Berkeley Statistical Mechanics Meeting – Poster Session I

Friday, January 13, 2023

#	Name	Institution	Title of poster
1	Riechers, Paul	Nanyang Technological University	Initial-state dependence of entropy production for any quantum process
2	Bitran, Amir	University of California, Berkeley	Cotranslational formation of disulfides guides folding of the SARS CoV-2 receptor binding domain
3	Agrawal, Nikhil	University of California, Berkeley	Beyond Poisson-Boltzmann: A self-consistent theory for electrical double layers
4	Sharon, Dina	Massachusetts Institute of Technology	Ringing in the rain: Understanding aqueous structure through a water polygon framework
5	Cheung, Long Him	University of Maryland (College Park)	Effective mass of coupled Brownian particles
6	Frim, Adam	University of California, Berkeley	Shortcut engineering run-and-tumble particles
7	Chennakesavalu, Shriram	Stanford University	Ensuring thermodynamic consistency with invertible coarse-graining
8	Pimonova, Yulia	University of Utah	Supramolecular synthons in cocrystallization prediction: From 2D model to real molecule
9	Cho, Yongick	Princeton University	Tuning nucleation kinetics via nonequilibrium chemical reactions
10	Widmer-Cooper, Asaph	University of Sydney	Controlling halide-ion segregation in mixed-halide perovskites
11	Helms, Phillip	University of California, Berkeley	Nanofluidic functionality facilitated by interfacial molecular interactions
12	Polley, Kritanjan	University of California, Berkeley	Residence time distribution of Ozone at the air-water interface
13	Manikandan, Sreekanth	Stanford University	Inferring entropy production from experimental data
14	Shin, Sucheol	University of Texas at Austin	Transcription-induced active forces suppress chromatin motion by inducing a transient disorder-to-order transition
15	Li, Sherry	Stanford University	Flow-based models for complex chemical systems
16	Zhuang, Debbie	Massachusetts Institute of Technology	Population effects driving active material degradation in intercalation electrodes

17	Haysim, Muhammad	University of California, Berkeley	Inherent-state melting and the onset of glassy dynamics in two-dimensional supercooled liquids
18	Hou, Bokang	University of California, Berkeley	Nonadiabatic to adiabatic transition of electron transfer in colloidal quantum dot molecules
19	Lin, Tommy	University of California, Berkeley	Theory of photoluminescence spectral line shapes of semiconductor nanocrystals
20	Carrascal, Noel	Independent	Semiempirical search of the HDL-LDL phase transition of water with natural constraints
21	Nguyen, Nhu	University of Virginia	Combined effect of non-bonded interaction and comonomer reactivities results in sequence biasing during step-growth copolymerization
22	Begušić, Tomislav	California Institute of Technology	Equilibrium-nonequilibrium ring-polymer molecular dynamics for two-dimensional vibrational spectroscopy of liquid water
23	Strand, Nils	Northwestern University	Analyzing transition paths in reaction-diffusion systems via tensor network states
24	Wall, Vivian	University of California, Berkeley	Nucleation and kinetics of nanocrystal superlattice self-assembly explored through X-ray scattering
25	Rassolov, Gregory	University of Chicago	Odd elastic forces modulate stability of different crystal structures
26	Luo, Siwei	University of British Columbia	Applying Mori-Zwanzig theory to lattice fluids: Conservative potential, asymmetric density, and projected flux
27	Anderson, Michelle	University of California, Berkeley	Quantum transition path theory for barrier crossing rates and mechanisms
28	Coello, Leonardo	University of California, Berkeley	Simulation study of electron transfer across a twisted bilayer graphene electrode interface
29	Oaks-Leaf, Sam	University of California, Berkeley	Mechanisms of asymmetric growth in model nanocrystals
30	Penocchio, Emanuele	Northwestern University	Chemical engines as bipartite reaction networks: A thermodynamic perspective
31	Nicholson, Schuyler	Northwestern University	Quantifying rare events in reaction-diffusion dynamics using tensor networks
32	Slivka, Joseph	University of California, Berkeley	ASEP modeling molecular motor protein motility in the presence of exclusive and recruiting proteins
33	Sivak, David	Simon Fraser University	Information thermodynamics of the transition-path ensemble

Berkeley Statistical Mechanics Meeting – Poster Session II

Saturday, January 14, 2023

#	Name	Institution	Title of poster
1	Zhong, Adrianne	University of California, Berkeley	Upper and lower bounds for excess optimal work through transport inequalities
2	Krist, Kathleen	Northwestern University	Thermodynamics of molecular chemotaxis: Understanding the roles of binding and catalysis
3	Gababa, Mumtaz and Tanner, Christian	University of California, Berkeley	Dynamics in a 3-phase colloidal nanocrystal system with electrostatically stabilized short-range interactions
4	Mainas, Eleftherios	Brown University	A novel theory of the orientational order of finite disordered systems: Results for 2D liquid crystals
5	Ascensao, Joao	University of California, Berkeley	Quadratically-scaling population fluctuations and their impact on evolutionary dynamics
6	Chen, Fan	Princeton University	Inverse design of phase separating multicomponent systems
7	Fay, Thomas	University of California, Berkeley	Electron transfer and exciton dynamics in light harvesting complexes from a hybrid hierarchical equations of motion approach
8	Montoya Castillo, Andres	University of Colorado	Building insightful, memory-enriched models to capture long-time biochemical processes from short-time simulations
9	Farahvash, Ardavan	Massachusetts Institute of Technology	How substrate phonons modulate the dynamics of surface sites and adsorbed molecules
10	Pert, Emmit	Stanford University	Thermodynamic driving forces of coacervate nanoparticle assembly
11	Park, Yoon	University of California, Berkeley	Biexcitons in lead halide perovskite nanocrystals
12	Matthews, Will	University of Utah	Predicting crystallization from solution species
13	Poggioli, Anthony	University of California, Berkeley	Odd mobility of a passive tracer in a chiral active fluid
14	Niblo, Jessica	University of Virginia	Modifying self-assembly of 2D viral capsid-like structures in a variable energy landscape
15	Rosa, Jorge	University of California, Berkeley	Variational time reversal for non-equilibrium free energy estimation
16	Chaimovich, Aviel	Drexel University	Relative resolution: A computationally efficient implementation in LAMMPS

17	Waechtler, Christopher	University of California, Berkeley	Topological (quantum) synchronization of coupled van der Pol oscillators
18	Hamblin, Ryan	University of Virginia	Nematic ordering of nascent oligomers induces collective sequence development in step-growth copolymerization
19	Raybin, Jonathan	University of California, Berkeley	Electron-beam driven dynamics of colloidal particles at an ionic liquid interface
20	Greenberg, Jonah	Northwestern University	Dissipation-accuracy-speed tradeoffs in computations executed via on-lattice self-assembly
21	Bhattacharyya, Debankur	University of Maryland-College Park	From a feedback-controlled demon to an information ratchet in a double quantum dot
22	Dodin, Amr	University of California, Berkeley	Aqueous interfaces suppress ion pair dissociation: A case study of aqueous reactions
23	Gu, Geyao	Northwestern University	Designing a chemically-fueled molecular motor via simulations
24	Weinberg, Daniel	University of California, Berkeley	The role of lattice symmetry and spin in the exciton fine structure of perovskite nanocrystals
25	Leighton, Matthew	Simon Fraser University	Dynamic and thermodynamic performance bounds for multi-component molecular machines
26	Moon, Jin	University of California, Berkeley	Reactions of N_2O_5 at the interface of sea-spray aerosol
27	Lewis, Sina	University of Colorado Boulder	Particle-based nonequilibrium quantum transport from local equilibrium
28	Mejia-Restrepo, Leopoldo	University of California, Berkeley	Stochastic second-order Green's function theory for neutral excitations in molecules and nanostructures
29	Singh, Aditya	University of California, Berkeley	Variational computation of the committor for reactive events in and out of equilibrium
30	Kelly, Joseph	Stanford University	Capturing the experimentally observed linear and multidimensional electronic spectroscopic features of Nile Blue in ethanol using machine learning based molecular dynamics simulations
31	Boyd, Alec	Trinity College Dublin	Thermodynamic Overfitting: Limits on Complexity in Thermodynamic Learning