

KEYSTONE SYMPOSIA

on Molecular and Cellular Biology

Organelle Membrane Contact Sites in Health and Disease (X6)

Scientific Organizers: Gia K. Voeltz and Jodi Nunnari

Supported by the Directors' Fund

Mitochondria Signaling and Disease (X5)

Scientific Organizers: Heidi M. McBride and Timothy Wai

February 12-15, 2024 • Fairmont Banff Springs • Banff, AB, Canada

Supported by the Directors' Fund

Scholarship Deadline: November 28, 2023 / Abstract Deadline: November 28, 2023 / Discounted Registration Deadline: December 13, 2023

MONDAY, FEBRUARY 12

Arrival and Registration

TUESDAY, FEBRUARY 13

Welcome and Keynote Session (Joint)

Karin M. Reinisch, Yale University School of Medicine, USA
Molecular Basis for Inter-Organellar Lipid Transfer at Contact Sites

Edward T. Chouchani, Dana-Farber Cancer Institute, USA
Insights Into Dynamic Rewiring of Metabolism in Physiology

Mitochondrial Dynamics (Joint)

Luca Scorrano, University of Padova, Italy
Unbiased Screenings Illuminate Regulators of Mitochondrial Dynamics and Contact Sites

Stefan Jakobs, Max Planck Institute for Multidisciplinary Sciences, Germany
Architecture of Mitochondria

Gia K. Voeltz, University of Colorado Boulder, USA
Dynamics of Membrane Contact Sites

Career Roundtable (Joint)

Workshop 1: Hot Topics in Mitochondrial Biology (Joint)

Short Talks Chosen from Abstracts

Lipid Homeostasis (X6)

Jodi Nunnari, Altos Labs, USA
Lipid Trafficking at Mitochondria

William A. Prinz, University of Texas Southwestern Medical Center, USA
Lipid Trafficking at the PM

Robin Klemm, University of Oxford, UK
Mitochondrial Remodeling During Adipocyte Differentiation

Short Talks Chosen from Abstracts

Emerging Quality Control Mechanisms (X5)

Hilla Weidberg, University of British Columbia, Canada
Quality Control at the Import Translocon

Heidi M. McBride, McGill University, Canada
MDVs in Mitochondrial Homeostasis

Xingguo Liu, Guangzhou Institutes of Biomedicine and Health, China
Mitolysosomes as New Pathway in Quality Control

Martin Graef, Cornell University, USA
Short Talk: Autophagy Functions in Mitochondrial and Nuclear Genome Maintenance

Natalie Niemi, Washington University in St. Louis, USA
Short Talk: PPTC7 Maintains Mitochondrial Protein Content by Suppressing Receptor-mediated Mitophagy

Poster Session 1

WEDNESDAY, FEBRUARY 14

Getting to the Plasma Membrane (X6)

Laura L. Lackner, Northwestern University, USA
Tethered to the Plasma Membrane

Wanda Kukulski, University of Bern, Switzerland
Imaging the Molecular Architecture of Contact Sites

Jen Liou, University of Texas Southwestern Medical Center, USA
Ca Trafficking at ER-PM Contact Sites

Tamas Balla, NICHD, National Institutes of Health, USA
Moving Lipids

Short Talks Chosen from Abstracts

Stress and Death Pathways (X5)

Ana J. García-Sáez, University of Cologne, Germany
Mitochondrial Membrane Remodeling During Death

Anne Hamacher-Brady, Johns Hopkins University, USA
The Many Faces of Mitochondria in Death

Lucas T. Jae, Ludwig-Maximilians-University Munich, Germany
Genetic Dissection of Mitochondrial Stress in Human Cells

Timothy Wai, Institut Pasteur, France
Stress Responses and Cardiac Health

Hua Bai, Iowa State University, USA
Short Talk: Role of Plasmalogen Ether Phospholipids in Mitochondrial Membrane Dynamics and Aging

Phillip West, The Jackson Laboratory, USA
Short Talk: Cooperative Sensing of Mitochondrial DNA by ZBP1 and GAS Promotes Cardiotoxicity

Workshop 2: Networking/Mentorship/DEI (Joint)

Short Talks Chosen from Abstracts

Molecular Trafficking (X6)

Pedro Carvalho, University of Oxford, UK
Lipid Droplet Formation

W. Mike Henne, UT Southwestern Medical Center, USA
Lipid Droplet Crosstalk with the Cell Surface

György Hajnóczky, Thomas Jefferson University, USA
Moving Calcium Back and Forth

Short Talks Chosen from Abstracts

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Transfer of Mitochondria (X5)

Clair Crewe, Washington University School of Medicine in St. Louis, USA

Inter-Organ Transport of Mitochondria

Minna Roh-Johnson, University of Utah, USA

Mitochondrial Transfer in Cancer Models

Chiara Zurzolo, Institut Pasteur, France

Tunneling Nanotubes and Mitochondrial Transfer

Luana Naia†, Karolinska Institutet, Sweden

Short Talk: Bidirectional Neuron-astrocyte Mitochondrial Transfer in Alzheimer's Disease

Akhila Rajan†, Fred Hutchinson Cancer Center, USA

Short Talk: Mitochondrial Components as Adipokines: A Novel Fat-brain Communication Modality

Poster Session 2

THURSDAY, FEBRUARY 15

Metabolic Rewiring in Cell Fate Decisions (Joint)

Lydia Finley, Memorial Sloan Kettering Cancer Center, USA

Tuning Cell Fate with Metabolism and Epigenetics

Jessica B. Spinelli, University of Massachusetts Chan Medical School, USA

Unlocking the Potential of the Mammalian Electron Transport Chain

Carmela Sidrauski, CalicoLabs, USA

ISR Tuning of Metabolism and Cell Fate in Homeostasis and Disease

Fabricio Loayza-Puch, German Cancer Research Center, Germany

Short Talk: Exploiting Mitochondrial Translation to Uncover Compartment-specific Metabolic Vulnerabilities

Daria Ilatovskaya†, Medical College of Georgia, Augusta University, USA

Short Talk: Sex Hormones-mediated Differences in Renal Mitochondrial Bioenergetics and Metabolism

Workshop 3: Leading Edge Technologies: Mitochondrial Metabolism and Metabolomics (Joint)

Short Talks Chosen from Abstracts

Membrane Dynamics (X6)

Elizabeth Chen, UT Southwestern Medical Center, USA

The Fusogenic Synapse

Adam Frost, Altos Labs, USA

Mechanisms of Membrane Dynamics

Maya B. Schuldiner, Weizmann Institute of Science, Israel

New Pathways for Membrane Contact

Christina Towers, The Salk Institute for Biological Studies, USA

Mitochondrial Derived Vesicles Compensate for Loss of Autophagy in Cancer

Mitochondria and Immunity (X5)

Lena Pernas, Max Planck Institute for Biology of Ageing, Germany

Organellar and Metabolic Dynamics of the Host-Pathogen Interaction

Robert O. Watson, Texas A&M University, College of Medicine, USA

Mitochondrial ROS Promotes Susceptibility to Infection via Gasdermin D-Mediated Necroptosis

Julien Prudent, University of Cambridge, UK

Inner Mitochondrial Membrane Remodeling and mtDNA Dynamics

Dustin Hancks†, University of Texas Southwestern Medical Center, USA

Short Talk: Rewiring of Mitochondrial Metabolism Invokes

Subprograms of the Interferon Response to Adapt Host Defenses

Meeting Wrap-Up: Outcomes and Future Directions (Organizers) (X6)

Meeting Wrap-Up: Outcomes and Future Directions (Organizers) (X5)

Poster Session 3

FRIDAY, FEBRUARY 16

Departure