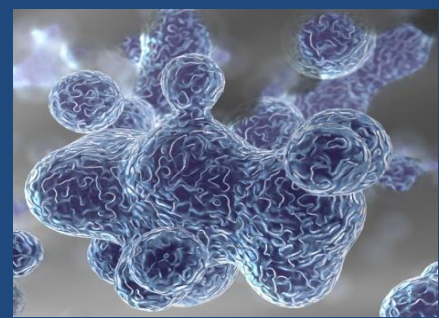




The 4th Microbiome R&D and Business Collaboration Forum: USA

COLLABORATIONS IN MICROBIOTA RESEARCH, PROBIOTICS, HEALTH & DISEASE

As part of its international microbiome series, Global Engage is pleased to announce the **4th Microbiome R&D and Business Collaboration Forum: USA** which will be held on 3-4 October 2016 at the **San Diego Marriott La Jolla** and co-located with the Probiotics Congress: USA.

Recent research has demonstrated the importance of our microbes in our maintaining health and their possible use in treating and preventing disease. As microbial dysbiosis has been shown to be linked to several long-term diseases; approaches that modify our microbiome by adding or removing individual microbes or entire microbial communities have been shown to have a significant impact on the health of an individual. This potential to use the microbiome as a therapy and to design treatments customised to the patient's microbiome has created a rapidly growing interest from the pharmaceutical industry and investors and it looks set to continue to grow in the coming years with the emerging microbiome market expected to reach US\$658 million by 2023. There is a rich source of information, backing and partnering opportunities for researchers and companies looking for opportunities in this field.

Attracting over 250 attendees, the 9th meeting in the global series will build upon the success of last year's meeting which attracted over 200 attendees as well as our highly popular European and Asia forums to explore the interface between our evolving cultures, technologies and our microbiome through a series of interactive presentations with leading academics and industry experts, panel discussions and an exhibition area allowing solution providers to showcase their products and services. The Global Engage series is rapidly gaining a fantastic reputation for fostering partnerships across academia, pharma and biotech. If looking to either learn more from the top scientists in the microbiome space; showcase exciting developments in your research; or seek partnerships and funding within the industry; it is a congress not to be missed.

Confirmed Speakers Include:



Rob Knight
Professor of Pediatrics and
Computer Science & Engineeri
University of California, San
Diego



Craig Murphy
Senior Director of
Immunology & Therapeutic
Innovation, Ferring
Pharmaceuticals



David Nicholson
Executive Vice President
Brands R&D, Allergan

Conference Synopsis

Gut Microbiota in Health and Disease

- Connections to IBD and IBS
- Gut microbiota transplantation
- Innate immune system and host-pathogen Interaction
- Associations of obesity and metabolic disease
- The virome and the role in health and disease
- Role of synthetic biology
- Gnotobiotic mice studies
- Gut-brain interactions - depression, anxiety and autism?
- Development of bacteriophage therapeutics
- Sequencing and bioinformatics of the human microbiome

Skin and Oral Microbiota

- Diversity of skin communities
- Panel: Developing skin microbiota-mediated therapeutic approaches
- Bioinformatics analysis
- Interactions between host genotype and microbial abundances
- Probiotic approaches to treat skin disorders
- Skin and scalp microbiomes
- Case studies and therapeutic potential in acne, eczema, atopic dermatitis, and microbiomes of chronic and acute wounds
- Oral cancer associated microbiome

Vaginal and Lung Microbiota

- Microbiota in Cystic Fibrosis, COPD, asthma
- New therapeutic possibilities for lung disease
- Microbiome of the female urogenital tract and pregnancy
- Research into the microbiome an HIV

Commercialisation of the Microbiome

- Panel discussion: Venture capital and microbiome investment
- Panel discussion: Pharma and the microbiome
- Crowd funding and other fundraising options
- Investment models and current market opportunities
- What makes commercial sense from both the pharma and patient perspective?
- Necessary QC and regulatory approaches
- Securing investment (extended networking sessions outside the congress program)
- Development, application & acquisition of technology platforms within the microbiome space
- Beyond the noise – opportunities and overhype
- Building a translation microbiome program
- Ethics, legal and social implications in microbiome research
- Contemplating novel antibiotic therapies that do not destroy the healthy microbiome
- Bringing live microbial products to market – IP, regulation, GMP

Microbiota, Diet, Pro and Prebiotics

- The role of short chain fatty acids
- Gut microbiome and its role against food-borne pathogens
- Personalized 'diet' approaches to health
- Role of the microbiome in food allergy
- Developing nutritional products utilising microbiome research
- Evaluating clinically relevant probiotics
- Regulatory perspective
- Co-located probiotics congress focusing on probiotic development and regulation

Confirmed Speakers & Panellists



Rob Knight
Professor of Pediatrics and
Computer Science &
Engineering, University of
California, San Diego



Tiffany Scharschmidt
Assistant Professor of
Dermatology, University of
California, San Francisco



David Nicholson
Executive Vice President,
Brands R&D, Allergan



Beth McCormick
Professor & Executive
Director, Center for
Microbiome Research,
University of Massachusetts



Richard Gallo
Professor and Interim Chair,
Department of Dermatology,
University of California, San
Diego



Brain Kenney
Senior Director, Global
Immunology & Biotechnology,
Pharmaceutical
Communication & Public
Affairs, Johnson & Johnson



Marc Güell
Chief Scientific Officer,
S-Biomedic



Thomas L. Dawson, Jr.
Senior Principal Investigator,
Agency for Science,
Technology, and Research
(A*STAR), Institute of Medical
Biology (IMB), Singapore



Senior Representative
Genentech
[RESERVED]



Alison Morris
Associate Professor of
Medicine and Immunology,
University of Pittsburgh



John Zibert
Medical Director, LEO Pharma
A/S [RESERVED]



Mark Morrison
Professor & Chair, Microbial Biolo
and Metagenomics, University of
Queensland Diamantina Institute
Australia



Chandrabali Ghose
Chief Scientific Officer,
Symbiotic Health



Craig Murphy
Senior Director of Immunology &
Therapeutic Innovation, Ferring
Pharmaceuticals



Inga Peter
Associate Professor,
Department of Genetics and
Genomic Sciences, Icahn
School of Medicine at Mount
Sinai



Ma Somsouk
Associate Professor of Medicine,
Division of Gastroenterology,
University of California, San
Francisco



Arpita Maiti
Director, External R&D Innovator
Inflammation and Immunology,
Pfizer



Eva Berkes
Co-Founder & Chief Scientific
Officer, Quorum Innovations



Harro Timmerman
Principal Scientist Microbiota in
Health & Disease, NIZO Food
Research BV, The Netherlands



Michael Step
Chief Executive Officer,
Ritter Pharmaceuticals



Maxence Desjonquères
Chief Executive Officer,
Biose



Deb Mathews
Vice President, Medical Affairs,
Synthetic Biologics, Inc.



Elizabeth Hohmann
Associate Professor of Medicine,
Massachusetts General Hospital



Avi Spier
Director, Strategic Alliances,
Novartis Institutes for Biomedical
Research, Novartis



Larry Weiss
Chief Medical Officer, AOBiome



Susan Smith
Head of Immunology, Stiefel, a
GSK company



Chase Beisel
Assistant Professor, Department of
Chemical & Biomolecular
Engineering, North Carolina State
University



Dana Hosseini
CEO and Co-Founder, ProdermIQ



Leopoldo Segal
Assistant Professor, Department of
Medicine, New York University
School of Medicine



Robert Osgood
Associate Professor of
Microbiology, Rochester Institute of
Technology



Jane Foster
Associate Professor, Department of
Psychiatry & Behavioural
Neurosciences, McMaster
University, Canada



Lada Rasochova
Chief Executive Officer,
Dermala Inc.



Nick Conley
Chief Executive Officer,
EpiBiome

Also speaking:

Senior Representative
DNA Genotek

Senior Representative
SynCo Bio Partners

Senior Representative
Enterome

Sean Davies
Associate Professor of Pharmacology, Vanderbilt
University [RESERVED]

Senior Representative
Metabionics

Senior Representative
Illumina

Senior Representative
Evolve Biosystems

Luke Hoffman
Associate Professor, Pediatrics, University of
Washington
[RESERVED]

Senior Representative
Winclove Probiotics

Senior Representative
Second Genome

Wenyuan Shi
Professor and Chair of Oral Biology, UCLA School of
Dentistry
[RESERVED]

For more information please contact Steve Hambrook, Conference Director, Global Engage Ltd.

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Agenda – Day One, Monday 3 October 2016

08.00-08.50	Registration & Coffee	
08.50-09.00	Global Engage Welcome Address & Morning Chair's Opening Remarks	
	Morning Chair: Senior Representative, Second Genome	
09.00-09.35	Keynote Address: Title To Be Confirmed CONFIRMED: Rob Knight, Professor of Pediatrics and Computer Science & Engineering, University of California, San Diego	
09.35-10.05	The Center for Translational Microbiome Research (CTMR): An Open Academic Research Collaboration between Ferring Pharmaceuticals and the Karolinska Institute - Our overriding goal is to better understand the contribution of the human microbiome to the physiology and pathophysiology of disease, thereby opening opportunities for development of novel therapies to improve people's lives. We go into the space with the view that it is important to sort out the hope from the hype. It is our view that the only way to achieve this is to know what is 'normal'. - Currently there exist many small pilot studies with poor epidemiological design and observations reported need to be confirmed in larger well-designed (and preferably) population-based studies with long follow-up periods - Our initial efforts include the Karolinska's prospective population-based studies in the gastroenterology field; however, we are planning studies in reproductive health and women's health areas. CONFIRMED: Craig Murphy, Senior Director of Immunology & Therapeutic Innovation, Ferring Pharmaceuticals	
10.05-10.35	Sponsored Presentation: Title To Be Confirmed  Sponsored Presentation For sponsorship opportunities please contact Gavin Hambrook at gavin@globalengage.co.uk CONFIRMED: Senior Representative, Enterome Bioscience	
10.35-11.45	Morning Refreshments Poster Presentations & Networking Meetings	
	Gut Microbiota in Health and Disease Session Chair: Avi Spier, Director, Strategic Alliances, Novartis Institutes for Biomedical Research, Novartis	Skin Microbiota Session Chair: Lada Rasochova, CEO, Dermala Inc.
11.45-12.10	Frozen, Encapsulated Fecal Microbiota Transplant for <i>C. difficile</i> Infection Fecal Microbiota Transplantation (FMT) is an accepted treatment for recurrent <i>C. difficile</i> infection (CDI). We have prospectively followed 200 patients treated with FMT capsules at Massachusetts General Hospital. Patients 7-95 years of age, with 3 or more mild-to-moderate episodes of CDI, or 2 episodes requiring hospitalization, were treated with open label capsule FMT (15 capsules on each of 2 successive days). Cure (defined as resolution of diarrhea, or no recurrence of diarrhea within 8 weeks) was achieved in 82% with a single dose of 30 capsules, rising to 92% with a second dose in those who relapsed based upon worsening symptoms and fecal testing. Adverse events were minor, with the exception of two patients diagnosed by biopsy with ulcerative colitis (UC) in the follow-up period. In one subject UC was clinically suspected before FMT, in the other not. FMT by capsule is offered as standard care for CDI at our institution. CONFIRMED: Elizabeth Hohmann, Associate Professor of Medicine, Massachusetts General Hospital	Title To Be Confirmed Therapeutic and Diagnostic Power of the Skin Bacterial Immune System CONFIRMED: Richard Gallo, Professor and Interim Chair, Department of Dermatology, University of California, San Diego
12.10-12.35	Delivery of Programmable Nucleases for Rationally Altering Microbial Communities The human microbiome comprises thousands of bacterial strains and species, where we still know little how individual members contribute to community function and human health. In this talk, I will highlight my research group's ongoing work on developing targeted programmable antimicrobials to remove individual members of a microbial community. These antimicrobials are based on CRISPR-Cas systems immune systems that have gained widespread attention for genome editing but also hold potential as next-generation antimicrobials. I will discuss our efforts to develop generalized delivery vehicles that rely on engineered bacteriophages and how these vehicles can be exploited to delivery CRISPR antimicrobials to multiple species. By removing individual members of a microbial community, we seek to evaluate the specific role of that member in microbiome function and begin rationally altering the composition of the human microbiome in order to improve human health. CONFIRMED: Chase Beisel, Assistant Professor, Department of Chemical & Biomolecular Engineering, North Carolina State University	Elucidating Mechanisms of Tolerance to Commensal Skin Microbes Our skin contains billions of lymphocytes that protect us from infection by recognizing and responding to microbial antigens. Yet, healthy skin shows no evidence of destructive inflammation directed against commensal bacteria. Using an in vivo model to study the commensal-specific CD4⁺ T cell response, we recently observed that immune tolerance to skin commensals is preferentially established early in life and mediated by a unique population of regulatory T cells in neonatal skin. In fact, commensals themselves help facilitate immune tolerance by augmenting accumulation of these Tregs. Further efforts to dissect the cellular and molecular mechanisms that mediate adaptive immune tolerance to skin commensals may open new therapeutic opportunities for inflammatory skin disease. CONFIRMED: Tiffany Scharschmidt, Assistant Professor of Dermatology, University of California, San Francisco

12.35-13.00	Reconstituting the Gut Microbiome: Lessons from HIV Infection - Dysbiosis is frequent in the setting of HIV, and like <i>C. difficile</i>, can be stably altered - Dysbiosis in the setting of HIV is associated with systemic markers of inflammation - Interventions to reconstitute the microbiome during HIV will inform other disease conditions CONFIRMED: Ma Somsouk, Associate Professor of Medicine, Division of Gastroenterology, University of California, San Francisco	Title To Be Confirmed RESERVED: John Zibert, Medical Director, LEO Pharma A/S
13.00-13.15	Company Showcase: Title To Be Confirmed Metabiomics CONFIRMED: Senior Representative, Metabiomics	Company Showcase For sponsorship opportunities please contact Gavin Hambrook at gavin@globalengage.co.uk
13.15-14.15	Lunch	
	Session Chair:	Session Chair:
14.15-14.45	Sponsored Presentation: Title To Be Confirmed SECOND GENOME THE MICROBIOME COMPANY CONFIRMED: Senior Representative, Second Genome	A Forbidden Kingdom: The Fungal Microbiome in Skin Health. Why it's Important, What Needs To Be Done, and How to Intervene In the scope of human microbiome research, there remain two related and unexploited areas, skin and fungi. As an example of the importance and opportunity in leveraging the skin mycobiome, this presentation will review current understanding of healthy versus diseased scalp, the scalp Mycobiome, the role of <i>Malassezia</i> in dandruff and seborrheic dermatitis, the state of the art in <i>Malassezia</i> genomics, and how current treatment options influence the scalp Mycobiome. We identified candidate organisms, defined pathogenic mechanisms, and designed successful treatment interventions for the consumer market. These strategies may also be broadly applied across skin health. CONFIRMED: Thomas L. Dawson, Jr., Senior Principal Investigator, Agency for Science, Technology, and Research (A*STAR), Institute of Medical Biology (IMB), Singapore
14.45-15.10	Title To Be Confirmed illumina® CONFIRMED: Senior Representative, Illumina	Panel Discussion: Skin Microbiota Therapeutics - Landscape of the skin microbiome - Skin microbiota and probiotics - Establishing skin microbiome biotech and treatments CONFIRMED: ➤ Susan Smith, Head of Immunology, Stiefel, a GSK company ➤ Dana Hosseini, Chief Executive Officer & Co-Founder, ProdermlQ ➤ Marc Güell, Chief Scientific Officer, S-Biomedic ➤ Eva Berkes, Co-Founder & Chief Scientific Officer, Quorum Innovations ➤ Lada Rasochova, CEO, Dermala Inc.
15.10-15.35	Title To Be Confirmed RESERVED: Senior Representative, Johnson & Johnson	Title To Be Confirmed CONFIRMED: Larry Weiss, Chief Medical Officer, AOBiome
15.35-16.25	Afternoon Refreshments Poster Presentations & Networking Meetings	

Agenda – Day One (continued) – Monday 3 October 2016

Company Showcase

A series of short presentations from companies looking to commercialise microbiome research, the science behind their findings and the innovation and partnerships they are bringing to microbiome research.

17.25-17.40 Company Showcase:
Title To Be Confirmed

CONFIRMED:
Senior Representative, WinClove Probiotics



17.40-17.55 Company Showcase:
Title To Be Confirmed

CONFIRMED:
Senior Representative, SynCo Bio Partners



17.55-18.10 Company Showcase:
Title To Be Confirmed

CONFIRMED:
Senior Representative, DNA Genotek



18.10-18.25

Company Showcase Presentation:

For sponsorship opportunities please contact Gavin Hambrook at gavin@globalengage.co.uk

18.25 **Chairman's Closing Remarks & End of Day One**

18.25-19.25 **Drinks Reception**



Venue

San Diego Marriott La Jolla

4240 La Jolla Village Drive
La Jolla, California 92037
United States

A discounted group rate will be available to all attendees. Details of how to book are available on registration. Space is limited and accommodation is available on a first come basis.



For more information please contact Steve Hambrook, Conference Director, Global Engage Ltd.

steve@globalengage.co.uk

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Agenda – Day Two – Tuesday 4 October 2016

08.00-08.45	Networking Meetings Coffee & Stream Chair's Opening Address	
	Morning Chair:	
08.45-09.15	Keynote Address: Title To Be Confirmed	
	CONFIRMED: Mark Morrison, Professor & Chair, Microbial Biology and Metagenomics, University of Queensland Diamantina Institute, Australia	
09.15-09.40	Title To Be Confirmed	
	RESERVED: Industry Presentation	
09.40-10.10	Sponsored Presentation: Title To Be Confirmed	
	CONFIRMED: Michael Step, Chief Executive Officer, Ritter Pharmaceuticals	
10.10-10.40	Sponsored Presentation: Title To Be Confirmed	
		Sponsored Presentation For sponsorship opportunities please contact Gavin Hambrook at gavin@globalengage.co.uk
	CONFIRMED: Senior Representative, Evolve Biosystems Inc.	
10.40-11.40	Morning Refreshments & Networking Meetings	
	Session Chair:	Vaginal, Lung & Oral Microbiota Session Chair:
11.40-12.40	Panel Discussion: Venture Capital and Microbiome Investment - What are companies looking for in a microbiome business investment? - Fundraising in microbiome - Venture Capital - Current market opportunities - Evaluating the funding climate - Perspective on building revenue models for the industry	11.40- 12.10 Title To Be Confirmed Lung Microbiome
	RESERVED: Senior Representatives x4	CONFIRMED: Alison Morris, Associate Professor of Medicine and Immunology, University of Pittsburgh
		12.10- 12.40 Understanding the Lung Microbiome and Host Mucosal Immune Response Interface Microaspiration is a common phenomenon in healthy subjects, its frequency is increased in several chronic inflammatory airway diseases. Aspiration-derived lung microbiota is associated with a distinct metabolic profile, demonstrating active microbial metabolism and challenging the prior preconception of sterility of the lower airways. Importantly, this enrichment of the lower airway microbiome with oral taxa is a major determinant of the inflammatory tone in the lower airway mucosa. The host immune phenotype associated with aspiration-derived lung microbiota is characterized by a Th-17 phenotype and a blunted alveolar macrophage TLR4 response. Targeting specific microbial metabolic pathways can impact host immune responses with important role on chronic airway inflammation
		CONFIRMED: Leopoldo Segal, Assistant Professor, Department of Medicine, New York University School of Medicine
12.40-12.55	Company Showcase: Title To Be Confirmed	Company Showcase: Title To Be Confirmed
		
	CONFIRMED: Nick Conley, Chief Executive Officer, EpiBiome	CONFIRMED: Maxence Desjonquères, Chief Executive Officer, Biose
12.55-13.25	Sponsored Presentation: Gut Microbiome Targets: Treatment of IBS-C and Prevention of C. difficile Infections	
		
	CONFIRMED: Deb Mathews, Vice President, Medical Affairs, Synthetic Biologics, Inc.	
13.25-14.25	Lunch	

Agenda – Day Two (continued) – Tuesday 4 October 2016

Afternoon Chair:		Afternoon Chair:	
14.25-14.50	The Microbiome Influences Homeostatic Control of Eukaryotic ABC Transporters at the Intestinal Mucosal Surface during Health and Disease The intestinal mucosa represents vast areas where host tissues are separated from the environment by a delicate but highly effective single layer of columnar epithelial cells, joined by tight junctions that selectively regulate movements of solutes and ions. This epithelial barrier functions normally in a state of tolerance to variations in dietary components and commensal bacteria, yet is poised to rapidly shift to an inflamed state where PMNs are recruited to protect the body from noxious materials and pathogenic bacteria. We have identified two sets of lipid-based signaling molecules that are released from the apical surface during periods of tolerance and inflammation that can control the recruitment of PMNs to the intestinal lumen. The role of the microbiome in intestinal function will be discussed in the context of the pathways that drive pro- and anti-inflammatory states in promoting injury or tissue healing. CONFIRMED: Beth McCormick, Professor & Executive Director, Center for Microbiome Research, University of Massachusetts Medical School	Title To Be Confirmed Lung Microbiome RESERVED: Luke Hoffman, Associate Professor, Pediatrics, University of Washington	
14.50-15.15	Ultra- Rapid, Ultra-Targeted Next Generation Antimicrobials For Gastrointestinal Infections The microbiome is a dense and diverse ecosystem of microbes that live on and in our bodies, particularly in the gastrointestinal (GI) tract, where they protect us from dangerous infections. Conventional broad-spectrum antibiotics can deplete the GI microbiome, allowing deadly opportunistic pathogens to establish a foothold in the GI tract. Often, these pathogens become resistant to antibiotics such as <i>Clostridium difficile</i>. <i>C.difficile</i> is the most common hospital-acquired infection in the US and a critical public health challenge. <i>C.difficile</i> causes severe diarrhoea and colon inflammation in 500,000 US patients each year, leading to a host of negative outcomes including extended hospital stays, repeated hospital admissions, colectomy and 30,000 deaths each year. Available antibiotic treatments fail up to 30% of patients. The company's lead product candidate, SHP-01, rapidly and selectively destroys pathogenic <i>C.difficile</i> in the GI tract, without impacting healthy microbiome bacteria. SHP-01 combines an engineered antimicrobial protein, developed by Dr Vincent Fischetti at the Rockefeller University, with Symbiotic's proprietary platform for oral delivery of biologics. SHP-01 is being advanced through preclinical development. The development of SHP-01 is an opportunity to demonstrate the general potential of an innovative and disruptive therapeutic strategy with applications in infectious disease and GI pathologies. CONFIRMED: Chandrabali Ghose, Chief Scientific Officer, Symbiotic Health	Title To Be Confirmed Vaginal Microbiome Invite to:	
15.15-15.40	Title To Be Confirmed RESERVED: Sean Davies, Associate Professor of Pharmacology, Vanderbilt University	Title To Be Confirmed Vaginal Microbiome CONFIRMED: Inga Peter, Associate Professor, Department of Genetics and Genomic Sciences, Icahn School of Medicine at Mount Sinai	
15.40-16.05	Microbiome and Health CONFIRMED: Harro Timmerman, Principal Scientist Microbiota in Health & Disease, NIZO Food Research BV, The Netherlands	The Effectiveness of <i>Streptococcus salivarius</i> against the Otopathogens of otitis media <i>Streptococcus salivarius</i> is an oral probiotic that is known and used commercially for its ability to inhibit the growth of oral pathogens. The potential ability of <i>Streptococcus salivarius</i> to inhibit the growth of <i>Streptococcus pneumoniae</i>, Nontypeable <i>Haemophilus influenza</i> and <i>Moraxella catarrhalis</i> will be investigated. CONFIRMED: Robert Osgood, Associate Professor of Microbiology, Rochester Institute of Technology	
16.05-16.35 Afternoon Refreshments			
16.35-17.00	Title To Be Confirmed Gut-Brain Axis CONFIRMED: Jane Foster, Associate Professor, Department of Psychiatry & Behavioural Neurosciences, McMaster University, Canada	Title To Be Confirmed Oral Microbiome RESERVED: Wenyuan Shi, Professor and Chair of Oral Biology, UCLA School of Dentistry	
17.00-17.25	Title To Be Confirmed Gut-Brain Axis RESERVED: Ying-Chieh Tsai, Professor, National Yang Ming University, Taiwan		
17.25 Conference Close			