

# 2024 Kern Lipid Conference

## *“Lipids and Mitochondria in Metabolic Disease”*

Monday, August 12 - Wednesday, August 14, 2024

Viceroy Snowmass - Snowmass, Colorado

Organizers:

Jonathan Brestoff, MD, PhD, Washington University in St. Louis

Nada Abumrad, PhD, Washington University in St. Louis

Gregory Steinberg, PhD, McMaster University

*All talks held in Grand Ballroom, Level 1*

<b>Monday, August 12, 2024</b>	
<i>Conference Check-In</i>	
7:00-8:00am	<b>Conference Check-In</b> <i>Foyer of the Grand Ballroom Salons 2-4, Level 1</i>
<i>Opening Kern Lecture</i>	
8:05am	<b>Welcome Remarks &amp; Opening Kern Lecturer Introduction</b> Moshe Levi, MD, President, Kern Lipid Conference, Georgetown University
8:15am	<b>Opening Kern Lecture: "How do cells make heat?"</b> Shingo Kajimura, PhD, Beth Israel Deaconess Medical Center/Harvard Medical School & HHMI
<b>Session 1: Lipids and Mitochondrial Metabolism in the Brain</b> Session Chair: Clair Crewe, PhD, Washington University in St. Louis Co-chairs: Saranna Fanning, PhD, Harvard Medical School and Brigham & Women's Hospital & Simeng Wang, MD, PhD, UT Southwestern Medical Center	
<b>9am-12:15pm</b>	
9am	<b>“Lipid metabolism defects in Alzheimer’s and Parkinson’s disease models”</b> Hugo Bellen, DVM, PhD, Baylor College of Medicine
9:30am	<b>“Analysis of Altered NAD Metabolism in Citrin Deficiency Resolves the FGF21 Paradox and Reveals Glycerol-3-Phosphate/ChREBP Signaling as a Key Molecular Driver of Lipogenesis”</b> Charles Brenner, PhD, City of Hope
10am	<b>“Mitochondria, energy constraints, and cellular aging”</b> Martin Picard, PhD, Columbia University
10:30-10:45am	<b>Morning Break</b> <i>Salon 1 &amp; Ballroom Terrace, Level 1</i>
10:45am	<b>“Importance of Hippocampus Lipid Remodeling in Behavior”</b> Nada Abumrad, PhD, Washington University in St. Louis
11:15am	<i>Nanolive-sponsored short talk:</i> <b>“AI-enabled, label-free monitoring of mitochondria in health and diseases”</b> Mathieu Frechin, PhD, Nanolive - Switzerland

11:30am	<i>Short talk:</i> <b>"Metabolic imaging of brain lipid metabolism during aging and diseases"</b> Yajuan Li, PhD, University of California-San Diego
11:45am	<b>Introduction and Presentation of the Roger Davis Award Lecture</b> Robert H. Eckel, MD, University of Colorado Anschutz Medical Campus
11:50am	<b>Roger Davis Award Lecture: "Desmosterol regulates liver myeloid cell identity controlling immunometabolic functions in MAFLD/MASH"</b> Pablo Fernandez-Tussy, PhD, Yale University
12:15-1:15pm	<b>Lunch</b> <i>Salon 1 &amp; Ballroom Terrace, Level 1</i>
1:15-4pm	<b>Afternoon Break</b>
<b>Session 2: Immune Cells and Lipids in Metabolic Disease</b> Session Chair: L. Ashley Cowart, PhD, Virginia Commonwealth University Co-chairs: Emily Goldberg, PhD, University of California, San Francisco <b>4-6pm</b>	
4pm	<b>"Targeting Microglial Lipid and Lipoprotein Metabolism in Neurodegenerative Disease"</b> Kimberley Bruce, PhD, University of Colorado Anschutz Medical Campus (rescheduled from session 1)
4:30pm	<b>"Immunometabolic crosstalk between energy and nutrient sensing pathways"</b> Morgan Fullerton, PhD, University of Ottawa
5pm	<b>"Unconventional role of T cells and the skin in controlling systemic lipid metabolism"</b> Taku Kambayashi, MD, PhD, University of Pennsylvania
5:30pm	<i>Short talk:</i> <b>"Induction of TFEB promotes Kupffer cell survival and reduces liver pathology in MASLD"</b> Mandy Chan, PhD Candidate, Washington University in St. Louis
5:45pm	<i>Short talk:</i> <b>"Targeting hepatic oxalate overproduction to treat MASH by modulation of fatty acid <math>\beta</math>-oxidation and monocyte chemotaxis"</b> Oren Rom, PhD, LSU Health Shreveport
<b>Poster Session &amp; Reception</b> <b>6:15-8:15pm</b> Nest Patio & Deck, Level 3 (In the event of bad weather, the poster session & reception will be held in Summit Meeting Rooms 1&2, Level 3) Colorado evenings tend to be cool after sunset, please plan appropriately	
<b>Tuesday, August 13, 2024</b>	
<b>Session 3: Mitochondria Transfer in Metabolic Disease</b> Session Chair: Zoltan Arany, MD PhD, University of Pennsylvania Co-chairs: Tomasz Bednarski, PhD, University of Nebraska – Lincoln & Catherine Poholek, MD, PhD, University of Pittsburgh <b>8am-12:10pm</b>	
8am	<b>"Regulated Extracellular Vesicle Secretion by Adipocytes"</b> David Bernlohr, PhD, University of Minnesota

8:30am	<b>"Adipocyte extracellular vesicles in metabolic regulation"</b> Clair Crewe, PhD, Washington University in St. Louis
9am	<b>"Innate immune cell regulation of brown fat thermogenesis"</b> Jonathan Brestoff, MD, PhD, Washington University in St. Louis
9:30am	<i>Tomocube-sponsored short talk:</i> <b>"How do various techniques (holotomography and ptychography) contribute to discovery and research?"</b> YongKeun Park, PhD, Korea Advanced Institute of Science and Technology
9:45-10:05am	<b>Morning Break</b> <i>Salon 1 &amp; Ballroom Terrace, Level 1</i>
10:05am	<b>"Biophysical Characterization of Cancer Metabolism: Multiparametric Imaging and Phenotypic Tracking in Mitochondrial Dynamics"</b> Michelle Digman, PhD, University of California Irvine
10:35am	<b>"Macrophages, keepers of mitochondrial health"</b> Andres Hidalgo, PhD, Yale
11:05am	<b>Introduction and Presentation of the David L. Williams Lecture &amp; Award</b> Mary Sorci-Thomas, PhD, Medical College of Wisconsin
11:10am	<b>David L. Williams Award Lecture &amp; Award: "Regulation of postprandial lipid handling and fuel selection with long-acting glucose-dependent insulinotropic peptide"</b> Jacqueline Beaudry, PhD, University of Toronto
11:40am	<i>Short talk:</i> <b>"Brown adipocytes transfer mitochondria to neutrophils to promote adaptive thermogenesis"</b> Samantha Krysa, PhD, Washington University in St. Louis
11:55am	<i>Short talk:</i> <b>"A Role for Macrophages in Tissue Mitochondrial Homeostasis Via Heterophagy"</b> Jose Angel Nicolas Avila, PhD, University of California - San Francisco
12:10-1:10pm	<b>Lunch</b> <i>Salon 1 &amp; Ballroom Terrace, Level 1</i>
1:10pm	<b>Afternoon Break</b>
<p><i>Exhibitor Hall Open</i> <i>1-4pm</i> <i>Grand Ballroom Foyer</i> <b>List of exhibitors:</b> <b>Columbus Instruments</b> <b>Lucid Scientific</b> <b>Nanolive</b> <b>Sable Systems International, Inc.</b></p>	
<p><i>Small Group Discussions</i> <i>1-2pm</i> <i>Salon 1 &amp; Ballroom Terrace, Level 1</i></p>	
	<u>Academic Career Success:</u> Some of the logistics of succeeding in a scientific career.

	<u>Academic-Industry Partnership</u> : How to navigate collaborations in academia with industry partners.
	<u>Diversity, Equity &amp; Inclusion (DEI) in Academic Labs</u> : How to build a lab culture that maximizes success and opportunity for all lab members.
	<u>The Faculty Job Search</u> : For those who are starting to search for faculty jobs, how to prepare and navigate the job search process.
<b>Wednesday, August 14, 2024</b>	
<b>Session 4: Lipids and Mitochondrial Metabolism in Metabolic Disease</b>	
Session Chair: Jay Horton, MD, UT Southwestern	
Co-chairs: Xiangyu Zhang, PhD, University of Pittsburgh & Robert Helsley, PhD, University of Kentucky	
<b>8:30-11:30am</b>	
8:30am	<b>Presentation of the Franz Simon Poster Award – Recipient To be Announced</b> Moshe Levi, MD, President, Kern Lipid Conference, Georgetown University
8:35am	<b>Presentation of the Most Innovative Poster and Most Impactful Poster Awards sponsored by Lipotype GmbH - Recipients To be Announced</b> Moshe Levi, MD, President, Kern Lipid Conference, Georgetown University
8:40am	<b>"Adapting to Metabolic Stress"</b> Alan Saltiel, PhD, University of California, San Diego
9:10am	<b>"Regulation of lipid metabolism and mitochondrial function in obesity, diabetes, and aging"</b> Moshe Levi, MD, President, Kern Lipid Conference, Georgetown University
9:40am	<b>"Skeletal muscle metabolic (re)programming in obesity and weight loss"</b> Mary-Ellen Harper, PhD, University of Ottawa
10:10-10:30am	<b>Morning Break</b> <i>Salon 1 &amp; Ballroom Terrace, Level 1</i>
10:30am	<b>"Mitochondria Lipid Droplet Interaction"</b> Orian Shirihai, MD, PhD, UCLA
11am	<i>Short talk:</i> <b>"Peroxisomal Regulation of Adipose Tissue Thermogenesis"</b> Irfan Lodhi, PhD, Washington University in St. Louis
11:15am	<i>Short talk:</i> <b>"Brown adipose tissue CoQ deficiency activates the ISR and triggers an FGF21- dependent mitohormetic response"</b> Amanda Gunawan, PhD Candidate, University of California, Berkeley
11:30am-1pm	<b>Lunch</b> <i>Salon 1 &amp; Ballroom Terrace, Level 1</i>
<b>Session 5: Lipids in Cancer</b>	
Session Chair: Kimberley Bruce, PhD, University of Colorado Anschutz Medical Campus	
Session Co-chair: Karthickeyan Chella Krishnan, PhD, University of Cincinnati College of Medicine	
<b>1-2:45pm</b>	
1pm	<b>"Modulation of fatty acid metabolism enhances tumor immunogenicity"</b> Gregory Steinberg, PhD, McMaster University
1:30pm	<b>"Metabolic co-option of immune cells in cancer"</b> Sue Kaech, PhD, The Salk Institute for Biological Studies

2pm	<p><i>Short talk:</i>  <b>"Gene Expression and Fatty Acid Profiling of Metabolically-driven Human Hepatocellular Carcinoma"</b>  Garrett Anspach, MD, PhD Student, University of Kentucky</p>
2:15pm	<p><b>"Mitochondrial Stress Signaling in Aging, Disease and Immunity"</b>  Gerald Shadel, PhD, The Salk Institute for Biological Studies</p>
<b><i>Closing Kern Lecture</i></b>	
2:45pm	<p><b>Closing Remarks &amp; Closing Kern Lecturer Introduction</b>  Moshe Levi, MD, President, Kern Lipid Conference, Georgetown University</p>
2:55pm	<p><b>Closing Kern Lecture: "At the crossroads of lipids and mitochondria: acetyl-CoA in health and disease"</b>  Kathryn Wellen, PhD, University of Pennsylvania</p>
3:40-6pm	<b>Afternoon Break</b>
<b><i>Final Night Dinner &amp; Dancing</i></b>	
6-8pm	<p><b>Cocktail Reception &amp; Dinner</b>  <i>Salon 1 &amp; Ballroom Terrace, Level 1</i></p>
8-10pm	<p><b>Music &amp; Dancing</b>  <i>Salon 1 &amp; Ballroom Terrace, Level 1</i></p>