**The 2024 Berkeley Statistical Mechanics Meeting**

**January 12 – 14, 2024**

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| **Friday, January 12, 2024** |

**2:00 pm Registration & Check-In Tan Hall Lobby**

**4:00 pm Poster Session I - Two-minute Talks 100 Lewis Hall** **David Limmer Presiding**

**5:00 pm Poster Session I - Discussions & Light Reception Tan Hall Lobby**

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| **Saturday, January 13, 2024** |

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

**8:45 am Introductory Remarks**  **100 Lewis Hall**

**David Limmer**

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| **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**

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| **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**

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| **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**

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| **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**

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| **Sunday, January 14, 2024** |

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

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| **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**

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| **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**