

FIRST ANNUAL

SoCal Metabolism Symposium

March 10, 2023
Sanford Burnham
Prebys

9:00 a.m. Registration with breakfast and coffee

9:50 a.m. **Welcome address by Brooke M. Emerling**, Sanford Burnham Prebys

Session I: New Techniques to Study Metabolism

Fishman Auditorium | Moderator: Cosimo Commisso, Sanford Burnham Prebys

10:00 a.m. **Xingxiu Pan**, Scintillon Institute

A genetically encoded tool to increase cellular NADH/NAD⁺ ratio in living cells

10:15 a.m. **Aleksandr Arzamasov**, Sanford Burnham Prebys

Genomics-based reconstruction of carbohydrate metabolism in bifidobacteria: insights for rational selection of probiotics

10:30 a.m. **Michael Banki**, Scripps Research

Proteomics of protein trafficking by in vivo tissue-specific labeling

10:45 a.m. Coffee break

Session II: Cancer Metabolism

Fishman Auditorium | Moderator: Christina Towers, Salk Institute

11:05 a.m. **Rima Singh**, University of California, Irvine

Deconvoluting the metastatic PDA tumor microenvironment

11:20 a.m. **Gurpreet Kaur Arora**, Sanford Burnham Prebys

PI5P4Ks are a novel target for pancreatic cancer

11:35 a.m. **Blake Wilde**, University of California, Los Angeles

FH variant pathogenicity promotes purine salvage pathway dependence in kidney cancer

11:50 a.m. Lunch and networking
Chairman's Hall

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Session III: Metabolism in Aging and Immune Responses

Fishman Auditorium | Moderator: Timothy O'Sullivan, University of California, Los Angeles

- 12:50 p.m.** **Grasiela Torres**, University of California, Los Angeles
The role of senescent macrophages as a driver of inflammaging and aging-related diseases
- 1:05 p.m.** **Richard Watson**, University of California, Los Angeles
The role of macrophage lipid metabolism in pulmonary fibrosis
- 1:20 p.m.** **Elijah Trefts**, Salk Institute
Decoding the role of AMPK in aging-related mitochondrial stress
- 1:35 p.m. Coffee break

Session IV: Nutrition and Signaling

Fishman Auditorium | Moderator: Gina Lee, University of California, Irvine

- 1:55 p.m.** **Sunhee Jung**, University of California, Irvine
Postprandial metabolic exchanges across mammalian organs
- 2:10 p.m.** **Shaunak Deota**, Salk Institute
Diurnal transcriptome landscape of a multitissue response to time-restricted feeding in mammals
- 2:25 p.m.** **Carolina Franco**, University of California, Irvine
Wnt signaling exploits vitamin B6 through lyso-cytosolic shuttling during cell growth
- 2:40 p.m. Coffee break

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Session V: Keynote Presentation

Fishman Auditorium | Introduced by Peter Mullen, University of Southern California

- 3:00 p.m.** **Janelle Ayres**, Salk Institute
Metabolic adaptations and host defense strategies
- 3:55 p.m.** **Closing remarks by Cholsoon Jang**, University of California Irvine
- 4:00 p.m.** Poster session and happy hour
Chairman's Hall
- 6:00 p.m.** Depart

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POSTER SESSION

- Poster 1** **Won-Suk Song**, University of California, Irvine
Alcohol and fructose synergize to activate polyunsaturated fat synthesis in hepatocellular carcinoma
- Poster 2** **Carolina Silva**, Sanford Burnham Prebys
Asparagine depletion as a therapeutic approach for solid tumors
- Poster 3** **Ronida Cheko**, University of California, Los Angeles
Impact of loss of autophagy in the melanoma microenvironment
- Poster 4** **Patrick Gelbach**, University of Southern California
Ensemble-based genome-scale modeling predicts metabolic differences between macrophage subtypes in colorectal cancer
- Poster 5** **Cecily Anaraki**, University of California, Irvine
Differential stress responses drive asparagine exchange in pancreatic cancer
- Poster 6** **David Scott**, Sanford Burnham Prebys
SBP Cancer Metabolism Core: targeted metabolite analysis
- Poster 7** **Yasmine Alam**, University of California, Irvine
Evaluating gut microbial tamoxifen metabolism to predict and improve therapeutic efficacy in breast cancer patients
- Poster 8** **Pedro Perez**, Scripps Research
Role for intestinal Neurokinin 2 receptors in regulating enterocyte lipid droplets

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- Poster 9** **Suzanne Dufresne**, Salk Institute
Identifying mechanisms of resistance to autophagy inhibition in pancreatic ductal adenocarcinoma
- Poster 10** **Taolin Xie**, University of Southern California
Immune activation inhibits CAD-mediated metabolic reprogramming through TBK1 and IKK β
- Poster 11** **Alica Katrin Beutel**, University of California, Irvine
Targeting metabolic reprogramming to overcome gemcitabine resistance in pancreatic cancer
- Poster 12** **Niki Tavakoli**, University of Southern California
Systems-level analysis of gene knockdowns in colorectal cancer cells
- Poster 13** **Grigor Varuzhanyan**, University of California, Los Angeles
PGC1 α -induced OXPHOS as a novel therapeutic target for pan small cell neuroendocrine cancer
- Poster 14** **Wei Zhao**, University of California, Irvine
Single-cell and spatial RNA analysis of liver in aging and insulin resistance
- Poster 15** **Anvita Komarla**, Salk Institute
Identifying unique pathway dependencies and novel autophagy-deficient cancer cells mechanisms of quality control in autophagy-deficient cancer cells
- Poster 16** **Joey Li**, University of California, Los Angeles
MEF2C is a critical regulator of human NK cell metabolism

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- Poster 17** **Joohwan Kim**, University of California, Irvine
MAPK13 stabilization via m6A modification limits anti-cancer efficacy of rapamycin
- Poster 18** **Xuanyi Shi**, University of Southern California
Methionine restriction as a potential antiviral strategy
- Poster 19** **Danielle Schmitt**, University of California, Los Angeles
Spatial regulation of AMPK signaling revealed by a sensitive kinase activity reporter
- Poster 20** **Cuauhtemoc Ramirez**, University of California, Irvine
Small intestinal metabolic fitness reduces hepatic steatosis vulnerability
- Poster 21** **Ryan Loughran**, Sanford Burnham Prebys
Connecting lysosomal cholesterol transport to p53-deficient cancer growth through PI5P4K signaling
- Poster 22** **Andréa Ball**, University of California, Los Angeles
Control of pro-inflammatory gene expression in macrophages by mitochondrial redox status
- Poster 23** **Payel Mondal**, Salk Institute
Rapid metabolic adaptations to autophagy blockade
- Poster 24** **Johnny Le**, University of California, Irvine
Brown adipocyte and skeletal muscle metabolic fluxes during thermogenesis
- Poster 25** **Naibedya Dutta**, University of Southern California
Utility of small molecule inhibitors of mitochondrial function in aging research

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- Poster 26** **Hosung Bae**, University of California, Irvine
Cystic fibrosis impairs renal, pulmonary, and hepatic metabolism in newborn pigs
- Poster 27** **Celina Shen**, Salk Institute
Mitochondrial-derived vesicles in cancer cells
- Poster 28** **Ivan Salladay-Perez**, University of California, Los Angeles
Exploring the role of metabolism in proinflammatory macrophage memory

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**Directions to
Fishman Auditorium**
(from I-5 North or South)

1. Take the Genesee exit west, head west up the hill.
2. Bear right onto North Torrey Pines Road at the top of the hill.
3. After the second stop light, the Sanford Burnham Prebys campus will be on your right, with a designated right turn lane.
4. Turn right at the sign, then head down the hill. At the bottom, turn right then make another right into the parking structure.
5. **Parking** spaces will be reserved on the top level of the parking structure. There will be signs designating the reserved spaces.
6. **Walking** from the parking structure, turn right on the campus walkway. Follow the walkway between Buildings 4 and 5, up the stairs to Fishman Auditorium. An elevator is available through the doors to your right at the bottom of the stairs.