



MICROBIOME & PROBIOTICS SERIES: USA

7TH MICROBIOME R&D & BUSINESS COLLABORATION FORUM

4TH PROBIOTICS & PREBIOTICS CONGRESS

PROBIOTIC & PREBIOTIC INGREDIENTS, FORMULATION & MANUFACTURING CONGRESS

SKIN MICROBIOME & COSMECEUTICALS CONGRESS

SAN DIEGO, USA

October 29-30, 2019



#MicrobiomeSeries

www.global-engage.com



Global Engage is pleased to announce the **Microbiome & Probiotics Series: USA**, due to be held on 29-30 October 2019. This world-renowned event brings together more than 400 industry, academic, and investment leaders to discuss cutting-edge microbiome and probiotics research, challenges and opportunities in moving research towards commercialisation, and potential partnerships and collaborations. This year, the Series will feature four innovative meetings:

- 7th Microbiome R&D & Business Collaboration Forum
- 4th Probiotics & Prebiotics Congress
- Probiotic & Prebiotic Ingredients, Formulation and Manufacturing Congress
- Skin Microbiome & Cosmeceuticals Congress

With an 100-strong speaker faculty, expert-led roundtables and interactive panel sessions, this year's event promises to deliver ample content on the key challenges faced by both researchers and product developers, and the strategies that turn science into viable products with the backing of investors to fund the transition; and with over 7 hours of networking time, there will be numerous opportunities to showcase your work and to broaden your connections in this fast-growing field. The series is widely recognized for its comprehensive agenda and is gaining a fantastic reputation as the number one microbiome networking event. If you're looking to learn more from the top scientists in the microbiome and probiotics space, to showcase exciting developments in your research, or to seek partnerships and funding within the industry, then this congress is not to be missed.

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Composition of the microbiome

- Population-level variation
- Genetic determinants
- Early life & development
- Exploring the concept of enterotypes
- Understanding host-microbiota interactions
- Approaching consumers and consumer acceptance

Tools & techniques for studying the microbiome

- High-throughput culturing and other culturing methodologies
- Advances in sequencing method development
- Multi-omics approaches; genomics, metagenomics, metabolomics
- Bioinformatic tools; data analysis and integration
- Systems biology and modelling microbial communities

Translatable drug discovery

- Signatures for drug design
- Regulatory approaches to microbiome products
- Academic-industry collaborations
- Venture capital, investment and partnering
- IP protection

Gut microbiome in health and disease

- Metabolic functioning
- Autoimmune and inflammatory diseases
- Case studies such as obesity, diabetes, IBD, colitis
- The gut-brain axis and neurodegenerative disorders
- Fecal microbiota transplants (FMT)
- The human microbiome and cancer; microbiome therapeutics in immuno-oncology



Probiotics Discovery and Product Development

- Strain discovery
- Next generation microbial candidates
- Mechanisms of action
- Commercialisation strategies
- Marketing and consumer acceptance
- Case studies in digestive health, metabolic diseases, aging, skin health and allergy

Pediatrics and infant health

- The early life microbiome
- Breastfeeding and the milk microbiome (HMOs)
- Maternal-offspring exchanges and the effect of C-section delivery
- Early-life microbiome and the prevention/treatment of allergic diseases
- Antibiotics and the use of probiotics in early childhood

Prebiotics, Diet and Nutrition

- The role of diet in shaping the microbiome
- Personalized nutrition
- Sports nutrition and the microbiome
- Fiber deprivation
- The future of prebiotics
- Prebiotic interactions with the gut



Ingredient Innovation and Selection

- Identifying functional probiotics & developing innovative formulations
- Scientific substantiation/ regulatory compliance
- Consumer appeal - creating a brand with transparency and proven efficacy
- Start-up considerations

Suppliers and Distributor Partnering Considerations

- Considerations for selecting your partner and optimising partnerships & relationships
- Validating suppliers – Audits
- Internal resources v external partners
- Ensuring internal compliance

Manufacturing & Formulation

- Best practice techniques
- Formulating probiotics for maximum effectiveness / efficacy
- Novel formulation processes & considerations
- Quality Control / Quality Assurance - Regulatory compliance
- In vitro testing - Real time stability
- Delivery systems selection – bulk powder, capsules, tablets etc

Regulatory Affairs and Compliance

- Legal updates & IP protection
- Regulatory compliance & approaches for approval
- Audit preparation
- QC / QA

Packaging, Labelling & Supply Chain

- Regulatory considerations that influence permissible claims and labelling
- Formulation considerations for packaging
- Novel packaging design / technology/ sustainability
- Supply chain management
- Improving compliance, traceability, safety and quality
- Technology advancements



Skin disease & the microbiome

- Examining different skin sites and the aetiology of skin disorders
- The balance between commensals and pathogens
- Moving towards the molecular analysis of the skin microbiota; meta-omics approaches and sequencing
- Barrier integrity
- Wound healing
- Case studies such as atopic dermatitis, psoriasis, acne, allergy
- Microbiome-based therapies for skin ailments

Drug development strategy

- Candidate selection and target validation
- Safety & toxicology studies
- Model optimization
- Drug delivery methods
- Biomarker development
- Clinical trial strategy
- VC & investment
- Regulation

Cosmetics and Commercial Strategy

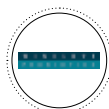
- Microbiome-based products
- Where the market is and where it's going; the future of clean beauty
- Consumer awareness and expectations
- Best practices for commercialization
- Tackling the signs of aging using microbiome research

CONFIRMED SPEAKERS



Sandrine Miller-Montgomery

Executive Director, Center for Microbiome Innovation, UCSD



Senior Representative

Winclive Probiotics



Pedro Dimitriu

Research Associate, University of British Columbia



Steven Taylor

VP Research, Kintai Therapeutics



Nur A. Hasan

CSO, CosmosID



Jackie Papkoff

CSO, Assembly Biosciences



Kari Wong

Senior Study Director, Metabolon



James Burgess

VP of Innovation, Finch Therapeutics



Dan Knights

CEO, CoreBiome on behalf of DNA Genotek



Adrien Nivoliez

CEO, Biose Industrie



Jeffrey Thornton

Manager Sales North America West, m2p-labs



Scott Siera

Knobbe Martens Olson & Bear LLP



Ross Youngs

CEO, Biosortia



Ira Spector

CEO, SFA Therapeutics LLC



Nikole Kimes

President, CSO & Co-Founder, Siolta Therapeutics



George Weinstock

Evin Family Chair and Professor, Director, Microbial Genomics, The Jackson Laboratory for Genomic Medicine



Shaunna Huston

Director of Programs and Business, International Microbiome Centre, University of Calgary



Pierre Belichard

CEO, Enterome



Malcolm Kendall

Co-Founder & CEO, Microbiome Insights



Peter Lee

Executive Chairman, Osel Inc.



Christine Spencer

Research Scientist, Parker Institute, USA



Chon Martinez

Director, Microbiology & Screening, Seres Therapeutics



Senior Representative

GALT



Chioma Ikonte

Director, Nutrition Science, Pharmavite



Colleen Cutcliffe

CEO & Co-Founder, Whole Biome



Jessica O'Connell

Partner, Covington & Burling LLP



Grégory Lambert

CEO and VP of R&D, TargEDys



Anand Kumar

Staff Scientist, Biosecurity and Public Health Group, Bioscience Division, Los Alamos National Laboratory



Taylor Feehley

Senior Research Scientist, Chardan



Gregory Leyer

CSO, UAS Labs



Jack Oswald

CEO, ISOThrive



Edward Green

Chief Executive, CHAIN Biotech



Alan Murray

CEO, GoodBelly/NextFoods



David (Didi) Daboush

CEO and Co-Founder, MyBiotics



John Deaton

Vice President of Science & Technology, Deerland Probiotics & Enzymes



Sirimon O'Charoen

Associate Director of Data Science, Crohn's & Colitis Foundation



Søren Kjærulff

CEO, Lactobio



George Stagnitti

Executive Vice President, PanTherx



Noelle Patno

Digestive Health Nutritional Scientist, Metagenics Inc.

CONFIRMED SPEAKERS



Bruce German
Professor, Director,
Foods and Health
Institute, Department
of Food Science &
Technology, UC Davis



David Kyle
Chairman and CSO,
Evolve Biosystems



Dale Pfost
CEO, MicroBiome
Therapeutics



Jérémie Auger
Clinical
bioinformatician,
Lallemand Health
Solutions (LHS),
Montréal



**Jonathan
Scheiman**
Co-Founder & CEO,
Fitbiomics



Marco Pane
R&D Director,
Probiotical SpA, Italy



Robert Brucker
Rowland Junior
Fellow, MSI Faculty,
Rowland Institute at
Harvard University
and Co-Founder &
CSO, DermBiont



Najla Guthrie
President/CEO, KGK
Science



Jennifer Gu
VP R&D, AIDP



Olga Partington
Counsel, Sterne,
Kessler, Goldstein
& Fox



Noah Voreades
Consultant,
GenBiome Consulting



John Hale
CTO, BLIS
Technologies Ltd



Jeremy Burton
Chair in Urological
Sciences and
Deputy Director
of the Canadian
Centre for Human Microbiome
and Probiotics, Lawson Health
Research Institute



Aubrey Levitt
CEO, Postbiotics+



Afif Ghannoum
CEO, Biohm Health



Aicacia Young
RDN - Director of
Scientific Affairs,
Microbiome Labs



Ben Goodwin
Co-Founder,
Formulator, CEO,
OLIPOP



**Sandra ten
Bruggencate**
Research Director,
PanTheryX



**Johanna
Maukonen**
Technology Leader,
Global Health &
Nutrition Science,
Dupont



John Leech
Postdoctoral Scholar,
Scharschmidt Lab,
UCSF



**Brynjulf
Mortensen**
Senior Clinical
Development
Scientist, Human
Health Innovation, Chr
Hansen A/S



Jason Harcup
Global Vice President
Skin Care R&D, Global
Vice President Prestige
Division R&D, Head of Trumbull
R&D Site, USA, Unilever



Alex Goddard
VP of Research
and Development,
AOBiome



Travis Whitfill
Co-Founder, Azitra Inc



Jacob Bak Holm
Director of Scientific
Operations, Clinical
Microbiomics



Elsa Jungman
CEO and Founder,
ELSI Skin Health



Savannah Sachs
CEO, TULA Skincare



Robert Brucker
Rowland Junior
Fellow, MSI Faculty,
Rowland Institute at
Harvard University
and Co-Founder &
CSO, DermBiont



Apostolos Pappas
Head of Program,
Nestlé Skin Health –
SHIELD, Nestlé



Sandrine Miller-Montgomery
Executive Director
of the Center
for Microbiome
Innovation, Professor of Practice,
Bioengineering, UCSD



Stephanie Robertson
Senior Director,
Scientific Innovation,
Consumer, Johnson &
Johnson



Jan Claeson
Assistant Professor of
Molecular Medicine,
Cleveland Clinic Lerner
College of Medicine of
Case Western Reserve University



John Hale
CTO, BLIS
Technologies Ltd.



Emma Taylor
CEO & Co-Founder,
Naked Biome



Mark Wilson
Co-Founder & CEO,
MatriSys Bioscience
Inc.



Mark Offerhaus
CEO, Micros



Marie Drago
Founder, Gallinée



Larry Weiss
CEO and Founder,
Persona Biome

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 congress 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.

POSTER COMPETITION – CLOSING DATE 27TH SEPTEMBER

1. Submit your entry prior to the closing deadline (1 entry per person)
2. Four entries for the Microbiome & Probiotics Series: USA will be selected by the judges
3. The winner of the poster presentation will be given a 15-minute speaking position on the conference agenda and will be notified in advance of the meeting
4. The judge(s) will make the decision based on the abstract(s) submitted
5. The winner will also receive a certificate from the organisers
6. Representatives from solution provider organisations or experts already speaking on the program are not eligible to enter the competition but are welcome to present posters at the meeting as normal

SUBMISSION INSTRUCTIONS

We will require the form (downloadable below) to be submitted by the 27th September to enter the competition. To simply have your poster at the meeting, submissions must be made no later than 11th October. This is the formal deadline however space is another limiting factor so early application is recommended. Therefore please contact us with any questions you have as soon as possible.

8:00-8:40

Registration & Refreshments


**KEYNOTE ADDRESS:
SANDRINE MILLER-MONTGOMERY**

Executive Director, Center for Microbiome Innovation, UCSD

Academia and Industry - How to successfully synergize the R and D from both microbiome worlds

- Microbiome Science is a multidisciplinary field for which a systematic approach is required. Silos need to be eliminated as much as possible while letting space to protected innovations
- To remain relevant Academia needs to ensure that research is done with an eye on the market while Industry needs to keep appraised on the latest credible sciences
- In a world where buzz word like Microbiome is creating the opportunity to see the rise of bad sciences or products, having a trusted meaningful collaboration is crucial and Academia-Industry partnership is more crucial than ever. We will present examples of such collaborations

8:40-9:20


**KEYNOTE ADDRESS:
JOHAN VAN HYLCKAMA VLIEG**

CSO, Kaleido Biosciences

A Chemistry-Driven
Approach to Leveraging the Potential of the Microbiome to Treat Disease and Improve Human Health

9:20-9:50


**KEYNOTE ADDRESS:
BRUCE GERMAN**

Professor, Director, Foods and Health Institute, Department of Food Science & Technology, UC Davis

Breastmilk and the feeding of the infant microbiome

Milk is the product of millenia of co-evolution between a mammalian mother and her infant and a model for biological cost versus benefit. Oligosaccharides are a class of highly abundant and diverse sugar polymers in breastmilk. They are as abundant as proteins. Yet they pass through the infant. Why do mothers invest in undigestible matter? Suggestions that these oligosaccharides feed bacteria, are misleading. Intestinal bacteria have no means to liberate and metabolize all the sugars of human milk oligosaccharides. The strain Bifidobacteria longum subspecies infantis contains the genetic capabilities to disassemble and metabolize these oligosaccharides. Evolution has selected for a remarkable strategy. Mothers recruit a strain of bacteria to populate their baby's intestine and provide a selective food, complex oligosaccharides, to keep them and their baby 'happy'.

8:40-9:20


**KEYNOTE ADDRESS:
DAVID KYLE**

Chairman and CSO, Evolve Biosystems

The Natural Symbiosis
Between B. infantis and HMO Provides Colonization Protection for the Early Infant Gut

- Bifidobacteria longum subsp. infantis historically dominated (80-90%) the infant gut microbiome worldwide. It can still be found in a few populations, but it is essentially gone from infants in the industrialized world.
- Clinical intervention trials have now

9:20-9:50


**KEYNOTE ADDRESS:
CHIOMA IKONTE**

Director, Nutrition Science, Pharmavite

Formulation, Scientific
Substantiation and Labeling of Probiotics products

- key considerations and challenges in formulating probiotic products
 - strain selection and identification
 - dose
 - delivery form selection
 - excipient considerations
 - product packaging
 - stability studies
- developing a scientific dossier to support label claims
 - product claim development
 - generation of scientific support
- proper labelling of dietary supplements containing live microbials

8:40-9:20


**KEYNOTE ADDRESS:
COLLEEN CUTCLIFFE**

CEO & Co-Founder, Whole Biome

Identification and
formulation of a live synbiotic for metabolic syndrome

- Whole Biome identified a live synbiotic designed to restore functionalities missing in patients with metabolic syndrome
- Whole Biome faced the challenges unique to strict anaerobes: manufacturing, measuring viability, maintaining viability

9:20-9:50


**KEYNOTE ADDRESS:
JASON HARCUP**

Global Vice President Skin Care R&D, Global Vice President Prestige Division R&D, Head of Trumbull R&D Site, USA, Unilever

Towards holistic environmental skin / product interaction

Unilever has recently heavily invested in microbiome characterisation and understanding through cutting edge capability such as the MIF-OMICS in the UK or through numerous high profile external collaborations with key Universities. In parallel, the growing understanding of how all aspects of the exposome affect outcomes is helping us to leverage this knowledge into specific personalisable products.

8:40-9:20


**KEYNOTE ADDRESS:
ERIC HUANG**

Chair Professor, National Central University Taiwan; Adjunct Professor,

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

Electro-biotic for Skin Microbiome Banking

Our lab has a Skin Probiotic Bank which allows us to screen bacteria specific (or precision) prebiotic. Many electrogenic bacteria have been isolated from human skin. These bacteria generate electricity via prebiotic fermentation. Electron produced by these electrogenic skin

9:20-9:50

9:20-9:50

Continued

9:50-10:20
SENIOR REPRESENTATIVE
 Winclove



9:20-9:50

- established that the loss of this keystone commensal bacteria is associated with a loss colonization resistance early in life which results in chronic inflammation in the infant gut as early as 40 days after birth.
- Cytokines associated with this chronic inflammation are at levels that result in disruption of tight junctions in epithelia cell culture and this is occurring at a critical time in the development of the immune system which could lead to increasing prevalence of autoimmune disorders such as atopy, asthma and allergy.
 - The good news is that this broken symbiosis is easily and quickly repaired by the reintroduction of B. infantis EVC001 to the breast-fed baby.

9:20-9:50

- Whole Biome randomized, placebo-controlled, double-blinded trial shows positive results

9:50-10:20

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9:20-9:50

bacteria functions as antioxidants which can neutralize free radicals generated by UV skin damage. Electron released by electrogenic skin bacteria also exerts the activity to suppress the overgrowth of C. acnes, a opportunistic bacterium associated with acne vulgaris. An electronic skin patch has been developed to dynamically profile the skin microbiome in real time. The electronic skin microbiome profile can be used for development of personalized skin cares.

9:50-10:20

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10:20-11:30

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

11:30-11:55

CHON MARTINEZ

Director Microbiology and Screening,
 Seres Therapeutics

**Microbiome therapeutic design by
 Reverse Translation: Leveraging
 human interventional data to drive
 composition design**

11:30-11:55

JOHANNA MAUKONEN

Technology Leader, Global Health &
 Nutrition Science, Dupont

Topic: Dupont's new prenatal product

11:30-11:55

**GRÉGORY LAMBERT**

CEO and VP of R&D, TargEDys

**ProbioSatys, Naturally
 modulating the appetite via
 the microbiome**

TargEDys is a French clinical stage biotech company aiming to control metabolic disease by modulating the appetite through an intervention on the microbiome. TargEDys' innovative, satiety inducing technology (ProbioSatys®), is based on a unique understanding of appetite regulation by the microbiome at the molecular level. Bacteria can send signals of satiety to the brain from the gut by molecularly mimicking satiety hormones, thus activating natural satiety pathways. The basis of ProbioSatys® technology is a commensal, enterobacteria probiotic strain, Hafnia alvei, that produces the ClpB protein, a mimetic of the satiety hormone α-MSH. This talk covers ProbioSatys® journey from its preclinical stage to the clinic and a commercialized product, EnteroSatys®, including formulation, manufacturing and control. First results of a consumer study will be presented and discussed.

11:30-11:55

**ALEX GODDARD**

VP of Research and
 Development, AOBiome

**Digging in the Dirt for Our
 Missing Microbiome**

- Environmental microbes can influence the immune system
- Ammonia oxidizing bacteria are being developed to treat skin disease
- Treating bacteria as a therapeutic poses challenges

**JAMES BURGESS**

VP of Innovation,
Finch Therapeutics

Human-First Discovery: A strategy for developing LBPs

- Introduction and overview of Finch's Human First Discovery strategy for developing LBPs
- Using clinical evidence to optimize PK/PD profiles of LBPs in the microbiome
- Strategies for product development in therapeutic areas with more limited clinical datasets

11:55-12:20

**NUR A. HASAN**

CSO, CosmoSID

**Accelerating Microbiome Discoveries using Shotgun Sequencing****and Strain-Level Bioinformatics**

Next-Generation Sequencing has revolutionized microbiological sciences by revealing that virtually all environments, including the human body, are teeming with diverse microbial communities. It has become evident that the human microbiota contributes biological functions that are essential to our wellbeing. Conversely, disrupting the healthy homeostasis of host and microbiome can lead to dysbiosis and has been implicated with many diseases and pathologies. As a consequence, research into the human microbiome is beginning to transform the healthcare landscape by providing novel nutritional and therapeutic approaches. In this seminar, we present an overview of different phases involved in the development of microbiome-based functional foods and therapies, including target discovery, pre-clinical and clinical research, production and quality assurance. We introduce common

12:20-12:50

**DALE PFOFT**

CEO, MicroBiome Therapeutics

Collision of Industries: A Case Study of a GI Microbiome Modulator

A collision might be developing over the coming years between the food and pharmaceutical industries' notions of the microbiome and the resultant products. People in both industries see large prospects for breakthroughs. Perhaps lessons from each industry might apply to the other to ease the paths forward. How are the prospects different for probiotics vs prebiotics? The life-cycle of a GI microbiome modulator, BiomeBlissTM, developed by MicroBiome Therapeutics, will be reviewed in the context of this possible collision. The development path and regulatory trade-offs made will be reviewed.

11:55-12:20

**JÉRÉMIE AUGER**

Clinical bioinformatician,
Lallemand Health Solutions (LHS), Montréal

**Microbiome data analysis in the era of Next-Generation Sequencing: a bioinformatician's point of view of current strategies and challenges**

With the advent of powerful tools such as Next-Generation Sequencing (NGS) technologies to investigate microbiota communities that live in and on humans (gut, skin, mouth, etc.), scientists are reporting on how microbes influence all aspects of human health (mental health, neurodegenerative disorders, IBD, etc.). However, the use of NGS technologies warrants the need for next-generation data analysis methods as the existing methods are not suited for the type of data being generated (very sparse and highly dimensional). The very nature of the gut

12:20-12:50

**JESSICA O'CONNELL**

Partner, Covington & Burling LLP

Claim Development and Substantiation: Legal and**Regulatory Considerations**

Provide an overview of fundamental principles of the development and substantiation of product marketing claims, including efficacy claims, sourcing claims (e.g., natural, "free of"), and consumer-driven claims. Identify key considerations from a regulatory perspective, including FDA, FTC, and state requirements, potential legal risks, and tools to help mitigate those risks.

11:55-12:20

**TRAVIS WHITFILL**

Co-Founder, Azitra Inc.

Engineering the microbiome to treat skin diseases

- Novel strategies have emerged to harness the skin microbiome to treat a plethora of diseases.
- Azitra is developing a platform to treat atopic dermatitis and other skin diseases using protein-secreting *S. epidermidis*.
- The team has engineered these strains to secrete various human proteins and is developing AZT-01 (filaggrin-secreting strain) for atopic dermatitis, AZT-02 (LEKTI-secreting strain), and AZT-04 (non-secreting strain) for chemotherapy-induced rashes.

11:55-12:20

**JACOB BAK HOLM**

Director of Scientific Operations,
Clinical Microbiomics

**Skin Microbiomics – understanding microbiome taxonomy and function in skin conditions**

At Clinical Microbiomics we offer full-service microbiome analysis of skin samples. This includes a skin-dedicated metagenomics pipeline with optimized DNA extractions, shotgun sequencing, and data analysis to maximize data quality and insights to the skin microbiome. Here, we present our skin microbiome platform, which is built on data from almost 2,000 shotgun sequenced skin samples from multiple body sites allowing premium taxonomical and functional resolution. Using SNV-based analysis we are able to identify, discriminate and track strains and sub-species populations from skin microbiome data.

12:20-12:50

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12:20-12:50

12:20-12:50

challenges specific to microbiome studies and we survey solutions along all phases of development using real-world examples.

12:20-12:50

Continued

12:20-12:50

Continued

12:20-12:50

Continued

12:50-1:50

Lunch / One-to-One Meetings

1:50-2:05

POSTER COMPETITION WINNER

If interested in submitting a poster and/or applying to present a poster on the programme, please [CLICK HERE](#)



KARI WONG 
Senior Study Director, Metabolon
Small Molecules at the Intersection of Health and Microbiota

The gastrointestinal tract of mammals is colonized by a complex microbial community. These intestinal microorganisms provide key functions including digestion and fermentation of non-digestible polysaccharides and proteins, modification of bile salt, synthesis of vitamins, stimulation of immune function, and prevention of colonization by exogenously introduced microorganisms. These microbes have co-evolved with us for thousands of years and are closely linked to many aspects of human health. But, in most cases, the complex influences of microbiota on our health are not yet functionally understood. Metabolites serve as a language that mediates cross-species relationships and Metabolon's unbiased global metabolomics approach provides a great tool to decipher the complex biological story. This talk will cover how one can best leverage this technology to address their microbiome research questions as supported by case studies.

2:05-2:30

2:30-3:00



JACKIE PAPKOFF
CSO, Microbiome, Assembly Biosciences
Discovery and development of rationally-selected consortia of live microbial biotherapeutics based on disease relevant mechanisms

Assembly Biosciences is engaged in discovery and development of oral live microbial biotherapeutic products that

1:50-2:05

POSTER COMPETITION WINNER

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MARCO PANE 
R&D Director, Probiotal SpA, Italy
Probiotics may have beneficial effects in Parkinson's disease: in vitro evidence

Parkinson's disease (PD) is characterized by loss of dopaminergic neurons and intraneuronal accumulation of alpha-synuclein, both in the basal ganglia and in peripheral sites, such as the gut. Increasing evidence demonstrate a potential correlation between PD and intestinal microbiota. In this context, in vitro effects of probiotic bacterial strains in PBMCs isolated from PD patients versus healthy controls has been evaluated. Preliminary results suggest that probiotics:

- Decrease pro-inflammatory cytokines with a concomitant increase of anti-inflammatory ones
- Restore intestinal membrane integrity
- Inhibits the most two common pathogens in Parkinson Disease comorbidities
- Do not possess Tyrosine Decarboxylase genes which inactivate levodopa bioavailability in PD patients

2:05-2:30

2:30-3:00

ROBERT BRUCKER

Rowland Junior Fellow, MSI Faculty, Rowland Institute at Harvard University and Co-Founder & CSO, DermBiont
DermBiont's approach for identifying live therapeutics

Looking to natural sources of microbial communities that have the capacity to reduce or prevent infections in otherwise normal patients. Live therapeutic

1:50-2:05

12:20-12:50

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1:50-2:05

12:20-12:50

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ROUNDTABLE DISCUSSIONS:

Table 1: The investment bank perspective
TAYLOR FEEHLEY
Senior Research Scientist, Chardan

- Notable trends in public and private investing in the past year
- Key catalysts/themes that may drive future investment interest

2:30-3:00

60 MINUTE PANEL DISCUSSIONS:**Cosmetic trial design**

MARIE DRAGO
Founder, Gallinée



SAVANNAH SACHS
CEO, TULA Skincare

JASON HARCUP

2:30-3:00

2:30-3:00

harness naturally-evolved functions of gut commensal bacteria to deliver clinical benefit in a wide variety of therapeutic areas. Our rationally-selected microbial consortia target diseases modulated by gut microbe-mediated pharmacological and biological mechanisms with systemic effects. Assembly has built a diverse library of bacterial strains isolated from carefully-screened healthy human subjects. Clonal bacteria and consortia are evaluated and selected using human cell-based functional assays and animal models reflecting immunological and cellular mechanisms fundamental to modulating disease biology. Detailed genetic and physiological evaluation of strains supports functional characterization, high-quality manufacturing and regulatory filing. Assembly has an ongoing Ph1b clinical trial of its lead investigational candidate, ABI-M201, in patients with mild-moderate ulcerative colitis.


PEDRO DIMITRIU

Research Associate,
University of British Columbia

Biogeography of the relationship between
the infant gut microbiome and innate immune system

Systemic innate immune responses to microbes differ between geographically distinct populations, but the potential role of the microbiome in mediating these responses is unexplored. We characterized the stool microbiome of 2-year-old Belgian, Canadian, Ecuadorean, and South African children using 16S amplicon sequencing, and profiled their whole blood cytokine responses to a panel of pattern recognition receptor agonists. We found strong correlations between responses to Toll-like receptor (TLR) 2 and relative abundances of Bacteroides and Prevotella among Belgian, Canadian, and Ecuadorean children. To test causality, we gavaged germ-free mice with stools from South African versus Canadian

3:00-3:30

2:30-3:00

antimicrobial products have potential as enduring, self-perpetuating, and highly localized treatments that decrease the need for multiple rounds of systemic small molecule antibiotics. DermBiont has developed the use of a living microbial competitor as an antimicrobial therapeutic to establish a persistent, healthy, microbial community.


JOHN LEECH

Postdoctoral Scholar,
Scharschmidt Lab, UCSF

Neonatal priming shapes preferential capacity for
immune tolerance to skin commensal vs. pathogenic bacteria

Life in a microbial world requires both tolerance to commensal microbes and protective responses to infectious pathogens. However, mechanisms enabling the host to establish a privileged relationship with commensals versus pathogens remain largely unknown. Colonization by a skin commensal Staphylococcus epidermidis in neonatal as compared to adult life preferentially facilitates antigen-specific immune tolerance. Here we demonstrate that this tolerance is not indiscriminately extended to all bacteria encountered in this early window. Rather, neonatal colonization by Staphylococcus aureus minimally enriches for antigen-specific regulatory T cells and does not protect against skin inflammation upon later life exposure. Our findings

3:00-3:30

- What is the market missing about the microbiome space?


Table 2: The role of nutritional interventions in 21st century medicine
GEORGE STAGNITTI

Executive Vice President, PanTheryx

What if the next breakthrough drug isn't a drug at all? The promise of nutritional interventions is that they can improve patient outcomes and quality of life through the dietary management of challenging disease states. What roles should probiotics, prebiotics, and other components play as nutritional interventions, given their beneficial effects on the microbiome? These include: Shifting the composition of the gut microbiome and introducing beneficial functions to gut microbial communities. Influencing colonization and metabolite production of commensurate bacteria. Inducing production of bactericidal components that inhibit pathogenic bacteria. The strengthening of the gut barrier and modulation of immune activity. This roundtable will discuss how we can turn the latest understanding of the microbiome into new products, using supplements, foods for special dietary use, and medical foods as pathways to commercialization.

2:30-3:30

Table 3: Opportunities and challenges for microbiome based precision medicine approaches for chronic inflammatory conditions
SIRIMON O'CHAROEN

Associate Director of Data Science, Crohn's & Colitis Foundation

- Industry partnerships and other novel partnerships to accelerate research and advance precision medicine – discuss examples of partnerships such as those with us, a non-profit organization and novel IP development/data exclusively rules.
- Biomarker development – what are the opportunities and challenges to identify diagnostic and predictive biomarkers such as multi-omic approach and

2:30-3:30



Global Vice President Personal Care Research & Global Vice President Prestige Division R&D, Unilever

ROBERT BRUCKER

Rowland Junior Fellow, MSI Faculty, Rowland Institute at Harvard University and Co-Founder & CSO, DermBiont

3:30-3:45

infants, finding their splenocyte responses to TLR stimulation were consistent with corresponding human donors. This study is the first to provide evidence of immune modulation by geographically distinct microbiomes.



DAN KNIGHTS
CEO,
CoreBiome



**So you have Big Data.
Now what?**

In order to make progress in microbiome discovery, we need more data and better data, as well as expertise for data mining and biomarker discovery. This talk will discuss ways to generate massive high-quality shotgun metagenomics data sets on a tight budget, and how to extract the most value from the data using advanced data mining and visualizations, with play-by-play examples from the microbiome literature.

3:30-3:45



ADRIEN NIVOLIEZ
CEO, Biose
Industrie



**Bugs as drugs and the
complex CMC process**

As we start moving forward into clinical trials with LBPs Biose Industrie has been at the centre of the development and scale up of both single and multi strain strict anaerobe projects. Here Dr Nivoliez explains some fundamental questions you

3:45-4:00

3:30-3:45

reveal a key role for both IL-1R signaling and S.aureus alpha toxin in enabling these distinct host responses. Thus, preferential activation of a key alarmin pathway facilitates early discrimination of microbial foe from friend, thereby preventing tolerance to pathogens during a key period of neonatal development.



NAJLA GUTHRIE
President/CEO,
KGK Science



Cannabinoids and the

**Microbiome: How the Tone Impacts
Clinical Trial Strategy**

Endocannabinoids, which are very similar to phytocannabinoids, are essential to keep inflammatory processes at bay. Blocking endocannabinoid receptors encourage immune cells to attack the gut lining, leading to inflammatory gut diseases and result in a dysbiotic microbiome. The gut microbiome is known to modulate the intestinal endocannabinoid tone. Animal models show that psychoactive tetrahydrocannabinol alters the microbiome balance in obese mice significantly affecting the Firmicutes to Bacteroidetes ratio. Evidence suggests that a well-fed and functioning microbiome increases endocannabinoid tone and contributes to overall health. Clinical trial design in this space should include participants who follow a regular sleep pattern and eat healthy food and incorporates rigorous study designs that integrate participants' endocannabinoid tone including their genetic profiles.

3:30-3:45

**SENIOR
REPRESENTATIVE**
Bio-Me



3:45-4:00

3:30-3:45

longitudinal data collection.

- Best practices and lessons learned in precision medicine – from patient engagement, data collection, standardization of protocols/microbiome assays and analysis.



GREGORY LEYER
CSO, UAS Labs



**Probiotic Manufacturing
Excellence**

The probiotic industry must maintain consistent, high levels of quality to develop a product consumers can trust. Join Dr. Leyer as he discusses the best practices in probiotic manufacturing that lead to quality product. He will combine knowledge from UAS Labs' role in the creation of IPA Best Practice Guidelines with personal experience obtained as the CSO of a vertically integrated company. UAS Labs knows first-hand the struggles and successes that come with probiotic manufacturing excellence.

3:30-3:45



JOHN DEATON
Vice President
of Science
& Technology, Deerland
Probiotics & Enzymes



Next-Generation Prebiotic Technology

Evidence has been mounting showing the value of prebiotics in supporting the structure and function of the microbiota, and the concept of symbiosis has been shown by researchers to be effective in creating, restoring and sustaining

3:45-4:00

3:30-3:45

Continued



JOHN HALE
CTO, BLIS Technologies Ltd.
**Micrococcus luteus Q24-
Development of a novel
skin probiotic**



**strain for human health
applications**

Blis Technologies (www.blis.co.nz) develops probiotics for applications outside the gut. *Micrococcus luteus* is a natural human skin commensal bacterium. Strain Q24 was isolated from the skin of a healthy human adult and was selected for assessment as a probiotic based on its enticing inhibitory capability against many important skin pathogens including *Staphylococci*, *Propionibacterium acnes* and *Streptococcus pyogenes*. Blis Technologies has selected this strain for development towards a commercial skin product. This talk will outline the work to date in the selection of this strain; characterisation of probiotic potential; formulation assessments leading to early proof of concept trial work.

3:30-3:45

3:45-4:00

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Hambrook at: gavin@globalengage.co.uk

need to ask yourself before beginning the CMC journey for Live Biotherapeutics.

that beneficial balance. The scientists at Deerland Probiotics & Enzymes have developed a unique prebiotic bacteriophage blend that modulates the microbiota and begins to work within hours after ingestion. Dr. John Deaton will present the findings of a recently published clinical study which shows that the phage cocktail of PreforPro® supports gut microbiota proliferation and reduces other biochemical markers, strengthening the body of evidence to make a claim of symbiotic efficacy, and to promote growth of good bacteria.

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4:00-4:50 Afternoon Refreshments / One-to-One Meetings / Even-Numbered Poster Presentations



JEFFREY THORNTON
Manager Sales
North America
West, m2p-labs



Using the BioLector PRO platform for automated, high-throughput, fermentations (aerobic and anaerobic) to support microbiome screening and bioprocess development.

The BioLector PRO platform is a high-throughput fermentation platform that enhances bioprocess development and microbial screening efforts. The BioLector PRO, in conjunction with our microfluidic Flowerplates, allows researchers to scale-up bioprocess experiments with high efficiency and excellent data quality, at micro-scale costs. The BioLector PRO utilizes a shaken microtiter plate (MTP) impregnated with novel sensors and microfluidics, to provide high-throughput and real-time measurements of: dissolved oxygen, Biomass, pH and fluorescence. The combination of high-throughput and high information content makes the BioLector PRO platform an invaluable tool for any microbial or microbiome bioprocess development laboratory.



JENNIFER GU
VP R&D, AIDP
Effect of Novel Kiwifruit Powders on Bowel Regularity and Microbiome



in Functionally Constipated Individuals

The kiwifruit is an iconic symbol of New Zealand and well-known for its benefits on bowel regularity. Both the green and gold varieties of kiwifruit have been the subject of a number of peer reviewed studies over the past four decades as safe and effective nutritional interventions for gastrointestinal health. Actazin™ and Livaux® are novel kiwifruit powders that support natural laxation and intestinal health through targeted prebiotic activity and a unique combination of bioactives. The synergistic effects of the active ingredients in Actazin™ and Livaux® on bowel regularity and changes in gut microbiome are being investigated in a large-scale, double-blind, placebo-controlled trials. Findings from the trial will be discussed as well as implications in the realm of selective prebiotics for targeted gut health solutions.

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**SCOTT SIERA**

Knobbe Martens

Knobbe Martens Olson & Bear LLP

Preparing for IP Due**Diligence in the Microbiome Space**

As a valuable asset in the microbiome space, intellectual property will be scrutinized by potential business partners and investors. The types of issues that arise during intellectual property due diligence for microbiome innovators will sometimes resemble those in more traditional biopharma transactions, though complexities particular to microbiome products and platforms can also give rise to additional complexities from an intellectual property perspective. This talk will examine questions to expect during due diligence, and preparing a microbiome-oriented intellectual property portfolio for due diligence:

- Allocation of resources for patent portfolios: when to file, which countries to file in, and how aggressively to pursue rights
- Ownership of intellectual property
- The competitive landscape, and potential risks from third-party intellectual property
- Avoiding common pitfalls

5:05-5:20

4:50-5:20

Continued

**20 MINUTE SPOTLIGHT SESSIONS: ROSS YOUNGS**

CEO, Biosortia

Small Molecule Mining of Human Surrogate**Microbiome for Therapeutics**

- Technological breakthroughs now allow obtaining natural microbiome and interrogating the actual hidden chemistry along with the genomics.
- Current and advancing technologies simplify the mining of a complex mixture of signaling small molecules of the microbiome.
- Direct and indirect support for therapeutic opportunities emerging from natural environmental microbiome habitats is evidenced by drugs on the market or

5:20-5:40

5:20-6:20

ROUNDTABLE DISCUSSIONS:**Table 1: Protecting and Defending Inventions in the Microbiome Space: Challenges and Strategies****OLGA PARTINGTON**

Counsel, Sterne, Kessler, Goldstein & Fox

A robust and defensible patent

estate can be the cornerstone of an innovative company's value. As businesses operating in the microbiome space move more into mainstream commerce, a proactive approach to patent rights is imperative. Strategies for patent protection in this space can differ from the traditional small-molecule- and antibodies-based inventions. This roundtable will address the unique challenges and nuanced strategies associated with obtaining patent protection in the microbiome space. The discussion will also provide strategies

4:50-5:20

5:20-5:40

**EDWARD GREEN**

Chief Executive, CHAIN Biotech

Next Generation Live Biotherapeutics

- CHAIN develops superior live biotherapeutic products based on Clostridia bacteria.
- Our bacteria are precision engineered to produce specific therapeutic molecules in the human gut.
- Our unique engineering capability supports a pipeline of therapeutic candidates addressing multiple disease areas associated with the human gut microbiome.

4:50-5:20

5:20-5:40

**SAVANNAH SACHS**

CEO, TULA Skincare

Building a Buzzy brand powered by Probiotics. How TULA Probiotic**Skincare has used consumer insights and data to become the leading Probiotic Skincare brand**

TULA is a clean and effective skincare brand offering innovative wellness products powered by probiotics and superfoods to give healthy, balanced, glowing skin and promote wellness from the inside out. TULA is the leader in the probiotic skincare space with a mission to help women and men gain confidence through falling in love with their skin again. Leading with our innovative probiotic-led brand story, TULA has established a wellness focused brand known for making it easier for our community to achieve a healthy balance, inside and out.

5:40-6:00

**20 MINUTE SPOTLIGHT SESSIONS:****IRA SPECTOR**

CEO, SFA Therapeutics LLC

Real Clinical Trial Data from the Microbiome

Post-biotic or Bacterial Metabolite
Small Molecule drugs offer a more rapid
approach to clinical outcomes.

**20 MINUTE SPOTLIGHT SESSIONS: NIKOLE KIMES**

President, CSO & Co-

Founder, Siolta Therapeutics

Moving from Promise**to Practice: Translating Microbiome Data into Clinically Relevant Microbial Medicines**

Siolta Therapeutics is a clinical-stage biotech company developing live biotherapeutic products (LBPs) for the prevention and treatment of inflammatory diseases, starting with allergic diseases such as asthma. We leverage our knowledge of the developing gut microbiome and its role in immune regulation to develop microbiome-based therapeutics and diagnostics. Integrating ecosystem approaches and precision medicine concepts, we have designed a LBP development platform that is science-driven and human centric to advance the future of medicine. Utilizing this platform, we are currently focused on the clinical development of our lead product targeting allergic disease and have moved rapidly from concept to clinical results. Siolta's holistic, microbiome-based strategy represents a new frontier in the pursuit of tailored, clinically differentiated microbial therapeutics.

6:00-6:20

5:20-6:20

for obtaining patent portfolios better positioned to withstand the scrutiny of inevitable post-issuance challenges.

**Table 2: How will personalization & AI impact future probiotic & prebiotic development spanning pharma to CPG?****NOAH VOREADES**

Consultant, GenBiome Consulting

- Discuss how personalization trends in the DTC testing and supplement markets are impacting traditional supplement sale models
- Will consumer personalization trends influence how pharma/biotech approach microbiome-based therapeutic development?
- Do all microbiome-based therapeutics need a pre-prescription diagnostic test to calibrate effectiveness?

5:40-6:20

JACK OSWALD

CEO, ISOThrive

Topic: TBC

5:40-6:20

MARK OFFERHAUS

CEO, Micros

Topic: Replacing antibiotics with antibacterial products

6:20

Chair's Closing Remarks / End of Day 1

6:20-7:20

Networking Drinks Reception

8:00-8:40

Refreshments


**KEYNOTE ADDRESS:
GEORGE WEINSTOCK**

Evvin Family Chair and Professor, Director, Microbial Genomics, The Jackson

Laboratory for Genomic Medicine

Exploring the Medical Microbiome

The microbial communities of the human body not only affect their local environment but also remote sites, thought to be sterile, such as the brain. These communities are beneficial but can become pathogenic when deleterious microbial strains or unbalanced community structures appear. Analysis of these phenomena is advancing through the use of genetic, microbiological, and metabolomic approaches, often using model systems, such as the mouse. This is leading to new diagnostics, therapeutics, and preventive measures by novel microbiomic methods.

8:40-9:20


SHAUNNA HUSTON

Director of Programs and Business, International Microbiome Centre, University of Calgary

The Power of Communication, Collaboration and Partnerships in Addressing the Microbiome

The International microbiome centre (IMC) has invested in research infrastructure and

9:20-9:45


**KEYNOTE ADDRESS:
JEREMY BURTON**

Chair in Urological Sciences and Deputy Director of the Canadian Centre for Human

Microbiome and Probiotics, Lawson Health Research Institute

The microbiome and urological health: A fast road to translation?

- The urological system has its own bacterial populations and while not as numerous as the intestinal tract still has a significant impact on health outcomes.
- Bacteria can be detected all the way to the kidney and in found in kidney stones.
- We need to consider their role in conditions beyond urinary tract infections such as over active bladder, kidney stones and cancer.

8:40-9:20


JOHN HALE

CTO, BLIS Technologies Ltd
Probiotics for the oral cavity - The Blis story
Blis Technologies (www.

blis.co.nz) develops probiotics for applications outside the gut. Our company was founded on the academic career of Professor John Tagg who following his own encounter with strep throat as a child

9:20-9:45


**KEYNOTE ADDRESS:
ALAN MURRAY**

CEO, GoodBelly/NextFoods
Clear Consumer Communication through all the Clutter

Consumers are flooded with information regarding the microbiome and probiotics. Some of it scientific, some of it pseudo-science. All of it confusing. This talk will explain how to pick a white space for your product concept and offer help in developing an engaging brand with a distinct personality.

8:40-9:20


DAVID (DIDI) DABOUSH

CEO and Co-Founder, MyBiotics
Producing an industrial alternative to FMT

- About MyBiotics – MyBiotics Pharma is a microbiome company focusing on closing the clinical gap between beneficial bacteria and a clinical outcome. Using our technologies we can

9:20-9:45


**KEYNOTE ADDRESS:
JAN CLAESON**

Assistant Professor of Molecular Medicine, Cleveland Clinic Lerner

College of Medicine of Case Western Reserve University

Mining the skin microbiota for bioactive small molecules

Bacteria use small molecule chemicals to interact with each other and with their eukaryotic host. We use a combination of activity-driven and genomics-guided approaches to mine the human commensal microbiota for bioactive molecules, as well as the genes that encode their production. The ClusterFinder algorithm was developed to scan bacterial DNA for biosynthetic gene clusters (BGCs), identifying new classes of chemical compounds. Genetic and biochemical characterization of identified BGCs from skin bacteria revealed molecules with antibacterial, biofilm inducing and immunomodulatory functions. The identification of small molecule interactors produced by human commensals contributes to a better understanding of the complex interplay that is taking place in our microbiome. This will facilitate the development of therapeutic strategies aimed at immune modulation or microbial community alteration and pathogen elimination.

8:40-9:20


APOSTOLOS PAPPAS

Head of Program, Nestlé Skin Health – SHIELD, Nestlé
Skin Microbiome: science of the 21st Century

- What do we need to learn in the future from skin Microbiome? Lessons learned from probiotic research during the 20th century hold promises for the 21st century metagenomic research?

9:20-9:45

9:20-9:45

expertise to understand the mechanisms by which the microbiome affects health and its contribution to disease. IMC is a multi-disciplinary program with a one-stop-shop of technology platforms. The large-scale germ-free facility is specialized in re-derivation, breeding and experimentation of gnotobiotic animals and houses advanced technologies in intra-vital imaging to visualize immune cells and microbes within animals in real time, while maintaining gnotobiotic status. This environment combined with the 'omics' technologies, mass cytometry and bioinformatics is a unique resource for advancing microbiome research. A key component to IMC success is the power of communication, collaborations and partnerships with government, academics, industry and the community at large, for addressing the effects of the microbiome and translation of research.



PIERRE BELICHARD
CEO, Enterome
Enterome's Drug Pipeline



- Enterome's corporate strategy
- Scientific platform
- Products portfolio status

9:45-10:15

9:20-9:45

dedicated his career looking for natural ways to prevent this disease. This led to the identification of a commensal oral bacteria called Streptococcus salivarius with demonstrable unique anti-bacterial properties. Blis was formed to develop the technology to commercialise S. salivarius strains as orally-target probiotics overcoming many hurdles expected in the development of strain for a niche site. Development of S. salivarius has opened up a range of opportunities to support oral health conditions including, ENT infections halitosis, oral thrush, dental caries and periodontal health. The simple application of a S. salivarius probiotic-containing lozenge can promote homeostasis in the oral cavity. This talk will highlight the opportunities in developing a probiotic for the oral cavity.

9:45-10:15

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9:20-9:45

- grow wide verity of bacterial combination with significantly better survival potentially better colonization. We developed our platform to enable better culturing, formulation and production and improved delivery and colonization
- all in a competitive COGS and performance.
 - About SuperDonor technology – the talk will focus on the SuperDonor technology and culturing concept. SuperDonor enable us to copy and manufacture the bacterial population in a selected biological sample. Using this technology we have been able to show very high similarity of our end product material compared to a human sample.
 - Results and potential applications – This section will describe various tests and analysis profiles and also describe the potential of our technology in other areas in addition to the c.diff application.

9:45-10:15

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9:20-9:45

- Why its scientific complexity is significant for conclusive remarks. The relationship

9:45-10:15

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10:15-11:25

Morning Refreshments / One-to-One Meetings / Poster Presentations

60 MINUTE PANEL DISCUSSIONS:

The VC Perspective



MALCOLM KENDALL
Co-Founder & CEO,
Microbiome Insights

11:25-12:25

11:25-11:45



20 MINUTE SPOTLIGHT SESSIONS: AUBREY LEVITT
CEO, Postbiotics+
Postbiotics, why we believe they are probiotics 2.0

- Our clinical research, from metabolites to gut modeling to in the clinics with patients
- What are postbiotics and why they are important
- How postbiotics enhance probiotics
- Why postbiotics have the potential to be utilized as adjunct therapies

11:25-12:25



SØREN KJÆRULFF
CEO, Lactobio
Targeted screening of living lactic acid bacteria for skincare application, manufacturing and formulation

- Screening of lactic acid bacteria with activity against S.aureus
- In vitro and in vivo activity of lactic acid bacteria in skincare applications
- Formulation of living lactic acid bacteria for skincare applications

11:25-12:25

ROUNDTABLE DISCUSSIONS:

Collaboration between industry and academia
Table 1: SANDRINE MILLER-MONTGOMERY

Montgomery, Executive Director of the Center for Microbiome Innovation, Professor of Practice, Bioengineering, UCSD



Microbiome-related skin health products and the future of "clean beauty"
Table 2: STEPHANIE ROBERTSON

Senior Director, Scientific Innovation, Consumer, Johnson & Johnson
Clean beauty is on the rise as consumers

11:25-12:25

Continued

12:25-12:55



SENIOR REPRESENTATIVE
GALT
Title TBC

12:55-1:55

Lunch / One-to-One Meetings

20 MINUTE SPOTLIGHT SESSIONS:**AFIF GHANNOUM**

CEO, Biohm Health

The Role of Digestive Biofilms in the Microbiome, and the Opportunity for Probiotic Intervention

- Background on biofilms in the digestive tract
- The phenomena of multi-organism biofilms
- Potential therapeutic interventions

11:45-12:05

20 MINUTE SPOTLIGHT SESSIONS:**AICACIA YOUNG**

RDN - Director of Scientific Affairs, Microbiome Labs

Metabolic reprogramming: a microbiome-based weight loss solution

We all have that friend or family member that can eat virtually anything and not gain weight. We typically credit those features to the person having a "fast metabolism". This implies that they simply burn more calories just walking around, sitting, sleeping, and doing daily activities. With the recent advancement in microbiology, we now have a different perspective on what controls body weight. This talk will focus on the latest research demonstrating the role that gut bacteria play in determining body composition and chronic disease risk as well as discuss strategies for modulating or reconditioning the gut microbiome in favor of a lean body and a healthy microbiome.

12:05-12:25

9:45-10:15

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11:25-12:25

9:45-10:15

**MARIE DRAGO**

Founder, Gallinée

Topic: Communication between companies and the consumer; prebiotics, probiotics, and postbiotic skin products

11:25-12:25

9:45-10:15

seek products that are safe, non-toxic, ethically sourced and sustainable. There is a convergence between clean beauty and microbiome related skin products, driven by the microbiome's capacity to delivering ingredients that match clean beauty demands. We will explore how the microbiome and clean beauty are driving new skin health products and concepts, how they converge and the future of this convergence in the skin health space.

Title TBC

Table 3: JONATHAN KRIVE (Reserved)
CEO, AsiaBiome

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**CHRISTINE SPENCER**

Research Scientist, PICI
Department of Informatics,
Parker Institute, USA

The gut microbiome and cancer immunotherapy- stinkin' cool translational science

- Parker institute microbiome initiatives
- McGraw trial (a trial in melanoma patients currently open & collaboration with MDA & Seres)
- Work looking at lifestyle & host factors in melanoma patients

1:55-2:20

STEVEN TAYLOR

VP Research, Kintai Therapeutics
Title TBC

2:20-12:45

**BEN GOODWIN**

Co-Founder, Formulator,
CEO, OLIPOP

Bridging the Fiber Gap: Formulating for disruption and consumer engagement in the microbiome and digestive health space

- Fiber consumption has substantially declined from our ancestral hunter gatherer roots and this is leading to multiple negative impacts to our microbiome.
- Consumer's desire to increase fiber consumption must be approachable, fun, delicious, easy and affordable.
- OLIPOP has formulated a category defining fiber, prebiotic and botanical beverage to support increased consumption and microbiome health.

1:55-2:20

**JONATHAN SCHEIMAN**

Co-Founder & CEO,
Fitbiotics

Promoting Peak Performance: Identifying and Isolating Novel Probiotics from Athlete Microbiomes

- Demonstrating results of pre-clinical studies into a novel probiotic candidate that can break down lactic acid
- Providing evidence for athletes' distinct microbial communities and the dynamic behavior of those communities during sports performance and recovery
- Learn how next-generation sequencing can identify novel probiotic species and strains

2:20-12:45

MICHAEL CONLON (Reserved)

Senior Research Scientist, CSIRO,
Australia

Opportunities for New Prebiotic Ingredients

1:55-2:20

**ANAND KUMAR**

Staff Scientist, Biosecurity
and Public Health Group,
Bioscience Division, Los
Alamos National Laboratory

Targeting Emerging Pathogen Infections with Next Generation Therapeutic Probiotics

Conventional probiotics are handful in number without specific applications. Discovering next generation, smart probiotic with defined application from a complex microbiome is very challenging task. There exists no technology to screen microbiome for key microbes that brings about desired phenotype except mere modeling prediction. For this reason, we developed a novel and unique in vitro microbiome screening platform to discover specific application based next generation therapeutic probiotics. First of half of my talk will be focused on describing significance and scope of platform while, in second half, I will narrate our ongoing efforts in discovering next generation smart probiotics to combat emerging MRSA infection.

2:20-12:45

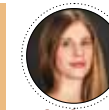
**LARRY WEISS**

CEO and Founder,
Persona Biome

Back to Health: What can we learn about health from the microbiome of hunter-gatherers.

The emerging science of the microbiome is still in its infancy, yet it is the driving force behind a transformative scientific revolution. What lies ahead will have broad implications for us as scientists, our companies and academic institutions, our health, and perhaps for our survival. It is worth reflecting on where we are today, how we got here, what we have learned so far, and the limitations of our methods and of our vision. I will discuss what we are learning about our biological past by presenting our data on the microbiota of minimally impacted hunter-gatherers in the Amazon and how it is challenging our deeply held ideas about human health that may inform our path forward.

1:55-2:20

**ELSA JUNGMAN**

CEO and Founder, ELSI Skin
Health

Personalized skincare solutions for sensitive skin preserving the skin microbiome

Skin health is affected by weather changes, toxic environment and products we apply on our skin every day. As a result, 50% of the U.S. population has now sensitive skin and dermatological conditions are exploding. In a context of lack of regulation and of an overwhelmed amount of skincare choices & marketing claims, consumers are addressing their skin concerns by frantically multiplying tryouts. This leads to long term unbalanced skin and premature damages. Based upon ten years of dermatological research with renowned French and US institutions, ELSI is an early stage startup that attacks the damage caused by beauty products and the environment on our skin. ELSI is disrupting the \$120B health and beauty industry with personalized & science-backed clean skincare for sensitive skin (special focus on the skin microbiome), supported by advanced analytics and a scientific diagnosis.

2:20-12:45

2:45-3:10

Invitation Out

2:45-3:10

**SANDRA TEN BRUGGENCATE**

Research Director, PanTheryX

Milk bioactives and resistance to gut infection

- Our ability to address microbial-driven disease is diminishing. Human pathogens have repeatedly acquired resistance to standard therapies, and even the antibiotics that are still useful heavily disrupt the ecology of the human microbiome. New modalities for treating and preventing pathogen-induced illness are needed, and enhancement of resistance to gut infections by functional food ingredients is a promising new frontier.
- While recent research has focused primarily on probiotics and prebiotics, new classes of bioactives derived from milk have been shown to modulate host-pathogen interaction and beneficially shift the microbiome.
- Using *C. difficile* and ETEC as an example, this talk will show how these bioactives can potentially target pathogenesis by directly targeting the pathogen, promoting beneficial gut microbiota, and strengthening gut mucosal barrier integrity.

2:45-3:10

**NOELLE PATNO**

Digestive Health Nutritional Scientist, Metagenics Inc.

Selecting Critical Attributes During Digestive Health Product Development

Launching a new product in a quick timeline and anticipating its success based on scientific merit requires key selection criteria for the ingredients. Product differentiators from scientific studies alone may be insufficient necessitating further development work prior to product formula finalization and final launch format. This presentation will focus on one or two examples in which critical aspects prior to launch were investigated and selected prior to finalizing the formula and clinical study design.

2:45-3:10

**EMMA TAYLOR**

CEO & Co-Founder, Naked Biome

Development of Live Biologics for Acne

The human microbiome project has established the foundational science in defining healthy and diseased microbiomes in various skin conditions. The next challenge is to translate this science into viable therapeutic treatments for skin conditions such as acne and eczema. This talk details our journey in developing a topical live biologic therapeutic for acne from conceptual idea through proof of concept human clinical trials.

3:10-3:30

Afternoon Refreshments

3:30-3:55

**PETER LEE**

Executive Chairman, Osel Inc.

Modulating the Human Vaginal Microbiome for Women's Health

The genitourinary (GU) tract is colonized with a robust microbiome that plays an important role in health and diseases. In healthy women, the vaginal microbiome is dominated by specific species of *Lactobacillus*, which produce lactic acid creating an acidic microenvironment that impedes growth of many pathogens. Disruption of the vaginal microbiome leads to common female infections, including bacterial vaginosis, recurrent urinary tract infections, and infertility. As

3:30-3:55

**BRYNJULF MORTENSEN**

Senior Clinical Development Scientist, Human Health Innovation, Chr Hansen A/S

Bifidobacterium Breve* Bif195*Protects Against Small-intestinal damage Caused by Acetylsalicylic Acid in humans**

Small-intestinal ulcers are common side effects of regular Acetylsalicylic Acid (ASA) use and there is an unmet need for safe, cytoprotective strategies to reduce this risk in this large population. In an attempt to develop a solution, we performed extensive in-vitro bacterial strain candidate screening and a pre-clinical development program before we aimed to assess the clinical efficacy and safety of daily, oral intake of our lead candidate, a specific *Bifidobacterium*

3:30-3:55

IVAN WASSERMAN (Reserved)

Managing Partner, Amin Talati & Upadhye

Topic: Regulation of pro- and prebiotic products

3:30-3:55

**MARK WILSON**

Co-Founder & CEO, MatriSys Bioscience Inc.

MatriSys Bioscience - An update on therapeutics at**the interface of the skin microbiome and the innate immune system**

- Review and update the science of the innate immune system and commensal microorganisms
- Clinical and regulatory update on our atopic dermatitis program
- New therapeutic opportunities

3:30-3:55	such, restoration of the healthy vaginal microbiome could be an important adjunct or replacement for antimicrobial agents. Furthermore, the vaginal microbiome may be genetically modified to produce antibodies against sexually transmitted viruses	3:30-3:55	strain, Bif195, in a placebo-controlled clinical trial. I present the main findings of this clinical trial where we used video capsule endoscopy as our main outcome measure. The data lead us to conclude that Bif195 is indeed safe and confers significantly reduced risk of small-intestinal ASA-induced damage in humans.	3:30-3:55	Continued	3:30-3:55	Continued
3:55	Conference Close						



Paradise Point Resort & Spa,
1404 Vacation Road, San Diego, CA 92109
www.paradisepoint.com

Paradise Point, San Diego's island resort, is a private 44-acre island tucked away on gentle Mission Bay, minutes from the heart of downtown San Diego and adjacent to the famous SeaWorld San Diego. This San Diego hotel located near SeaWorld features comfortable, California beach bungalow-style guest rooms amidst lush, tropical gardens and meandering lagoons. Perfect for families, weddings, groups and conferences, this Southern California resort features over 460 guestrooms, including everything from spacious suites to lanai patio and garden rooms. You're sure to relax comfortably in our tranquil bayside bungalows, featuring breezy patios with striking views.

Though the resort is home to an array of diverse dining options, Paradise Point's critically acclaimed restaurant Tidal is not to be missed. Perched above Mission Bay's shoreline, Tidal is where craft and catch converge in a thoughtful selection of local seafood, seasonal ingredients and craft beverages. The waterfront eatery has been named one of the top 10 restaurants in San Diego by Zagat and one of the top 100 in the U.S. by OpenTable.

This spa resort in San Diego also features the world-class, island-themed The Spa at Paradise Point, which offers massages and treatments for the body and face from the most exotic islands around the world, plus a salon and state-of-the-art fitness center.

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