


12th Annual Symposium, Southern California Systems Biology
SoCalSysBio 2023
April 29th, 2023
#SoCalSysBio23

Where:
USC Michelson Center for Convergent Bioscience (MCB)
1002 Childs Way, Los Angeles, CA 90089



Registration required:
<https://events.usc.edu/esvp/soitalsysbio2023/>

Registration \$40, includes:
parking, coffee, snacks, lunch, reception

More information online at:
soitalsysbio.github.io/SoCalSysBio2023/

Organizers and Planning Committee:
Drs. Adam MacLean and Stacey Finley,
Drs. Geoff Fudenberg and Nicholas Graham

PROGRAM

8:00 Check-in coffee, tea, continental breakfast
8:40 Stacey Finley, Introduction & Welcome
8:50 Arthur Lander, Overview & History of SoCalSysBio

Session 1: Chair Geoff Fudenberg

9:00 Pawak Shah (UCLA) "Graph Metrics for Quantitative Embryology"
9:25 Betty Hong (Caltech) "Olfaction in Drosophila through the Lens of Natural Odors"
9:50 Elena Koslover (UCSD) "Navigating the Maze: Transport and Distribution through Intracellular Networks"
10:15 Negin Forouzesh (CSULA) "Physics-Guided Neural Networks for Binding Free Energy Calculations"
10:40 Coffee Break

Session 2: Chair Stacey Finley

11:10 Geoff Fudenberg (USC) "Maps & Mechanisms of 3D Genome Folding"
11:35 Evgeny Kwon (UCI) "To Loop or not to Loop: How Important is Enhancer-Promoter Contact for Gene Activation"
12:00 Siddharth Dey (UCSB) "Developing Integrated Single-Cell Epigenome and Transcriptome Sequencing Technologies to Study Early Mammalian Development"

12:35 **Lightning Talks I:**
Stefanie Luecke (UCLA)
Sheng Wang (Caltech)
Raktim Mitra (USC)
Marcus Kelly (UCSB)
Ali Rishah (CSULA)

12:40 Group Photo
12:45 Lunch & Poster Session 1

Session 3: Chair Adam MacLean

14:00 Kathleen Curtius (UCSD) "Measuring Single Cell Clonal Dynamics in Human Blood Using Coalescent Point Processes"
14:25 Weizao Chen (UCB) "Multiscale Modeling to Understand Robustness Mechanisms of Stem Cell Maintenance"
14:50 Swati Haricharan (Sanford Burnham Prebyl) "Whole Organism Approaches to Systems Biology in Cancer"
15:15 Cristian Tomassetti (City of Hope) "Mathematical Modeling of Cancer Evolution and Etiology"
15:40 Coffee Break

Session 4: Chair Nicholas Graham

16:05 Lisette De Pillis (Harvey Mudd) "A Within-Host Model of SARS-CoV-2 Neutralizing Antibody Activity in Response to mRNA Vaccination: How Academia and Biotech Partnered to Create a New Mathematical Model"
16:30 Dregina Nicholas (UCI) "Lipids and Type 2 Diabetes: Mechanisms of Nutrient-induced Inflammation"
16:55 Christian Metallo (Salk) "Tracing Metabolic Systems in Cells and Animals to Understand Disease"
17:20 Julia Schwartzman (USC) "Collective Carbon Harvesting in Marine Bacteria"

17:45 **Lightning Talks II**
Aarush Maddela (UCLA)
Jacob Steenayk (Berkeley)
Brian Orcutt-Johns (UCLA)
Jiayu Liao (UCR)
Wayne Hayes (UCI)

18:00 Wrap Up, Stacey Finley, Adam MacLean
18:15 Reception & Poster Session 2
20:00 Event Ends

USC Michelson Center
for Convergent Bioscience
Bridge Institute

USC Dornsife
David and Lucile Packard
College of Letters, Arts, and Sciences

USC Dornsife
Department of Quantitative
and Computational Biology

USC Viterbi
School of Engineering

USC Center
for Computational
Modeling of Cancer