

# 12<sup>™</sup> MICROBIOME R&D & BUSINESS COLLABORATION FORUM: USA 9<sup>™</sup> PROBIOTICS & PREBIOTICS CONGRESS: USA 6<sup>™</sup> SKIN MICROBIOME & COSMECEUTICALS CONGRESS: USA

SAN DIEGO, USA October 17-18 2024





www.global-engage.com



Global Engage is pleased to announce the 12<sup>th</sup> Microbiome, Probiotics & Prebiotics R&D and Business Collaboration Forum, which is confirmed to be held on October 17-18 in San Diego at the La Jolla Marriott and co-located with the 6<sup>th</sup> Skin Microbiome & Cosmeceuticals Congress.

This world-renowned event which regularly attracts over 250 industry, academic, and investment leaders last year, enables the discussion of the most scientific cutting-edge microbiome, probiotics and skin-based research; the challenges and opportunities in translating research towards commercialisation, and partnerships and collaborations that secure investment. With 3 conferences and 8 tracks focusing on the topics below, there is ample content to learn from top scientists, network and broaden your connections and should you wish showcase your work in the poster presentation sessions or get involved in the interactive panel and roundtable discussions.

	Microbiome & Probiotics R&D and Business Collaboration Forum			Skin & Cosmeceuticals Congress
	Room 1	Room 2	Room 3	Room 4
Day 1	Gut Microbiota for Health & Disease & Drug Development	Gut-Brain Axis	Infant Health, HMO & Nutrition	Skin Microbiome & Cosmeceuticals
Day 2	Investment, Regulations & Manufacture	Women's Health & Urobiome	Probiotics, Personalised Nutrition & Cardiometabolic Diseases	Skin Microbiome & Cosmeceuticals

- 75 strong senior level speaker faculty
- Expert-led roundtables and interactive panel sessions
- Two 50-minute start-up flash presentation sessions
- Unique academic and industry joint focus
- Over 7 hours of networking time
- A fantastic reputation as the number one microbiome scientific & networking event.



I am pleased to support the upcoming Microbiome R&D and Business Collaboration Congress in San Diego this October.

Advances in the last few years have provided a much deeper understanding of the complex and dynamic microbial communities that inhabit our bodies and impact our health. High-throughput sequencing and bioinformatics have facilitated more detailed and accurate analyses of microbial communities, revolutionizing our approach to microbiome research. We now know that the microbiome affects everything from mucosal and systemic immune function to mental health and chronic diseases.

Research has led to the creation of targeted live biotherapeutic products to optimize the vaginal microbiome to improve reproductive health outcomes. Yet completing the development process to receive FDA approval has proved challenging. However, clinical trials are taking place and are showing promise for the treatment of bacterial vaginosis and the prevention of preterm birth. In addition, clinical trials of live biotherapeutics have demonstrated efficacy to treat IBS, a range of skin conditions and improve infant health.

I'll be giving the opening keynote on the potential of live biotherapeutic products to improve vaginal health. Bacterial vaginosis is a common issue with high recurrence rates, but a live biotherapeutic, *Lactobacillus crispatus* (LACTIN-V), is showing promise in reducing BV and inflammation associated with HIV susceptibility.

The advances are exciting, but we must continue studying these treatments to ensure long-term benefits. I look forward to our discussions at the congress on how we can accelerate the advancement of live biotherapeutics to improve reproductive health!

### Craig R. Cohen

Professor, Department of Obstetrics, Gynaecology & Reproductive Sciences, University of California, San Francisco





## **SPONSORSHIP & EXHIBITION OPPORTUNITIES AVAILABLE**

For more details contact Gavin Hambrook: gavin@globalengage.co.uk

### **MICROBIOME & PROBIOTIC SPEAKERS**



### DAVID A. MILLS

Distinguished Professor, Peter J. Shields Endowed Chair in Dairy Food Science, Department of Food Science and Technology, University of California-Davis



#### HAYDEH PAYAMI

Professor of Neurology and Genomics, Strain Endowed Chair in Parkinson's Disease, University of Alabama at Birmingham



SENIOR REPRESENTATIVE **Biose Industrie** 

AMIR ZARRINPAR Chief Medical Officer and Co-Founder, **Endure Biotherapeutics** 

**BRADEN TIERNEY** Instructor, Weill Cornell Medical College / Harvard Medical School



ALEXANDRA CASTILLO-RUIZ Assistant Professor, Michigan State University

ZAC LEWIS Principal, Lewpine Consulting

XIN ZHOU Research Scientist, Snyder Lab, Stanford

**NOELLE PATNO** Chief Scientific Officer, Bened Life



### GIULIO M PASINETTI

The Saunders Family Chair in Neurology, Professor in Neurology, Professor of Psychiatry, Professor of Geriatric and Adult Development Director, Icahn School of Medicine at Mount Sinai and JJ Peters Bronx VA Medical Center

**CARLOTTA RONDA** Principal Investigator, Innovative Genomics Institute at UC Berkeley

JAMES MORTON Consultant, Simons Foundation

### **DENISE KELLY**

Investment Advisor, Seventure Partners

ALAN MURRAY Chairman, Lactalogics

BHARAT DIXIT Chief Technology Officer, Adiso Therapeutics

CRAIG R. COHEN Professor, Department of Obstetrics, Gynaecology & Reproductive Sciences, University of California San Francisco

**CASSANDRA ISLEY** Chief Executive Officer, Microbiome Alliance for Disease Prevention



**KRYSTAL THOMAS-WHITE** Senior Scientist Evvy





PAUL CARLSON Principal Investigator, Laboratory of Mucosal Pathogens and Cellular Immunology, CBER, FDA

Technical Leader, Life Sciences, Kimberly

**REBECCA VONGSA** 

Clark Corporation





RYAN GARRETT Head of Process Development, Vedanta Biosciences

AMANDA L. LEWIS Professor, Obstetrics, Gynecology, and Reproductive Sciences, UCSD

HANA JANEBDAR Co-Founder & CEO, Juno Bio

CEO & Co-Founder, Sequential

SATHYA JANARDHANAN

Assistant Profesor, University of Calgary

Discovery Project Lead, Gates Medical

OLIVER WORSLEY

LAURA SYCURO



VP, Manufacturing, Rise Therapeutics ALEX SAKATOS Co-Founder & CEO, Ancilia Biosciences





**KIMBERLEY SUKHUM** Head of Science, Tiny Health

**CECILE VERNOCHET** 

**Research Institute** 

SENIOR REPRESENTATIVE Cryptobiotix

PEDRO J. TORRES

JESSICA O'CONNELL

Biosciences

Principal Scientist, Computational

Partner, Covington & Burling LLP

Biology and Data Science, Persephone





**REN-HAU LAI** Director of Innovation and Product Development, Athletic Greens



STEPHANIE FRALEY Associate Professor Shu Chien-Gene Lay Dept of Bioengineering, UCSD





LEILA STRIKLAND CEO & Co-Founder, BIOMILQ



SENIOR REPRESENTATIVE Novonesis

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AMBER TEUFEL

Group Head/Microbiologist, Baby, Feminine, and Family Care R&D Life Sciences Division, Procter & Gamble



NOAH ZIMMERMAN Chief Technology Officer, Verb Biotics



Director, Global Regulatory Affairs -Health, IFF JASON BUSH

Chief Scientific Officer, Solnul



AMY SMITH

JOHANNA MAUKONEN Global Director, Clinical Innovation & Translation, IFF



JONATHAN SCHEIMAN Founder & CEO, FitBiomics



**CRISTINA LLORENTE** Assistant Professor, Div. Gastroenterology, Dept. Medicine, UC San Diego

AUBREY LEVITT CEO, Postbiotics Plus Research LLC



JUN DENG Investment Partner, Joyance Partners





### SKIN MICROBIOME SPEAKERS



JULIA DURACK VP of R&PD, Symbiome; Director,

CHERI ACKERMAN Co-Founder & CEO, Concerto Biosciences

Holobiont Medical Research Foundation

KERA NYEMB-DIOP Lead Nutritionist, Fonterra

NATALISE ROBINSON Co-Founder, Parallel Health

**TIINA MEDER** CEO & Founder, Meder Beauty

**BRADLEY RINGEISEN** Executive Director, Innovative Genomics Institute (IGI)



LADA RASOCHOVA CEO, Dermala





ANDREA NARDELLI



Health Research Institute FERANMI ABODERIN



Scientist I, Arcaea





NICOLE SCOTT Founder & CEO, Cybele

Post-Doctoral Fellow McMaster

University- Farncombe Family Digestive



JOSH PARRIS Senior Scientist, Life Sciences, Kimberly Clark Corporation



ERIC (CHUN MING) HUANG Professor, Arizona State University, USA



Professor of Genetics & Development, Columbia University

ANGELA CHRISTIANO



R&D Director, Principal Scientist, Research & Development, Procter & Gamble

SYLVIE BINDA Vice-President R&D, Lallemand

**PING HU** 



**ELSA JUNGMAN** Founder & CEO, HelloBiome

## **VENUE** INFORMATION



### SAN DIEGO MARRIOTT LA JOLLA

4240 La Jolla Village La Jolla CA 92037

www.marriott.com/en-us/hotels/sanlj-san-diego-marriott-la-jolla

La Jolla hotel's location is perfect, in San Diego's Golden Triangle. The hotel offers convienient access to the University of California at San Diego Scripps Research Institute and La Jolla Shores.





## DAY 1 THURSDAY OCTOBER 17<sup>TH</sup> 2024

05

specific functions into the aut, effectively changing physiology in conventional hosts and ameliorating chronic diseases with a single intervention in preclinical models. We present studies where we have used this intervention on preventing colorectal cancer in a mouse model of familial adenomatous polyposis, treating severe colitis in an animal model of inflammatory bowel disease, improving glucose homeostasis in a type 2 diabetes model, and improving health span in aged mice. This research promises significant therapeutic potential, offering new strategies for disease prevention and treatment.

environment, we developed a technique to introduce



### **BRADEN TIERNEY**

Instructor, Weill Cornell Medical College /Harvard Medical School Leveraging multi-omic data science to build the next-generation of microbial-based therapies The next generation of microbial therapeutics

(e.g., probiotics) will look nothing like what we see on shelves now. Generally, the organisms used in therapy development have been limited to a tiny window of the tree of life, comprising easily cultured and well-characterized species, with limited consideration for strain-level variation. The perhaps "best" strains for treating a given phenotype were either not known or not practical from a productization cost standpoint. However, three simultaneous advances will in the next decade flip this paradiam, allowing for the creation of functionally-driven, strain-specific microbial therapeutics. These are 1) multi-omic data science (e.g., DNA sequencing and metabolomics at massive scale), 2) high-throughput, highvolume culturomics, and 3) increasingly large human clinical cohorts with paired microbiome sequencing information. The union of these tools will enable the commercialization of microbial therapies that are directly built based on their relationship to specific human diseases and subpopulations. Here, I will discuss where to look for bellwethers in academic research signaling these advances, both in my work and the broader field, with an emphasis on the complex interplay between diet and gut microbiome interactions.

Continued

#### ALEXANDRA CASTILLO-RUIZ Assistant Professor, Michigan

State University The maternal microbiota programs brain development in mice: a potential role for bacterial metabolites

Mammals experience a massive colonization by microorganisms at birth. We previously reported that germ-free (GF) newborn mice have altered brain development, including increased cell death in the hypothalamus. To test whether these effects are due to postnatal microbial exposure, or programmed in utero by the maternal microbiota, we cross-fostered GF newborns immediately after birth to conventionally colonized (CC) mothers, and collected their brains a week later. Interestingly, the GF brain phenotype largely persisted despite a normal microbiota, suggesting programing effects of the maternal microbiota. To probe for mechanism, we treated pregnant CC mice with bacterial metabolites and collected offspring during the first three days postnatal. We found that treatment reduced cell death in the hypothalamus. Thus, maternal bacterial metabolites may be important neurodevelopmental agents.

A healthy infant gut, rich in Lactobacillus and Bifidobacterium, supports vital functions like immune system development and resistance to pathogens. Gates MRI is conducting clinical trials investigating the potential of Bifidobacterium longum ssp infantis probiotic products to support weight gain in infants being treated for severe acute malnutrition. In addition, we are comparing mechanism of action and efficacy in preclinical models of commercial B.infantis probiotic strains.



Head of Science, Tiny Health Tracking probiotic strains across the infant and child gut microbiome

**KIMBERLEY SUKHUM** 

- The first 1,000 days of life are critical for immune training. Infants with gut microbiome imbalances are at elevated risk of atopic disease including eczema and food allergies. Early action can shift microbiome composition and lower disease risk. The Tiny Health gut microbiome test empowers parents to take those early actions through personalized recommendations.
- The new Tiny Health Strain Tracker can track probiotic strain colonization and efficacy in remodeling the infant gut, characterize strain transfer from mother to infant, identify strain sharing between family members, and validate probiotic formulations at the strain level.
- This tool has enabled us to characterize probiotic strain presence across a width breadth of samples including unique disease conditions, diet, and other variables. We envision a future in which personalized gut microbiome care is the clinical standard.



Hear the latest update on ENS-002's manufacturing and first-in-human dose escalation trial.



#### **KERA NYEMB-DIOP**

Lead Nutritionist, Fonterra Skin Microbiome Case Study

**30-Minute Solution Provider Presentation** For sponsorship opportunities contact Gavin Hambrook gavin@globalengage.co.uk

**30-Minute Solution Provider Presentation** For sponsorship opportunities contact Gavin Hambrook gavin@globalengage.co.uk

SENIOR REPRESENTATIVE Cryptobiotix Cryptobioti

15-Minute Solution Provider Presentation For sponsorship opportunities contact Gavin Hambrook gavin@globalengage.co.uk

#### **30-Minute Solution Provider Presentation** For sponsorship opportunities contact Gavin Hambrook gavin@globalengage.co.uk

:30-1:00

La Jolla Ballroom ABCD Lunch / One-to-One Partner Meetings

12<sup>TH</sup> MICROBIOME R&D & BUSINESS COLLABORATION / 9<sup>TH</sup> PROBIOTICS & PREBIOTICS / 6<sup>TH</sup> SKIN MICROBIOME & COSMECEUTICALS CONGRESS; USA 2024

1:00

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2:00-2:30

2:30-2:55

## DAY 1 THURSDAY OCTOBER 17<sup>TH</sup> 2024

La Jolla Pallycom - Salen E	La Jolla Ballroem - Celen F	La Jolla Ballyaem - Salen C	La Jolla Pallroom - Salan U
GUT MICROBIOTA FOR HEALTH & DISEASE	GUT-BRAIN AXIS	INFANT HEALTH, HMO & NUTRITION	SKIN MICROBIOME & COSMECEUTICALS
<b>Chair: Jan Claesen</b> , Assistant Professor, Department of Cardiovascular and Metabolic Sciences, Cleveland Clinic Lerner College of Medicine	Chair: Sylvie Binda, Vice-President R&D, Lallemand	Chair: Stephanie Fraley, Associate Professor, Shu Chien-Gene Lay Dept of Bioengineering, UCSD	
30-Minute Solution Provider Presentation For sponsorship opportunities contact Gavin Hambrook gavin@globalengage.co.uk	30-Minute Solution Provider Presentation         For sponsorship opportunities contact         Gavin Hambrook         gavin@globalengage.co.uk	30-Minute Solution Provider Presentation         For sponsorship opportunities contact         Gavin Hambrook         gavin@globalengage.co.uk	30-Minute Solution Provider Presentation         For sponsorship opportunities contact         Gavin Hambrook         gavin@globalengage.co.uk
<ul> <li><b>KIN ZHOU</b></li> <li>Research Scientist, Snyder Lab, Stanford</li> <li><b>Longitudinal profiling of the</b> microbiome at four body sites reveals core stability and individualized dynamics during health and disease</li> <li>Human microbiomes from different body sites are highly individualized and stable over time.</li> <li>Coordinated microbial dynamics between body sites are observed in response to disease</li> <li>Besides Gut microbiome, Skin microbial composition and stability are also altered with insulin resistance</li> </ul>	<text><text><text><text><text></text></text></text></text></text>	Figure 1 1000 Figure 1 10000 Figure 1 10000 Figure 1 10000 Figure 1 10000 Fi	No Track Talk
POSTER PRESENTATION FLASH PRESENTATIONS & START-UP SHOWCASE PRESENTATIONS Poster presenters and start-up companies will be provided with the opportunity to give a flash 3-minute overview of their work Full list of talks shown at the end of day 1.	For the second s	<ul> <li>CROSS-EVENT ROUNDTABLES - SUBJOINT CONTROL STATES AND AND AND AND AND AND AND AND AND AND</li></ul>	<b>PANEL DISCUSSION</b> Paving the way to clinical validity and improvinte the microbiome industry <b>NATALISE ROBINSON</b> (Chair) Co-Founder, Parallel Health <b>NITALISE ROBINSON</b> (Chair) Co-Founder, Parallel Health <b>TIINA MEDER CEO</b> & Founder, Meder Beauty <b>BRADLEY RINGEISEN</b> Executive Director, Innovative Genomics Institute (IGI)

Continued

reducing TDP43 aggregation and inflammation in ALS. We propose that the mechanistic and translational studies that shift from suspension of disbelief to cogent ingenuity, and from bench study to bed-side application, should allow new strategies of diagnosis and treatment for ALS.

#### **GIULIO M PASINETTI**

The Saunders Family Chair in Neurology, Professor in Neurology, Professor of Psychiatry, Professor of Geriatric and Adult Development Director, Icahn School of Medicine at Mount Sinai and JJ Peters Bronx VA Medical Center

**Role of the Immune T Regulatory Cells in Mood Disorders and Alzheimer's Disease Phenotype** as a therapeutic target in Altered Gut-brain Axis cross-talking

The role of the gut-brain axis in the onset and progression of degenerative conditions, including Alzheimer's disease, will be discussed. In particular, the implication of the causative role of T-regulatory cells mediated influence on adaptive immunity in the gut-brain axis communication. Discussion of strategies to intervene in the brain degenerative progression by targeting selected T-regulatory mediated mechanisms to mitigate abnormal brain permeability and disease progression in response to stress-induced mood/ psychological impairment associated with the onset of Alzheimer's disease phenotype. Discussion of novel strategies to move from preclinical observations to the clinical setting.

30-Minute Solution Provider Presentation

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#### **Roundtable 3:** STEPHANIE FRALEY

Associate Professor, Shu Chien-Gene Lay Dept of Bioengineering, UCSD Antibiotics and Infant health



### Roundtable 4:

CHERYL SEW HOY CEO & Founder, Tiny Health New discoveries leveraging at-home microbiome profiling and probiotic strain tracking via shotgun metagenomicsProbiotic

companies often have formulations that combine multiple strains and while some individual strains are clinically backed, companies often have challenges generating robust clinical data at the formulation level to support product health claims. Shotgun sequencing presents a more accessible and reliable way for end consumers, nutrition companies and researchers to detect potential colonization and functional effects from these probiotic supplements. These effects are much more pronounced in the infant probiotic space where the infant gut is more uniquely adapted to colonize bifidobacterium probiotics. We will discuss how these approaches can help the industry advance forward with better observational and clinical evidence



## LADA RASOCHOVA

CEO, Dermala

#### La Jolla Ballroom ABCD 3:45-4:35

30-Minute Solution Provider Presentation For sponsorship opportunities contact Gavin Hambrook gavin@globalengage.co.uk



### **CARLOTTA RONDA**

Principal Investigator, Innovative Genomics Institute at UC Berkeley Targeted microbiome engineering

- In vivo Microbiome Engineering
- Human-Microbiome interactions
- Microbiome-based Therapeutics



Consultant, Simons Foundation Multi-level analysis of the gutbrain axis shows autism spectrum disorder-associated molecular and microbial profiles

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

Autism spectrum disorder (ASD) is a neurodevelopmental disorder characterized by heterogeneous cognitive, behavioral and communication impairments. Disruption of the gut-brain axis (GBA) has been implicated in ASD although with limited reproducibility across studies. Here, we developed a Bayesian differential ranking algorithm to identify ASD-associated molecular and taxa profiles across 10 cross-sectional microbiome datasets and 15 other datasets, including dietary patterns, metabolomics, cytokine profiles and human brain gene expression profiles. We found a functional architecture along the GBA that correlates with heterogeneity of ASD phenotypes, and it is characterized by ASD-associated amino

**30-Minute Solution Provider Presentation** For sponsorship opportunities contact Gavin Hambrook gavin@globalengage.co.uk



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LEILA STRIKLAND CEO & Co-Founder, BIOMILO **BIOMILQ on expanding the** possibilities for HMOs with mammary-based biomanufacturing

Of the ~200 known HMO structures, less than 10% can be produced commercially today. BIOMILO is building a novel, patented process to unlock the other 90% by leveraging the unique capability of human mammary epithelial cells (hMECs). Due to the complex enzymatic pathways involved in HMO production - a challenge that has held the field back for over a decade - hMECs may be the only feasible platform to produce structurally complex HMOs. BIOMILQ is at the forefront of building a system to produce a complex mixture of HMOs that support infant gut, immune, and brain health, in addition to other applications for improving health across the lifespan.

#### **30-Minute Solution Provider Presentation** For sponsorship opportunities contact Gavin Hambrook gavin@globalengage.co.uk

35

TIINA ORASMÄE-MEDER CEO and founder, Meder by Dr Tiina Meder

### Sensitive skin microbiome: latest findings and clinical cases.

- The relationship between skin microbiome and sensitivity remains unclear, but a new consensus suggests a balanced interplay between skin cells and bacterial populations maintains healthy skin barrier integrity.
- Recent findings indicate a unique sensitive skin microbiome has lower diversity and reduced S. epidermidis compared to non-sensitive skin. This can be particularly relevant for individuals with compromised skin barriers, such as those with sensitive, reactive skin, or those suffering from allergies or dermatosis such as acne, rosacea.
- Cosmeceutical ingredients that increase an amount of free water in the Stratum Corneum, along with prebiotics promoting S. epidermidis

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-5:05

5:05

-5:30

Continued

PANEL DISCUSSION The Shifting Winds of Microbiome Investment

DENISE KELLY



MALCOLM KENDALL (Chair) Co-Founder & CEO, Microbiome Insights, Inc., Canada

Investment Advisor, Seventure



# Partners

ALAN MURRAY Chairman, Lactalogics

JUN DENG Investment Partner, Joyance Partners

gics CEO, SV Gut-Bra Parkins

STEWART CAMPBELL (Reserved) CEO, SVP R&D, Axial Therapeutics Gut-Brain Axis Case Study -Parkinson program

acid, carbohydrate and lipid profiles predominantly encoded by multiple microbial species and

correlates with brain gene expression changes,

between temporal changes in microbiome

BHARAT DIXIT

Therapeutics

a fecal matter transplant.

restrictive dietary patterns and pro-inflammatory

cytokine profiles. We also show a strong association

composition and ASD phenotypes in the context of

Chief Technology Officer, Adiso

**Gut-Brain Axis Case Study** 

Continued

### SENIOR REPRESENTATIVE

Novonesis Infant Health, HMO & Nutrition Case Study



Group Head/Microbiologist, Baby, Feminine, and Family Care R&D Life Sciences Division, Procter & Gamble What's bugging your baby's skin?: insights from healthy and diaper

dermatitis skin It has been recognized for nearly a century that human beings are inhabited by a remarkably dense and diverse microbial ecosystem, yet we are only just beginning to understand and appreciate the many roles that these microbes play in human health and development. Previous studies on infant skin health has focused on Candida species but little is known on the full microbial composition across different areas and even less is known on how these communities change during disease/ inflammatory states. This clinical trial revealed to us distinct communities that exist across 4 different regions of the diapered area as well as demonstrated trends in how the populations change from healthy skin to disease state. We will discuss these microbial communities and what the indications are for understanding the roles it plays in disease states like diaper dermatitis (DD).



### Baby, &D Life Gamble

growth and suppressing C. acnes or P. ovale, show therapeutic potential. Clinical cases using skincare with prebiotics and symbiotic ingredients in sensitive skin demonstrate efficacy, offering insights for dermatologists and public recommendations.



#### BRENT RIDGE Co-Founder, Beekman1802

The Science of Kindness Beekman 1802 is a skin health company with two key ingredients:

goat milk and Kindness and is one of the fastest growing beauty companies in America. Learn their approach to product development and consumer education around the microbiome. An insightful discussion of how the research you are conducting now gets into the hands of the consumer of the future.





Description of Skin lesions in patients treated with immunosuppressant and other biological agents, such as atopic dermatitis, sensitive skin, psoriasiform eczema, and acneiform dermatitis; presentation of complex clinical pictures. The consideration arises whether skin dysbiosis contributes to the pathophysiology of these manifestations as complications of immunosuppressant agent use. The potential impact of therapeutic manipulation of skin microbial communities, including the use of preand probiotics, emerges as an intriguing avenue to explore in efforts to maintain skin health.

6.20

Drinks Reception / End of Day 1



SESSION ONE

**CROSS-EVENT ROUNDTABLES -**

Roundtables are informal, small-group interactive

discussions on key topics in the field. Discussion

encouraged to participate actively in the session.

**TIINA ORASMÄE-MEDER** 

SATHYA JANARDHANAN

VP, Manufacturing, Rise

LBP Manufacturing TBC

Assistant Professor, Div.

The Gut Microbiome's Impact on Liver Disease:

Gastroenterology, Dept. Medicine,

How to speak about a microbiome:

educational challenge in skincare

CEO and founder , Meder by

leaders will introduce sub-topics/questions

for discussion and roundtable attendees are

Roundtable 1:

Dr Tiina Meder

Roundtable 2:

Therapeutics

Roundtable 3: CRISTINA LLORENTE

UC San Diego

industry

### **CONGRESS** SCHEDULE

POSTER PRESENTATION FLASH **PRESENTATIONS & START-UP** SHOWCASE PRESENTATIONS Poster presenters and start-up companies will be provided with the opportunity to give a flash 3-minute overview of their work.

Full list of talks shown at the end of day 1.



#### **KRYSTAL THOMAS-WHITE** Senior Scientist Evvy **The Vaginal Microbiome & DTC** Women's Health

The vaginal microbiome is a critical component of female health. More than 30% of people with vaginas suffer from imbalances in the microbiome (e.g. bacterial vaginosis, yeast infections, and recurrent UTIs) that drastically affect our quality of life. Additionally, research has uncovered groundbreaking links between the vaginal microbiome and infertility, HIV risk, preterm birth, gynecologic cancers, and more. Evvy's longitudinal, metagenomic testing is unlocking personalized definitions of health and disease in the vagina and providing women with education and insights about their vaginal health along the way. This talk will highlight how Evvv is leveraging the vaginal microbiome to positively impact women's health outcomes.

#### **REBECCA VONGSA**

Technical Leader, Life Sciences, Kimberly Clark Corporation Factors Influencing the Vulva skin Microbiome and its Impact on **Feminine Wellness** 

A healthy vulvar microbiome is important part of feminine health. Disruption of the microbiome balance in the vulva can contribute to infection, discomfort, and irritation. Age, genetics, and health conditions can alter the vulvar microbiome. Herein, the effect of age, body mass index, and urinary incontinence have on the vulvar microbiome will be discussed. Furthermore, principles to support a healthy vulvar microbiome and importance of science informed guidelines for vulvar hygiene will be presented.



#### NOAH ZIMMERMAN

Chief Technology Officer, Verb Biotics Tailoring the microbiota to the diet for targeted metabolite production The diet provides a treasure trove

of material for the production of bioactive metabolites. Many of these metabolites are generated by members of the microbiome. However, a lack of either the right diet or the right microbiome members can have a significant impact on the availability of health promoting metabolites in the body. Supplementation of probiotics that work synergistically with the diet to produce targeted metabolites through biotransformation, open up the opportunity to enrich the nutritional and health benefits of the diet.



AMY SMITH Health, IFF

categorization and strategic marketing.

**Generation Probiotics** Novel and next generation probiotics require "extra" regulatory know-how, concerning safety,



**Exploring Novel Therapies**  The role of prebiotics and probiotics in modulating gut-liver axis interactions.

- Applications of fecal microbiome transplantation (FMT) in liver disease management.
- Novel preclinical studies utilizing bacteriophages as targeted therapies against microbial dysbiosis in the context of liver health.



#### Roundtable 4: AUBREY LEVITT

CEO, Postbiotics Plus Research LLC Bioactive compounds and the gut microbiome

- The role postbiotics and bioactive compounds in gut health
- How to measure efficacy
- How to market and communicate the benefits of new product categories

La Jolla Ballroom ABCD Lunch / One-to-One Partner Meetings

## DAY 2 FRIDAY OCTOBER 18<sup>TH</sup> 2024

#### La Jolla Ballroom - Salon E

#### **GUT MICROBIOTA FOR HEALTH & DISEASE**

Chair: Bharat Dixit, Chief Technology Officer, Adiso Therapeutics

#### **50 MINUTE PANEL DISCUSSION Current Challenges and Future Opportunities** in LBP Manufacturing

- Identify and discuss the current major hurdles in LBP manufacturing, key pain points
- New analytical tools to support LBP characterization, release and stability
- Weigh the pros and cons of internal versus external manufacturing (single strain vs consortia, strict vs facultative aerobe, aerobes)

#### Key questions

- · What are the current major hurdles in LBP manufacturing? Are we still struggling with capacity and/or expertise
- What are the latest developments and most important advances in manufacturing of typical vs highly sensitive strains?
  - o How can we leverage prior knowledge developing difficult to grow/scale strains
- Global regulatory convergence, What is the status of the Regulatory framework (US vs EU) for production and registration of LBPs?
- The potency of the product and it's effect, are we still relying of CFU or something better?
- What are the main considerations regarding internal vs external manufacturing?

### BHARAT DIXIT (Chair)

Chief Technology Officer, Adiso Therapeutics



### PAUL CARLSON

Principal Investigator, Laboratory of Mucosal Pathogens and Cellular Immunology, CBER, FDA

SATHYA JANARDHANAN

VP, Manufacturing, Rise



### LAURIE REY

Therapeutics

Head of CDMO Business Development, Lallemand

#### SENIOR REPRESENTATIVE Biose



RYAN GARRETT Head of Process Development, Vedanta Biosciences

#### La Jolla Ballroom - Salon F

### GUT-BRAIN AXIS



and Reproductive Sciences, UCSD Preclinical models for validation and quality control of electrospun fibers and 3D bio-printed scaffolds as vaginal therapeutic delivery platforms

Current treatments for BV to restore a balanced vaginal microbiome rely on frequent user administration. There is a pressing need to quickly and more stably colonize the vagina with lactobacilli to avoid BV recurrence. Here, we validated a potential probiotic delivery device in our mouse model. L. crispatus-loaded fibers were placed into mouse vaginas with the goal of achieving colonization by L. crispatus without eliciting inflammation or injury. Our experiments show that vaginal colonization by L. crispatus can be achieved by incorporating polymers that sustain the release of live probiotics in the mouse vagina.

HANA JANEBDAR

testing in radically improving patient outcomes is

increasingly recognized, we map the trajectory,

field. Key challenges from clinical integration to

variability of data for R&D are weighed against

the vast potential for personalized medicine and

preventative care with real-world examples from

Juno Bio's pioneering lab and customer base.

challenges, and opportunities in this evolving

#### La Jolla Ballroom - Salon G

#### INFANT HEALTH, HMO & NUTRITION

JASON BUSH



Chief Scientific Officer, Solnul Metabolomic and microbiome investigations in a prebiotic resistant starch clinical trial reveal novel pathways influencing lipid metabolism

Resistant starch (RS) has long been appreciated for metabolic benefits at high doses (+30g/ day). We conducted the first low dose (3.5g/ day) RS study and applied serum metabolomic analysis to evaluate system effects due to the consumption of this prebiotic. RS consumption led to a significant and clinically meaningful reduction in a non-glucose marker of insulin sensitivity. The application of metabolomic analysis in clinical trials, including study design, interpretation, and dietary supplement structure/ function claims substantiation, will be discussed.

#### La Jolla Ballroom - Salon H

#### **SKIN MICROBIOME & COSMECEUTICALS**



JOSH PARRIS Senior Scientist, Life Sciences, Kimberly Clark Corporation The skin microbiome of preterm infants and impact of diaper change frequency

Development of the cutaneous microbiome is important to overall health during the neonatal period and this may be especially true in preterm infants who are more susceptible to infection by opportunistic skin colonizers. In this study, we describe diversity and composition and evaluate the impact of diaper change frequency, clinical characteristics, and skin health metrics on the preterm infant skin microbiome. For diapered skin, diaper change frequency, diet, antibiotic exposure, and delivery mode were all associated with variation in microbiome composition. Microbiome diversity was inversely correlated with skin pH but not TEWL. Results presented here provide important insights into the drivers of microbiome development for preterm infants.



#### SE JIN SONG Director of Research Programs,

Center for Microbiome Innovation, UC San Diego

From gradients to bins: taking steps towards personalized nutrition

For both the gut microbiome and diet, the variation across people on the globe is vast and exists in a gradient. Both are multi-dimensional and are affected by and linked to numerous other factors. All of these features make it difficult to achieve truly personalized nutrition. However, we can work towards this goal in steps by binning individuals into more and more defined groups based on patterns in their microbiomes and diet.



# Professor, Arizona State

Redox (Electrogenic) Bacteria as Biotherapeutics Against **Oxidative Stress** 

Reactive oxygen species (ROS), a subset of free radicals, have been implicated in many human diseases. Our results have demonstrated that carotenoid-carried skin and gut bacteria are electrogenic and can yield electricity to rescue the redox imbalance caused by oxidative stress. Taking skin electrogenic bacteria for instance, we found that topical application of S. epidermidis plus glycerol on dorsal skin of ICR mice significantly attenuated ultraviolet (UV)-elevated liable ferrous ions as well as 4-hydroxy-2-nonenal (4-HNE), a free radical marker derived from lipid peroxidation. Incubation of carotenoids enhances electricity production of S. epidermidis. Electrogenic bacteria hold great potential as new biotherapeutics for treatments of free radical associated human diseases.





### PAUL CARLSON

Principal Investigator, CBER, FDA Regulatory Considerations for Microbiome Based Therapeutics • An overview of CMC requirements

- for Live Biotherapeutic ProductsDiscussion of assays for product characterization and release
- Presentation of proof of principle study assessing the use of MALDI-TOF for single strain enumeration from multi-strain mixtures



### **SATHYA JANARDHANAN** VP, Manufacturing, Rise

Therapeutics LBP Manufacturing Case Study



### LAURA SYCURO

**OLIVER WORSLEY** 

CEO & Co-Founder, Sequential

Womens's Health Case Study

Assistant Profesor, University of Calgary

Proteolytic Activity of the Vaginal Microbiome: A Novel Therapeutic Target?

In reproductive age women, a healthy vaginal microbiome is dominated by Lactobacillus species that protect the niche through the production of lactic acid, However, 10-30% of women exhibit anaerobic dysbiosis that can cause uncomfortable symptoms and result in a clinical diagnosis of bacterial vaginosis (BV). Proteolytic activity is elevated during BV, which in turn, is linked with poor outcomes such as preterm birth and HIV acquisition. Although this proteolytic activity has been attributed to host proteases, we have shown certain prevalent species of vaginal bacteria secrete potent host-targeting proteases. These bacterial proteases mimic the activity of human matrix metalloproteases (MMPs) and degrade cervical barrier proteins to promote bacterial translocation. Therapeutically targeting these unique enzymes could help prevent BV and promote sexual and reproductive health.



JOHANNA MAUKONEN Global Director, Clinical Innovation & Translation, IFF

Novel *Akkermasia sp.* for metabolic health

In her presentation Dr. Maukonen will have a deeper dive on a discovery program of a novel Akkermansia sp. DSM33459 which showed significant differences in fatty acid profile and carbon utilization as compared to the type strain. It also showed agmatine production, suggesting a potential novel mechanism for supporting metabolic and cognitive health and was able to degrade extracellular ATP, suggesting a role in modulating inflammation in the gut.

- An observational clinical study was performed to collect fecal samples for microbiome and metabolomic assessment. Strains of healthrelated bacterial species were isolated based on the obtained data.
- Preclinical obesity model showed significant improvement in body weight, total fat weight, resistin, and insulin levels.
- Based on phenotypic features and phylogenetic position, it is proposed that this isolate is a promising candidate for the management of metabolic heath

#### 50 MINUTE PANEL DISCUSSION

Food vs. pharma paths to market for probiotics Deciding how to bring new innovative probiotics to market is complicated. It involves analyzing the many trade offs between being a food or a drug from each of several different angles. This panel will discuss the impacts of the following considerations on creating a business plan:

- Regulatory constraints
- Supply chain set up
- Path to ROI
- Market/consumer demands

ZAC LEWIS (Chair) Principal, Lewpine Consulting

NOAH ZIMMERMAN

Chief Technology Officer, Verb Biotics

### AMY SMITH



Director, Global Regulatory Strategy Lead, IFF

#### **DENISE KELLY**

Investment Advisor, Seventure Partners



#### JESSICA O'CONNELL

Partner, Covington & Burling LLP Skin Microbiome Case Study - IP & regulations

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### ANGELA CHRISTIANO

Professor of Dermatology and Genetics & Development, Columbia University The Gut Microbiome-Hair Follicle Connection in Alopecia Areata

The gut microbiome has emerged as an important environmental contribution factor in many autoimmune diseases. Our work in alopecia areata points to the gut microbiome as a potential trigger for the immune response against the hair follicle. Recent evidence linking gut microbiome dysbiosis to alopecia areata opens a new avenue of investigation into restoration of the gut microbiome to homeostasis as a potential therapeutic approach for this and other autoimmune diseases.

## DAY 2 FRIDAY OCTOBER 18<sup>TH</sup> 2024



#### **RYAN GARRETT**

Head of Process Development, Vedanta Biosciences **Critical Considerations of a** Successful Live Biotherapeutic Product

Despite an abundance of academic research demonstrating the significance of the human microbiome on health, well being, and disease, converting this research into safe and efficacious FDA approved drugs has proved challenging. Over the past ten years, Vedanta has been a pioneer in applied science and CMC aspects of LBPs with internal development and manufacturing capabilities culminating in 32 strains produced for five clinical programs including late phase clinical trials. This internal development along with learnings from other companies in the field have revealed key attributes of LBPs that are necessary to maximize the chance of clinical success.

#### ALEX SAKATOS

Co-Founder & CEO, Ancilia Biosciences Deciphering and targeting the virome



## JONATHAN SCHEIMAN

Founder & CEO, FitBiomics

PING HU R&D Director, Principal Scientist, Research & Development, Procter & Gamble

#### Exploring the Dynamics of the Scalp and Skin Microbiomes and Applications for Consumer Product Innovation

In recent years, the study of the human microbiome has emerged as a fascinating and promising field of research. The intricate relationship between microorganisms and human health has opened new avenues for therapeutic interventions and innovative consumer product development. This presentation will cover a few cases of how P&G using multi-omics approach to examine scalp and skin microbiomes under different conditions to understand the mechanism of actions, select biomarkers and credential a technical story for consumer product innovation.



## FREE POSTER PRESENTATIONS AND FLASH TALKS

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).

Poster presentations are actively encouraged at this event and as such registered academic and industry delegates are invited to present 1 poster each for free.

- Posters are displayed for the full two days of the event.
- We have reserved two 50 minute sessions in track 1 for non-vendor authors to present a flash presentation of their poster in order to showcase their work.
- We also issue a poster eBook to all attendees containing your full abstract, and you can share your poster as a PDF after the meeting if you desire (optional).

### MAKING A POSTER PRESENTATION

We will require the form Downloadable Here to be submitted by 27th September 2024.

## SUSTAINABILITY GOALS

### SUSTAINABILITY

### **Venues with Sustainability Goals**

We are committed to selecting venues with more sustainable practices. These will cover energy supply, food & waste, water use, recycling and plastics. The Marriott La Jolla is <u>Tripadvisor GreenLeaders Certified</u>. The hotel website shows a carbon footprint of 11.6 kgs per room night. The hotel footprint calculator <u>Greenview</u> reveals that the US average is 17.6 kgs per night (higher for 4 & 5\* hotels.)

### Catering

You will have some great food choices while you are with us. We have worked with the caterer to increase the proportion of plant-based items. We have also built a plan with the venue to avoid waste through how they serve meals and how any leftovers are processed. Our aim is that you have some great meals, whilst with us, but with less environmental impact by the time you leave.

### Travel

An international meeting does involve travel but where it is practical, please consider more sustainable alternatives to flying. The app will also have a discussion space to arrange ride shares.

