The 2024 Berkeley Statistical Mechanics Meeting
January 12 – 14, 2024

Friday, January 12, 2024

2:00 pm	**Registration & Check-In**	**Tan Hall Lobby**
4:00 pm	**Poster Session I - Two-minute Talks** **David Limmer Presiding**	**100 Lewis Hall**
5:00 pm	**Poster Session I - Discussions & Light Reception**	**Tan Hall Lobby**

Saturday, January 13, 2024

8:00 am	**Breakfast**	**Tan Hall Lobby**
8:45 am	**Introductory Remarks** **David Limmer**	**100 Lewis Hall**

Saturday Lecture Session I – Discussion chair: Glen Hocky — 100 Lewis Hall

9:00 am **Andela Šarić, Institute of Science and Technology Austria**
"One becomes two, two become one – splitting and merging cells across evolution"

9:30 am **William Jacobs, Princeton University**
"Rational design of multicomponent biomolecular condensates"

10:00 am **Ahmet Yildiz, University of California, Berkeley**
"Dynein harnesses active fluctuations of microtubules for faster movement"

10:30 am **Coffee Break** — **Tan Hall Lobby**

Saturday Lecture Session II – Discussion chair: Oskar Hallatschek — 100 Lewis Hall

11:00 am **Evelyn Tang, Rice University**
"Non-Hermitian topological phases permit emergent timescales in stochastic systems"

11:30 am **Eric Vanden-Eijnden, New York University**
"Deep learning probability flows and entropy production rates in active matter"

12:00 am **Jörn Dunkel, Massachusetts Institute of Technology**
"Topological packing statistics of living and non-living matter"

12:30 pm **Lunch** — **775 Tan Hall**

Saturday Lecture Session III – Discussion chair: Grant Rotskoff **100 Lewis Hall**

2:00 pm **Ludovic Berthier, Université de Montpellier**
"Can machine learning solve the sampling problem in glassy molecular liquids?"

2:30 pm **Giulio Biroli, Laboratoire de Physique Ecole Normale Supérieure**
"Generative AI and Diffusion Models: a Statistical Physics Analysis"

3:00 pm **Andrea Liu, University of Pennsylvania**
"Emergent learning in self-learning circuits"

3:30 pm **Coffee Break** **Tan Hall Lobby**

Saturday Lecture Session IV – Discussion chair: Todd Gingrich **100 Lewis Hall**

4:00 pm **Jordan Horowitz, University of Michigan**
"Limits to nonequilibrium response"

4:30 pm **DAVID CHANDLER LECTURE**
Mehran Kardar, Massachusetts Institute of Technology
"Boundaries and disorder in active matter"

5:20 pm **Poster Session II – Two minute talks** **100 Lewis Hall**

6:00 pm **Poster Session II – Discussions & Light Reception** **Tan Hall Lobby**

Sunday, January 14, 2024

8:00 am **Breakfast** **Tan Hall Lobby**

Sunday Lecture Session I – Discussion chair: Rick Remsing **100 Lewis Hall**

9:00 am **Peter Bolhuis, University of Amsterdam**
"Targeting molecular kinetics with Continuum Path Ensemble Maximum Caliber"

9:30 am **Benoit Roux, University of Chicago**
"How is membrane permeation of small ionizable molecules affected by protonation kinetics?"

10:00 am **Andrés Montoya-Castillo, University of Colorado, Boulder**
"Symmetry-breaking fluctuations split porphyrin Q-bands"

10:30 am **Coffee Break** **Tan Hall Lobby**

Sunday Lecture Session II – Discussion chair: Juan Garrahan **100 Lewis Hall**

11:00 am **Sinead Griffin, Lawrence Berkeley National Laboratory**
"Amorphous Topological Matter"

11:30 am **Mari Carmen Bañuls, Max Planck Institute of Quantum Optics**
"Tensor Network at finite energy density: probing ETH"

12:00 am **David Ceperley, University of Illinois, Urbana-Champaign**
"The use of quantum Monte Carlo in developing Born-Oppenheimer potentials: results for dense molecular hydrogen"

12:30 pm **Closing Remarks: David Limmer**

12:35 pm **Pizza Party** **775 Tan Hall**