

The Mechanome in Action

26 - 27 July 2018
Gross Hall Conference Center, UC Irvine

Day 1 - Thursday, July 26, 2018

8:00 - 8:20AM

Registration and Continental Breakfast
Gross Hall, 4th Floor, Thorp Conference Center

8:30 - 8:35

Welcome (Medha Pathak)

Session 1: Tissue Organization and Engineering

8:35 - 8:55

Short Talk – Andrea Cugno (UC San Diego)
“Shape-induced alteration of second messenger dynamics in dendritic spines”

8:55 - 9:15

Short Talk – Zachary Reitz (UC Irvine)
“The Adhesome as a Limiting Factor in iPSC Production”

9:15 - 9:55

Elliot Botvinick (UC Irvine)
“Cells establish their own stiffness landscape”

9:55 - 10:05

Opportunity Award Announcement (Tim Downing)

10:05 - 10:10

Introduction to Speed Dating (Jun Allard)

10:10 - 10:30

Coffee Break — Gross Hall

Session 2: Mechanobiology of Cancer

10:30 - 10:50

Short Talk – Jesse Placone (UC San Diego)
“Inhibition of mechanical signaling reduces malignant transformation of mammary epithelial cells on a dynamically stiffened matrix”

10:50 - 11:10

Short Talk – Amy Rowat (UC Los Angeles)
“Identifying novel targets for cancer therapies through the cell mechanome”

11:10 - 11:50

Dino Di Carlo (UC Los Angeles)
“Physical Phenotyping of Cells for Diagnostics and Drug Discovery”

12:00 - 1:30PM

Lunch — Gross Hall

1:30 - 3:30

Poster Session — Sprague Hall
Odd numbered posters will present from 1:30 – 2:30PM
Even numbered posters will present from 2:30 – 3:30PM
Posters may remain on the boards until 4:30PM Friday.

Session 3: Cell and Tissue Mechanics

3:30 - 3:50

Short Talk – Mark Alber (UC Riverside)
“Computational study of remodeling of fibrin networks under compression”

3:50 - 4:15

Arpita Upadhyaya (University of Maryland, College Park)
“Cytoskeletal dynamics and mechanosensing in immune cells”

4:15 - 4:55

Cheng Zhu (Georgia Tech)
“Mechanobiology at the molecular level”

4:55 - 5:00

Acknowledgements and future plans (Albert Siryaporn)

6:00 - 8:00

Banquet — Pacific Ballroom, Student Center

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Day 2 - Friday, July 27, 2018

8:00 - 8:30AM

Continental Breakfast

Gross Hall, 4th Floor, Thorp Conference Center

Session 4: Channels and Membranes

8:30 - 8:50

Short Talk – Jerome Lacroix (Western University of Health Sciences)
“Activation of Piezo1 with a Small Molecule Agonist”

8:50 - 9:15

Allen Liu (University of Michigan)
“Repurposing mechanosensitive channel to study 3D cell migration”

9:15 - 9:55

Ardem Patapoutian (The Scripps Research Institute)
“Structure and function of PIEZO family of mechanically activated ion channels”

9:55 - 10:15

Coffee Break — Gross Hall

Lightning Talks

10:15 - 11:15

Steven Abel (University of TN, Knoxville)
Ian Berg (University of IL, Urbana-Champaign)
Morgan Chabanon (UC San Diego)
George Degen, (UC Santa Barbara)
Danial Faghihi-Shahrestani (UT, Austin)
Yue Liu, (University of British Columbia)
Ali Nematbaksh, (UC Riverside)
Asher Preska Steinberg, (Caltech)
Arjun Singh Yadaw (Icahn Institute of Medicine, Mount Sinai)
Zhuo Yang (UC Los Angeles)
Wei-Zheng Zeng (The Scripps Research Institute)
Shirley Zhang (UC Irvine)

Session 5: Cell Fate and Disease

11:15 - 11:35

Short Talk – Mehrsa Mehrabi (UC Irvine)
“In Vitro Modeling of Variable Heart Diseases due to Lamin A/C Mutation via Patient induced Pluripotent Stem Cell-derived Cardiomyocytes”

11:35 - 12:00

Emily Mace (Columbia University, Irving Medical Center)
“Defining mechanisms of human NK cell differentiation”

12:00 - 1:30PM

Lunch — Gross Hall

Session 6: Cellular Dynamics

1:30 - 1:50

Short Talk – Yizeng Li (John Hopkins University)
“Cellular Responses to Different Hydrodynamic Environments”

1:50 - 2:15

Jing Xu (UC Merced)
“Dissecting Intracellular Transport: A Physicist’s Perspective”

2:15 - 4:15

Poster Session — Sprague Hall

*Odd numbered posters will present from 2:15 – 3:15 PM
Even numbered posters will present from 3:15 – 4:15 PM
Please remember to take your poster with you at the conclusion of this session.*

Session 7: Bacterial Physiology

4:30 - 4:50

Short Talk – Bo Li (UC San Diego)
“Spatiotemporal Development of Growing Bacterial Colonies”

4:50 - 5:30

Gerard Wong (UC Los Angeles)

5:30 - 5:35

Poster/Speed Dating Awards (Jun Allard / Tim Downing)

5:35 - 5:40

Closing Remarks (Medha Pathak)