



DATA-DRIVEN DISCOVERY:

AI & Modeling in Biology Workshop

Monday, September 23, 2024

1:30- 2:00pm	Registration + Poster Set-Up
2:00-2:15pm	<i>Welcome and opening remarks</i>
2:15-3:15pm	KEYNOTE- David Baker, University of Washington <i>Protein design for molecular recognition</i>
3:15-3:45pm	Bing Brunton, University of Washington <i>Embodied intelligence through integrated neuromechanical models of natural behavior</i>
3:45-4:15pm	Andreas Tolia, Stanford University <i>Title TBD</i>
4:15- 4:30pm	Coffee Break
4:30- 6:00pm	Reception + Poster Session
6:00- 7:00pm	Dinner
7:00pm	Day 1 Conclusion

Tuesday, September 24, 2024

8:00-9:00am	Registration + Breakfast
9:00-9:30am	Matheus Viana, Allen Institute for Cell Science <i>Towards a holistic and quantitative stem cell state landscape</i>
9:30-10:00am	Kim Stachenfeld, Columbia University/Google DeepMind <i>Learning to Simulate and Control Fluid Dynamics with Graph Neural Networks</i>
10:00-10:30am	Armita Nourmohammad, University of Washington <i>Learning the shape of the protein and immune universe</i>
10:30-11:00am	Coffee Break
11:00-11:30am	Mariano Gabitto, Allen Institute for Brain Science <i>Deep generative models for the multimodal analysis of single-cell datasets</i>
11:30-12:00pm	Roy Kishony, Technion-Israel Institute of Technology <i>AI driven science</i>
12:00-12:30pm	Stefan Mihalas, Allen Institute-Center for Data-Driven Discovery <i>Why is the activity in the brain so variable?</i>
12:30-2:00pm	Lunch
2:00-2:30pm	Michael Elowitz, California Institute of Technology <i>Many-to-many protein networks as flexible computational modules</i>
2:30-3:30pm	Panel Discussion
3:30-4:00pm	Coffee Break
4:00- 5:30pm	Reception + Poster Session
5:30- 6:30pm	Dinner
6:30pm	Day 2 Conclusion

Wednesday, September 25, 2024

8:00-9:00am	Registration + Breakfast
9:00-10:00am	KEYNOTE- Emily Fox, Stanford University, insitro <i>Machine Learning for Better Medicines</i>
10:00-10:30am	Xiaojun Li, Allen Institute for Immunology <i>Application of AI in Immunology Research</i>
10:30-11:00am	Coffee Break
11:00-11:30am	Gokul Upadhyayula, University of California Berkeley <i>Navigating challenges and opportunities with high-resolution in vivo imaging</i>
11:30-12:00pm	Laura Driscoll, Allen Institute for Neural Dynamics <i>Fast and slow learning in artificial and biological networks</i>
12:00-12:30pm	Eric Shea-Brown, University of Washington <i>Assigning credit through the "other" connectome</i>
12:30-2:00pm	Lunch
2:00-2:30pm	Viren Jain, Google <i>Simulating a zebrafish brain with functional connectomics and AI</i>
2:30-3:00pm	Kristin Branson - Janelia Research Campus, Howard Hughes Medical Institute <i>What can we learn from deep-learning-based forecasting models of biological time series?</i>
3:00-3:30pm	Ben Cowley, Cold Spring Harbor Laboratory <i>Mapping model units to visual neurons reveals population code for social behavior</i>
3:30-4:00pm	Coffee Break
4:00- 5:00pm	Panel Discussion
5:00pm	Workshop Conclusion