



מכון ויצמן למדע

WEIZMANN INSTITUTE OF SCIENCE

# MECHANOBIOLOGY: BRIDGING BIOLOGY AND THE PHYSICAL SCIENCES

May 9-10, 2023

The David Lopatie Conference Centre  
Weizmann Institute of Science

This symposium will feature talks by leading researchers from the Mechanobiology Institute in Singapore, including its Director, Prof. Rong Li, along with scientists from Israel and Germany. The talks are aimed at researchers, students and postdocs in both the biological and physical sciences and engineering.

Please  
register  
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## INVITED SPEAKERS

**Anne Bernheim** | Ben-Gurion University  
**Sasha Bershadsky** | National University of Singapore, Weizmann Institute of Science  
**Eran Bouchbinder** | Weizmann Institute of Science  
**Amnon Buxboim** | Hebrew University  
**Elisabeth Friedrich** | Technical University Dresden  
**Leah Gehber** | Ben Gurion University  
**Benny Geiger** | Weizmann Institute of Science  
**Nir Gov** | Weizmann Institute of Science  
**Chii Jou Chan** | National University of Singapore  
**Eyal Karzbrun** | Weizmann Institute of Science  
**Kinneret Keren** | Technion  
**Jacob Klein** | Weizmann Institute of Science  
**Misha Kozlov** | Tel Aviv University  
**Ayelet Lesman** | Tel Aviv University  
**Rong Li** | National University of Singapore  
**Sam Safran** | Weizmann Institute of Science  
**David Sprinzak** | Tel Aviv University  
**Yusuke Toyama** | National University of Singapore  
**Shelly Tzliil** | Technion  
**Talila Volk** | Weizmann Institute of Science  
**Haguy Wolfenson** | Technion  
**Ronen Zaidel-Bar** | Tel Aviv University  
**Assaf Zemel** | Hebrew University

## PROGRAM

### Tuesday May 9, 2023

09:00 ☕ Coffee and Welcome  
 09:30 **Rong Li** - Cytoplasmic mechanics in the maturation and aging of mammalian oocytes  
 10:00 **Benny Geiger** - Mechanical switches of integrin adhesions  
 10:30 **Sasha Bershadsky** - Triologue of integrin, actomyosin, and microtubules  
 11:00 ☕ Coffee Break  
 11:30 **Nir Gov** - Modelling cell migration  
 12:00 **Yusuke Toyama** - Mechanical impact of apoptosis in tissues  
 12:30 **David Sprinzak** - Mechanical forces in the inner ear  
 13:00 🍴 Lunch  
 14:00 **Elisabeth Friedrich** - Hydrostatic pressure and lateral actomyosin tension in epithelia  
 14:30 **Assaf Zemel** - Elastic interactions of cells and their role in cellular self-association  
 15:00 **Amnon Buxboim** - Niche stiffening and cell-mediated tissue regeneration  
 15:30 **Ayelet Lesman** - Fibrous networks in cell-cell mechanical communication  
 16:00 ☕ Coffee Break  
 16:30 **Eyal Karzbrun** - Morphogenesis of a stem-cell derived human neural tube  
 17:00 **Chii Jou Chan** - Squeezing the eggs to grow: mechanobiology of folliculogenesis

17:30 **Ronen Zaidel-Bar** - When one becomes two: loss of tension during gonad morphogenesis  
 18:00 **Kinneret Keren** - Physics of hydra morphogenesis  
 19:00 ☕ Dinner with after dinner talk  
**Jacob Klein** - Biolubrication, mechanotransduction and gene regulation

### Wednesday May 10, 2023

08:30 ☕ Coffee  
 09:00 **Misha Kozlov** - Tension propagation in cell membrane  
 09:30 **Anne Bernheim** - Actively driven instabilities under turnover conditions  
 10:00 **Shelly Tzliil** - Role of mechanical coupling in collective cardiac cell behavior  
 10:30 **Talila Volk** - Nuclear mechanics and chromatin 3D distribution  
 11:00 ☕ Coffee Break  
 11:30 **Haguy Wolfenson** - Enzymatic regulation of fibronectin fibrillogenesis and fibrotic reactions  
 12:00 **Eran Bouchbinder** - Energy scales of active fluctuations in adherent cells  
 12:30 **Leah Gehber** - Mechanisms for bi-directional motility of mitotic kinesin motors  
 13:00 🍴 Lunch and discussion

## SPONSORS

The Chorafas Institute  
for Scientific Exchange

Clore Center for  
Biological Physics

Department of Chemical  
and Biological Physics

## ORGANIZERS

**Benny Geiger**  
Dept. of Immunology and  
Regenerative Biology

**Sam Safran**  
Dept. of Chemical and  
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## COORDINATOR & ACCESSABILITY ISSUES

**Inbal Azoulay**  
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## REGISTRATION

[bit.ly/40W0nzi](https://bit.ly/40W0nzi)

