



Lake Conference

MODELING LIFE FROM CELLS TO TISSUES

Agenda

April 20 – 22, 2026

Monday, April 20

Time	Activity	Location
8:00am – 9:00am	Registration and Breakfast	Lobby & Atrium
	Speaker Testing	Auditorium
9:00am – 9:15am	Welcome Remarks & Co-Organizer Introduction	Auditorium
	Ru Gunawardane , Allen Institute Rui Costa , Allen Institute	
	Co-Organizers: Edouard Hannezo , Institute of Science and Technology Austria James Sharpe , EMBL Barcelona Prisca Liberali , Friedrich Miescher Institute for Biomedical Research Ru Gunawardane , Allen Institute	

SESSION 1 CELL REPRESENTATIONS | Co-Chairs: Prisca Liberali, Yanlan Mao

9:15am – 9:40am	James Briscoe , The Francis Crick Institute <i>The dynamics of neural tube development</i>	Atrium
9:40am – 10:05am	Paul François , Université de Montréal <i>Decoding high-dimensional immune information into a low-dimensional T cell activation manifold</i>	
10:05am – 10:30am	Alan Lowe , Chan Zuckerberg Biohub <i>Talk TBA</i>	

10:30am – 11:00am	Coffee and Discussion	Atrium
11:00am – 11:10am	Eran Agmon , University of Connecticut Health <i>Compositional systems biology with vivarium</i>	Auditorium
11:10am – 11:20am	Aya Aqeel , University of Minnesota <i>From masks to graphs: A framework for quantitative morphology without segmentation</i>	
11:20am – 11:45am	Allon Klein , Harvard University <i>The problem(s) with cellular representation learning</i>	
11:45am – 12:10pm	Jun Allard , University of California, Irvine <i>Hypothesis-tuned model flexibility to decipher and design cell signaling pathways</i>	
12:10pm – 1:45 pm 12:10 – 13:45	Lunch and Discussion	Atrium
1:45pm – 2:10pm 13:45 – 14:10	Mukund Thattai , National Centre for Biological Sciences <i>Affordance theory and the evolution of eukaryotic intracellular compartments</i>	
2:10pm – 2:35pm 14:10 – 14:35	Dana Pe'er , Sloan Kettering Institute, MSKCC <i>Musings on plasticity</i>	
2:35pm – 2:45pm 14:35 – 14:45	Bianca Dumitrescu , Columbia University <i>Limits of mechanistic neural networks for inverse morphogenesis</i>	Auditorium
2:45pm – 2:55pm 14:45 – 14:55	Leigh Harris , Allen Institute <i>Adherent hiPSC lumenoids: A robust 3D platform for bridging cellular dynamics, multicellular organization, and biophysical modeling</i>	
2:55pm – 3:40pm 14:55 – 15:40	Snacks and Discussion	Atrium
3:40pm – 4:05pm 15:40 – 16:05	Ewa Paluch , University of Cambridge <i>Morphogenesis across scales: from cell shape to tissue organization</i>	Auditorium

SESSION 2 SELF-ORGANIZATION | Co-Chairs: Ru Gunawardane, Sara Wickström

4:05pm – 4:30pm 16:05 – 16:30	Rashmi Priya , The Francis Crick Institute <i>Morphogenesis mystery: How to build a beating heart</i>	
4:30pm – 5:30pm 16:30 – 17:30	Poster Session 1 (posters #1-14)	Atrium, L2
5:30pm – 6:30pm 17:30 – 18:30	Dinner	Atrium

Tuesday, April 21

Time	Activity	Location
8:00am – 9:00am	Breakfast	Atrium
	Speaker Testing	Auditorium
9:00am – 9:15am	Opening Remarks: Co-Organizers	Auditorium

SESSION 2 SELF-ORGANIZATION | Co-Chairs: Ru Gunawardane, Sara Wickström

9:15am – 9:40am	Alex Schier , Universität Basel <i>Global views of development</i>	Auditorium
9:40am – 10:05am	Karen Alim , Technical University of Munich <i>Learning matters!</i>	
10:05am – 10:30am	Miguel Concha , Universidad de Chile <i>Tension-driven transitions in annual killifish development</i>	
10:30am – 11:00am	Coffee and Discussion	Atrium
11:00am – 11:10am	Wenzheng Shi , New York University <i>Ordering from the edge: Chiral multicellular pattern formation directed by actin self-organization in cells</i>	Auditorium
11:10am – 11:20am	Tony Tsai , Washington University <i>Neural progenitors exploit a transient positional information optimum for precise patterning during morphogenesis</i>	
11:20am – 11:45am	Nicoletta Petridou , European Molecular Biology Laboratory <i>Timing, noise and collectives: how cell cycles shape the early embryo</i>	
11:45am – 12:10pm	Takashi Hiragi , Hubrecht Institute <i>Embryo size control</i>	
12:10pm – 1:45pm 12:10 – 13:45	Lunch and Discussion	Atrium
1:45pm – 2:10pm 13:45 – 14:10	Amy Shyer , The Rockefeller University <i>Organic self-organization: Tissue symmetry breaking through cross-scale coupling of cell and supracellular structures</i>	Auditorium

SESSION 3 ENGINEERING | Co-Chairs: James Sharpe, Nicoletta Petridou

2:10pm – 2:35pm **Matthias Lutolf**, Roche Institute of Human Biology and EPFL
14:10 – 14:35 *Engineering organoids*

2:35pm – 3:00pm **Sebastian Streichan**, University of California, Santa Barbara
14:35 – 15:00 *Physics of living systems: From embryos to structured active matter*

CRUISE / DINNER Argosy Cruise | Lake Washington

3:00pm – 3:30pm Transit and Load Cruise Boat AGC Marina
15:00 – 15:30

3:30pm – 6:30pm **Argosy Cruise**
15:30 – 18:30

6:30pm – 7:00pm Return to Institute Allen Institute
18:30 – 19:00

Wednesday, April 22

Time	Activity	Location
8:00am – 9:00am	Breakfast	Atrium
	Speaker Testing	Auditorium
9:00am – 9:15am	Opening Remarks: Co-Organizers	Auditorium

SESSION 3 ENGINEERING | Co-Chairs: James Sharpe, Nicoletta Petridou

9:15am – 9:40am	Giovanni D'Angelo , EPFL Switzerland <i>The lipid architecture of the mammalian brain</i>	Atrium
9:40am – 10:05am	Michael Elowitz , California Institute of Technology <i>Engineering protein circuits for cancer therapy</i>	
10:05am – 10:30am	Miki Ebisuya , Physics of Life TU Dresden <i>Cross-species comparison and manipulation of organoid tissue mechanics</i>	
10:30am – 11:00am	Coffee and Discussion	Atrium
11:00am – 11:10am	Adrian Jacobo , Biohub <i>Title TBD</i>	Auditorium
11:10am – 11:20am	Wenhui Tang , Harvard Medical School <i>Title TBD</i>	

SESSION 4 ROBUSTNESS | Co-Chairs: Edouard Hannezo, Rashmi Priya

11:20am – 11:45am	Christina Theodoris , Gladstone Institutes; University of California, San Francisco <i>Temporal AI models for programming cell state trajectories</i>	
11:45am – 12:10pm	Yanlan Mao , University College London <i>How to build robust architecture: buffering mechanical noise during development and homeostasis</i>	
12:10pm – 1:30pm 12:10 – 13:30	Lunch and Discussion	Atrium
1:30pm – 1:55pm 13:30 – 13:55	L. Mahadevan , Harvard University <i>Some physical aspects of morphogenesis</i>	Auditorium
1:55pm – 2:20pm 13:55 – 14:20	Jesse Veenvliet , MPI Molecular Cell Biology and Genetics <i>Title TBD</i>	
2:20pm – 2:45pm 14:20 – 14:45	Arthur Lander , University of California, Irvine <i>How do biological systems counter “exponential” threats?</i>	

2:45pm – 3:30pm 14:45 – 15:30	Snacks and Discussion	Atrium
3:30pm – 3:40pm 15:30 – 15:40	Kevin Cheung , Fred Hutchinson Cancer Center <i>Deconstruction and reassembly of cancer robustness</i>	Auditorium
3:40pm – 3:50pm 15:40 – 15:50	Laura Capolupo , DBSSE-ETH <i>Title TBD</i>	
3:50pm – 4:15pm 15:50 – 16:15	Sara Wickström , MPI Molecular Biomedicine <i>Mechanical regulation of cell states</i>	
4:15pm – 5:00pm 16:15 – 17:00	Discussion led by co-organizers	
5:00pm – 6:00pm 17:00 – 18:00	Poster Session 2 (posters #15-29)	Atrium, L2
6:00pm – 7:00pm 18:00 – 19:00	Dinner	Atrium