**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

**Inputs and Outputs of Adipose Microbiota and Circulating Metabolites in Host Physiology and Immunity (Joint)**

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

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

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

**Michael A. Spiegleman**, Dana-Farber Cancer Institute, USA

**Workshop 1 (J3)**

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

**A Multiomic 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. Rauchhorst*, 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**

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

*Micheal 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**

*Maria 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**

**Intermediary Metabolites as Fuels (J3)**

*Sara-Maria Fendt*, VIB-KU Leuven, Belgium

*Joshua D. Rabinowitz*, Princeton University, USA

**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**

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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, Fudan University, China
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

Poster Session 1

TUESDAY, OCTOBER 10

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 Shuttles

*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 Kaser, University of Cambridge, UK
Short Talk: A Purine Nucleotide Cycle Interlocking Energy Metabolism is Widespread across the Organism

Microbiota, Inflammation and Host Metabolism (J4)

Lora V. Hooper, University of Texas Southwestern Medical Center, USA
Immune-Microbiota Interactions and Nutrient Absorption

*Theresa Alenghat, Cincinnati Children’s Hospital, USA
Regulation of the Host-Microbiota Relationship

Eran Elinav, Weizmann Institute of Science, Israel
Nutrition, Microbiota and Innate Immunity in Epithelial Cells

Sean Spencer, Stanford University, USA
Short Talk: Fermented Food-derived Bacterial Metabolites Participate in a Transkingdom Metabolic Network to Regulate Intestinal Immunity and Diet Induced Obesity

Daniel Mucida, Rockefeller University, USA
Remote Presentation: Microbiota and Neuro-Immune Interactions

Career Roundtable (Joint)

Zoltan Arany, University of Pennsylvania, USA
Rose L. Szabady, Ferring Pharmaceuticals, Inc., USA
Elaine Y. Hsiao, University of California, Los Angeles, USA
Romina S. Goldszmidt, NCI, National Institutes of Health, USA
Harry Sokol, Sorbonne Université/INSERM, France

Metabolite Drivers of Health and Disease (J3)

*Sven Enerbäck, University of Gothenburg, Sweden
*Sarah-Maria Fenndi, VIB-KU Leuven, Belgium
Metabolic Rewiring Driving Metastasis Formation

Lora K. Heisler, Rowett Institute, University of Aberdeen, UK
Metabolites Influencing Obesity and Type 2 Diabetes

Jared Rutter, University of Utah, USA
Metabolic Signals and Cellular Decisions

Kyle Dunlap, University of Utah, USA
Short Talk: A Functional Genomics Screen Reveals an Essential Citrulline Transporter

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

Michael A. Silverman, Children's Hospital of Philadelphia, USA
Short Talk: Arresting Microbiome Development Limits Immune System Maturation And Resistance To Infection

Melody Zeng, Weill Cornell Medicine, USA
Short Talk: Gut Bacteria-Derived Serotonin in Early-Life Immune Tolerance

Poster Session 2

WEDNESDAY, OCTOBER 11

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

Mariia 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

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Circulating Metabolic Intermediates as Fuels and Signals (J3)

Scientific Organizers: Sven Enerbäck, Joshua D. Rabinowitz and Sarah-Maria Fendt

Supported by the Directors’ Fund

Mechanisms of Microbiota-Immune Interactions-Towards the Next Decade (J4)

Scientific Organizers: Jorge Henao-Mejia, Eran Elinav and Lora V. Hooper

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Scholarship Deadline: July 6, 2023 / Abstract Deadline: July 6, 2023 / Discounted Registration Deadline: August 8, 2023

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

Microbiota, Tumorigenesis, and Cancer Immunotherapy (J4)

*Romina S. Goldszmid, NCI, National Institutes of Health, USA
Regulation of the Tumor Microenvironment by the Diet and Microbiota

Thomas Gajewski, University of Chicago, USA
Microbiota and Cancer Immunotherapy

Jens Puschhof, Deutsches Krebsforschungszentrum, Germany
Modelling Cancer-Microbe Interactions with Organoids and Organs-on-Chips

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

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 GlutathioneInduces Cardiomyocyte Ferroptosis After Ischemia-Reperfusion

Workshop 2: Dietary Therapeutic Interventions in Autoimmunity and Cancer (J4)

*Nicola Gagliani, University of Hamburg, Germany
A Diet-dependent Host Metabolite Shapes the Gut Microbiota to Protect from Autoimmunity

Asael Roichman, Princeton University, USA
The Gut Microbiota Regulates the Anti-cancer Activity of PI3K Inhibitors

Abby E. Overacre, University of Pittsburgh, USA
Too Sweet to be True: Sucralose Ablates Immunotherapy Response through Microbiome Disruption

Khiem C. Lam, National Institutes of Health, USA
Tumor-Intrinsic Factors Dictate the Beneficial Effect of Microbiota Intervention on Anti-Cancer Response

Annabell 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 Université/INSERM, France
Role of the Gut Microbiota in Tryptophan Metabolism: A System Biology Approach

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

Rémi Montané, Restore Institute, France
Short Talk: Regulation of Systemic Lactate Fluxes by Brown and Beige Adipose Tissues

Microbiota, Inflammation and Protective Immunity (J4)

*Shruti Naik, New York University Langone Health, USA
Skin Microbiota and Tissue Repair

Rose L. Szabaday, 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

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Michael Abt, University of Pennsylvania, USA

Short Talk: Therapeutic Intervention Restores Host Responsiveness to Microbiota Transplant Treatment of C. Difficile Infection

Meeting Wrap-Up: Outcomes and Future Directions (Organizers) (J3)

Meeting Wrap-Up: Outcomes and Future Directions (Organizers) (J4)

Poster Session 3

THURSDAY, OCTOBER 12

Departure