**SUNDAY, OCTOBER 8**
Arrival and Registration

**MONDAY, OCTOBER 9**

**Welcome and Keynote Session (Joint)**

*Sven Enerbäck*, University of Gothenburg, Sweden

*Jorge Henao-Mejia*, University of Pennsylvania and Children's Hospital of Philadelphia, USA

**June L. Round**, University of Utah, USA

**Microbes with Benefits: Microbe-immune Interactions that Promote Metabolic Health**

*Bruce M. Spiegelman*, Dana-Farber Cancer Institute, USA

**Microbiota and Circulating Metabolites in Host Physiology and Immunity (Joint)**

*Tim W. Hand*, University of Pittsburgh, USA

*Kathryn E. Welken*, University of Pennsylvania, USA

**Understanding the Interplay Between Diet, Acetyl-CoA synthesis, and Hepatic Lipid Homeostasis**

*Michael A. Fischbach*, Stanford University, USA

**Microbiota Derived Metabolites and Host Physiology**

*Nicole D. Sonnert*, Yale University, USA

**Short Talk: A Host-Microbiota Interactome Reveals Extensive Transkingdom Connectivity**

*Erica Shanee Maissy*, UCSD, USA

**Short Talk: Gut Microbial Bile Acid Modifications With Engineered Native Bacteria Ameliorate Metabolic Features In Polycystic Ovary Syndrome**

**Workshop 1: Decoding the Mechanisms of Immune-host Commensals Interactions (J4)**

*Michael A. Silverman*, Children's Hospital of Philadelphia, USA

*Juan D. Matute*, Harvard Medical School/Massachusetts General Hospital, USA

**Inteletin-1 Binds and Alters the Localization of the Mucus Barrier-modifying Bacterium Akkermansia Muciniphila**

*Mariia Taguer*, Merck Research Labs, USA

**Spatial Recovery of the Gut Microbiome after Antibiotics Perturbation**

*Shaina Carroll*, University of California, Berkeley, USA

**Identification and Characterization of Dendritic Cells Presenting Akkermansia Muciniphila Antigens in the Gut**

*Masaya Arai*, Osaka University, IFReC, Japan

**Antigen-specific Stimulation Induced and Augmented Peripherally Derived Treg Cells which Establish Treg-specific Epigenome and Orchestrate Oral Tolerance**

**Emrah Altindis**, Boston College, USA

*A Microbiota-derived Insulin Epitope Mimic and Type 1 Diabetes Onset*

*Djenet Bousbaine*, Stanford University, USA

**Decoding and Engineering the B Cell Response to Skin Commensal Microbes**

*Gregory P. Donaldson*, Rockefeller University, USA

**Immunoglobulin A Suppresses Tumorigenesis by Counteracting Epithelial Responses to Microbiota**

*Naama Geva-Zatorsky*, Technion Institute of Technology, Israel

**Remote Presentation: Functional Plasticity in the Gut Microbiota and Phage-host Interactions**

**Workshop 1 (J3)**

*Haopeng Xiao*, Dana-Farber Cancer Institute/ Harvard Medical School, USA

*A Multomic Systems Approach to Mechanistically Characterize Novel Regulators of Metabolic Pathways**

*Rachel K. Meyer*, University of Arizona, USA

**Impact of Postprandial Butyrate Production on Hepatic Glucose Production via Colonic and Hepatic Signaling Pathways**

*Joseph R. Visker*, University of Utah, USA

**Targeting the Mitochondrial Pyruvate Carrier (MPC1) Ameliorates Myocardial Ischemic Reperfusion Injury in Mice**

*Karthikeyani Chellappa*, Brown University, USA

**Microbial NAD Metabolism: Missing Link in Organismal NAD Biology**

*Adam J. Rauckhorst*, University of Iowa, USA

**Pathways of Hepatic De Novo Lipogenesis**

*Samuel M. Lancaster*, Stanford University, USA

**Deep Metabolic Phenotyping of Newborn Cord Blood Reveals Maternal-fetal Interactions and Disease Risk**

**Microbiota and Circulating Metabolites in Host Physiology and Immunity II (J4)**

*Noah W. Palm*, Yale University, USA

**Mapping Uncharted Landscapes of Host-Microbiota Communication**

*Nicola Gagliani*, University of Hamburg, Germany

**The Effects of Short-term Dietary Interventions on Immunity and Tumor Therapies**

*Jorge Henao-Mejia*, University of Pennsylvania and Children's Hospital of Philadelphia, USA

**Microbiota and Adipose Tissue Inflammation**

*Xiaofei Yu*, The Salk Institute for Biological Studies, USA

**Short Talk: Early Immune Activation Protects against Psychological Stress via Interleukin-22**

*Siva Karthik Varanasi*, The Salk Institute for Biological Studies, USA

**Short Talk: Microbial Derived Bile Acids Influence Liver Immunity during Viral Infection and Cancer**

*Session Chair † Invited but not yet accepted     Program current as of October 8, 2023. Meal formats are based on meeting venue.

For the most up-to-date details, visit [https://www.keystonesymposia.org](https://www.keystonesymposia.org)
**Intermediary Metabolites as Fuels (J3)**

*Sarah-Maria Fendt*, VIB-KU Leuven, Belgium  
*Lactate as Waste and Fuel*

*Marc K. Hellerstein*, University of California, Berkeley, USA  
*Flux in Humans. Very Useful.*

*Maria Dolores Moya-Garzon*, Stanford University, USA  
*Short Talk: A Family of Orphan Ketone Metabolites that Regulates Energy Homeostasis*

*Eric S. Goetzman*, University of Pittsburgh, USA  
*Short Talk: Dodecanedioic Acid as an Alternative Metabolic Fuel*

*Elaine Y. Hsiao*, University of California, Los Angeles, USA  
*Microbiome-diet Interactions for Regulating Neuronal Activity*

---

**Career Roundtable (Joint)**

*Zoltan Arany*, University of Pennsylvania, USA  
*Microbiota and Necrotizing Enterocolitis*

*Romina S. Goldszmid*, NCI, National Institutes of Health, USA  
*Maternal Antibodies Regulate Host-Microbiota Mutualism in Early Life*

*Harry Sokol*, Sorbonne Université/INSERM, France  
*Remote Presentation: Microbiota and Neuro-Immune Interactions*

---

**Microbiota Immune Interactions in Early Life (J4)**

*Tim W. Hand*, University of Pittsburgh, USA  
*Microbiota and Necrotizing Enterocolitis*

*Meghan A. Koch*, Fred Hutchinson Cancer Research, USA  
*Maternal Antibodies Regulate Host-Microbiota Mutualism in Early Life*

*Petter Brodin*, Karolinska Institutet, Sweden  
*Early Life Immune Development and Intestinal Tolerance*

---

**Metabolite Drivers of Health and Disease (J3)**

*Sven Enerbäck*, University of Gothenburg, Sweden  
*Metabolic Rewiring Driving Metastasis Formation*

*Sarah-Maria Fendt*, VIB-KU Leuven, Belgium  
*Metabolic Drivers of Health and Disease*

---

**Muscle and Exercise (J3)**

*George A. Brooks*, University of California, Berkeley, USA  
*Muscle and Whole Body Lactate Kinetics: Organ-Organ, Cell-Cell, Intracellular, and Postprandial Lactate Shuttle*

*Katrien De Bock*, Swiss Federal Institute of Technology, Switzerland  
*Glutamine Metabolism and Muscle Stem Cell Fate Decisions*

*Zoltan Arany*, University of Pennsylvania, USA  
*Metabolic Flux in Exercise*

*Charlotte G. Mann*, ETH Zürich, Switzerland  
*Short Talk: Sulfur Amino Acid Restriction Enhances Exercise Capacity in Mice by Reprogramming Glycolytic Muscle Metabolism*

*Arthur Kasar*, University of Cambridge, UK  
*Short Talk: A Purine Nucleotide Cycle Interlocking Energy Metabolism is Widespread across the Organism*
Liz Shepherd, Novome Biotechnologies, USA
Microbial Cell Therapy: Engineering Gut Residents to Treat Disease
Yiyin Chen, Broad Institute of MIT and Harvard, USA
Short Talk: Engineering Skin Commensal Bacteria for Tumor Immunotherapy
Joon Seok Park, Harvard Medical School, USA
Short Talk: Targeting PD-L2–RGMb Overcomes Microbiome-related Immunotherapy Resistance

Metabolites as Signaling Molecules (J3)
*Joshua D. Rabinowitz, Princeton University, USA
*Sven Enerbäck, University of Gothenburg, Sweden
How Foxk1 and Foxk2 Regulate Aerobic Glycolysis – Implications for Systemic Energy Homeostasis and Type 2 Diabetes
Maria Yuneva, Francis Crick Institute, UK
Identifying Metabolic Requirements of Tumours in vivo
Edward T. Chouchani, Dana-Farber Cancer Institute, USA
Mechanisms of Protein Regulation by Lactate
Christine U. Vohwinkel, University of Colorado School of Medicine, USA
Lactate Mediated Metabolic Cross-talk Between Alveolar Macrophages and Epithelium in Acute Lung Injury Attenuates Excessive inflammation via histone lactylation

Workshop 2: Dietary Therapeutic Interventions in Autoimmunity and Cancer (J4)
*Nicola Gagliani, University of Hamburg, Germany
Margaret Alexander, University of California, San Francisco, USA
A Diet-dependent Host Metabolite Shapes the Gut Microbiota to Protect from Autoimmunity
Asael Roichman, Princeton University, USA
The Gut Microbiome Regulates the Anti-cancer Activity of PI3K Inhibitors
Abby E. Overacre, University of Pittsburgh, USA
Too Sweet to be True: Sucrase/Isomaltase Inhibitors Disrupt Microbiome Disruption.
Khien C. Lam, National Institutes of Health, USA
Tumor-Intrinsic Factors Dictate the Beneficial Effect of Microbiota Intervention on Anti-Cancer Response
Annabel Bachem, University of Melbourne, Australia
Improving CD8 T Cell-mediated Melanoma Control by Targeting Microbiota-derived Metabolites
Isabelle Bourdeau Julien, Université Laval, Canada
Metabolite Profile Response to Short-Term Dietary Interventions
Cate Ward, Stanford School of Medicine, USA
Exploring the Interplay of Plant-Based Diets, Microbiota, and Metabolites: Implications for Cardiovascular Disease Prevention

Harry Sokol, Sorbonne Universités/INSERM, France
Role of the Gut Microbiota in Tryptophan Metabolism: A System Biology Approach

Workshop 2 (J3)
*Andrea Galmozzi, University of Wisconsin SMPH, USA
Adipose Heme Biosynthesis Regulates Metabolic Homeostasis and Energy Expenditure
Anthony Verkerke, BIDMC, USA
BCAA Flux in Brown Fat Regulates Insulin Sensitivity Independent of Thermogenesis
Tong Wang, Brigham and Women’s Hospital, Harvard Medical School, USA
Machine Learning for Precision Nutrition
Jaclyn A. Rivas, University of New Mexico, USA
Metabolomic and Transcriptomic Alterations in the Colon of Mice with Metabolic Syndrome in the Absence of Inflammation
Hadar Israeli, Hadassa Medical School, Hebrew University, Israel
Unraveling Weight Loss-Independent Mechanisms following Sleeve Gastrectomy for Alleviating Non-Alcoholic Fatty Liver Disease
Genki Ichihara, Keio University School of Medicine, Japan
MRP1-dependent Extracellular Release of Glutathione Induces Cardiomyocyte Ferroptosis After Ischemia-Reperfusion

Microbiota, Inflammation and Protective Immunity (J4)
*Shruti Naik, New York University Langone Health, USA
Skin Microbiota and Tissue Repair
Rose L. Szabady, Ferring Pharmaceuticals, Inc., USA
Development of Live Microbial Therapeutics for Treatment of Human IBD
Dan R. Littman, HHMI/New York University School of Medicine, USA
Instruction of T Cell Programs by the Commensal Microbiota
Michael Abt, University of Pennsylvania, USA
Short Talk: Therapeutic Intervention Restores Host Responsiveness to Microbiota Transplant Treatment of C. Difficile Infection

Obesity and Metabolic Syndrome (J3)
Michelle F. Clasquin, Pfizer, Inc., USA
Expanding the Chemical Space of Synthetic Metabolites to Study a Protein of Unknown Function with Therapeutic Potential in NASH
*Joanna Kalucka, Aarhus University, Denmark
Heterogeneity of Vascular Endothelial Cells in Human Adipose Tissue: Implications for Health and Disease
Bowen Tan, Rockefeller University, USA
Short Talk: Cellular and Molecular Basis of Leptin Resistance

* Session Chair † Invited but not yet accepted  Program current as of October 8, 2023. Meal formats are based on meeting venue.
For the most up-to-date details, visit https://www.keystonesymposia.org.
Rémi Montané, Restore Institute, France

Short Talk: Regulation of Systemic Lactate Fluxes by Brown and Beige Adipose Tissues

Meeting Wrap-Up: Outcomes and Future Directions (Organizers)

(J4)

Meeting Wrap-Up: Outcomes and Future Directions (Organizers)

(J3)

Poster Session 3

THURSDAY, OCTOBER 12

Departure