used. These will provide a basis for the feeding management of these two species in the future. Finally, the sustainability of probiotics to overcome the drawbacks of intensive aquaculture will be discussed.

15:10-15:35

**HAU-YANG TSEN**

Department of Food Science and Technology, Hungkuang University, Taiwan

The development of animal feed with multiple functions – Title TBC

15:10-15:35

**MARGARET MORRIS**

Professor, Chair and Head of Pharmacology, School of Medical Sciences, University of New South Wales, Australia

Effects of diet on cognition – role of the microbiota

Rats exposed to diets rich in either fat and sugar, or sugar, showed cognitive impairment – specifically on hippocampal-dependent place recognition memory. Changes in gut microbiota are observed in response to such diets, with reduced diversity. Even short term exposure to diets rich in sugar or saturated fat, in the absence of weight gain, impaired cognition. The sugar- and fat-enriched diets had specific effects on the fecal microbiome. Changes in microbiota profile were associated with altered hippocampal mRNA expression of inflammatory markers.

15:35-16:05

Afternoon Refreshments / Even Numbered Poster Presentations

16:05-16:30

**WENDY WEN-LUAN HSIAO**

Professor, Macau University of Science & Technology, State Key Laboratory of Quality Research in Chinese Medicine, Macau, China

Herbal triterpenoid saponins exert prebiotic effects and beyond in both healthy and diseased mouse models

Gut microbiota are essential for the proper functions of metabolic reactions, immune regulation, epithelial development, and protection against pathogens. In the past ten years, prebiotic research has drawn a keen interest among scientists. However, studies have been mainly focused on dietary fibers and polyphenolic compounds. The potential role of the biologically active triterpenoid saponins, mostly derived from Chinese medicines, has not been explored. Our recent investigations in both healthy and tumor bearing mice have showed that herbal saponins can significantly modulate the composition of gut microbiota to the health benefit of the treated animal by enhancing the beneficial bacteria, while reducing the pathogenic bacteria lineage associated with inflammation and cancer. Treatment of saponins in the ApcMin/+ colorectal cancer mouse model effectively improved the gut epithelial barrier and alleviated the inflamed gut by upregulating the anti-inflammatory cytokines, and downregulating the pro-inflammatory cytokines and the oncogenic signaling molecules. Intriguingly, saponins is able to alter mucosal cytokine profile in favor of the M1 to M2 macrophages switching, facilitating intestinal tissue repair. In conclusion, our study has proved that triterpenoid saponins can act as prebiotics and as an immune modulator through the interaction of diet-microbiota-host.

16:30-16:55

**ELIANA MARIÑO**

Head of Immunology and Diabetes Laboratory, Adjunct Research Fellow, Sydney University, Australia

Gut microbial metabolites regulate autoimmune T cell responses and protect against type 1 diabetes

Diet and gut microbial ecology may underlie the increasing incidence of certain inflammatory diseases. Here, we found that key features of autoimmune diabetes in NOD mice correlated closely with fecal concentrations of the short chain fatty acids (SCFAs) acetate and butyrate. High acetate- or butyrate-yielding diets significantly reduced progression to diabetes, towards changes in the microbial community, improved gut epithelial integrity and reduced concentrations of pro-inflammatory cytokines. Both acetate and butyrate diets led to dramatically decreased numbers of autoreactive T cells. A high butyrate-yielding diet promoted conversion of naïve Foxp3- T cells into Foxp3+ Treg cells in vivo. In contrast, an acetate-yielding diet directly targeted B cells, which led to a markedly control of autoimmune T cell frequencies, and protection from diabetes.

16:55

Conference Close

POSTER PRESENTATIONS:

MAKING A POSTER PRESENTATION

Poster presentation sessions will take place in breaks and alongside the other breakout sessions of the conference. Your presentation will be displayed in a dedicated area, with the other accepted posters from industry and academic presenters.

We also issue a poster eBook to all attendees with your full abstract in and can share your poster as a PDF after the meeting if you desire (optional).

Whether looking for funding, employment opportunities or simply wanting to share your work with a like-minded and focused group, these are an excellent way to join the heart of this congress.

In order to present a poster at the forum you need to be registered as a delegate. Please note that there is limited space available and poster space is assigned on a first come first served basis (subject to checks and successful registration).

We charge an admin fee of \$100 to industry delegates to present, that goes towards the shared cost of providing the poster presentation area and display boards, guides etc. This fee is waived for those representing academic institutions and not for profit organisations.

VENUE HONG KONG:



The conference will take place in Hong Kong on the 1st-2nd March 2017. We are currently in discussion with several venues and as soon as we have found the best rate for attendees, the venue details will be released.

Hotel accommodation will be available at a group rate. You will be sent a direct link to the venue booking system after registering.





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