

Complex Fluids Design Consortium Annual Meeting

Wednesday, January 31, 2024

Materials Research Laboratory, Rm 2053
University of California, Santa Barbara

All Meeting Times are US Pacific Time (California)

Morning Session

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| 9:00-9:15 am | <i>CFDC: Welcome and update</i>
Professor Glenn Fredrickson, Director CFDC, Chemical Engineering and Materials, UCSB |
| 9:20-9:50 am | <i>Chemistream: An HPC cloud platform for materials simulations</i>
Dr. Scott Sides, Tech-X Corporation |
| 9:50-10:10 am | <i>Modeling of lubricant additives using a molecularly-informed field theory</i>
Charles Li, Chemical Engineering and MRL, UCSB |
| 10:10-10:20 am | Break |
| 10:20-10:40 am | <i>Building molecularly informed field theories for predicting surfactant phase behavior</i>
David Zhao, Chemical Engineering and MRL, UCSB |
| 10:40-11:00 am | <i>Liquid-liquid phase separation in and out of equilibrium</i>
Dr. Saeed Najafi, Chemistry & Biochemistry and MRL, UCSB |
| 11:00-11:20 am | <i>Ionic conductivity of zwitterion/lithium salt mixtures</i>
Mizuki Kamata, Chemical Engineering and MRL, UCSB |
| 11:20-11:40 am | <i>Sequence effects in the thermodynamics of supramolecular polymers</i>
Dr. Chris Balzer, MRL, UCSB |
| 11:40-1:00 pm | Lunch, MRL 3rd Floor Patio |

Afternoon Session

- 1:00-1:30 pm *Undulations in smectic A liquid crystals*
Professor Carlos Garcia-Cervera, Mathematics, UCSB
- 1:30-1:50 pm *Complex Langevin methods for simulation of quantum thermodynamic cycles*
Kimberlee Keithley, Chemical Engineering and MRL, UCSB
- 1:50-2:10 pm *Quantum liquid crystalline phases in ultracold atomic gases*
Ethan McGarrigle, Chemical Engineering and MRL, UCSB
- 2:10-2:30 pm *Coherent states field theory for supramolecular miktoarm star polymers*
Dan Sun, Chemistry and MRL, UCSB
- 2:30-2:50 pm **Break**
- 2:50-3:10 pm *Emergence of disordered hyperuniformity in neat melts of linear diblock copolymers*
Dr. Duyu Chen, MRL, UCSB
- 3:10-3:30 pm *Developments in dynamical field-theoretic simulations*
Tim Quah, Chemical Engineering and MRL, UCSB
- 3:30-3:50 pm *Accelerating the inverse design of polymer bulk morphologies with machine learning*
Will Sheppard, Mathematics, UCSB
- 3:50-4:10 pm *Developing a bottom-up coarse-grained model for sequence-specific polypeptoids*
Daniela Rivera Mirabal, Chemical Engineering, UCSB
- 4:10 pm Wrap-up, adjourn CFDC Meeting

CFDC Dinner – 6:00 pm, Flavor of India