

Program

Ninth Statistical Mechanics of Soft Matter Conference + Research School

Murdoch University, Perth, 20-23 November 2023

Conference venue: "The Loft" on Murdoch University's South Street campus, on the first floor of the Sir Walter restaurant / staff club.

Parking: Best car parks to use are P3 or P4 near the Chancellery Building. These have pay parking machines accepting cash and cards.

Public transport: Check www.transperth.wa.gov.au for 20-minute bus connections to/from Fremantle (999/998) and 70-minute routes to/from airport. Bus stop at Murdoch is "Discovery Way - Amenities" then walk up hill to Bush Court, or 25 minute walk from "Murdoch Station". Taxi from airport takes about 25 minutes and costs around 80\$.

Monday 20 Nov 2023 (SM² Conference)

12:15	<i>Welcome</i>		
Chair: Gerd Schroeder-Turk			
12:30 - 13:00	Billy Todd	Swinburne Uni	Practical use of nonlinear response theory: a paradigm-shift for tribology and rheology
13:00 - 13:30	Blake Armstrong	Curtin University	Complete Thermodynamics of Calcite Kink Sites for Crystal Growth and Dissolution
Coffee Break			
Chair: Gerd Schroeder-Turk			
14:15 - 14:45	Edoardo Savoia (via TEAMS)	Swinburne Uni	Computation of Isobaric Heat Capacity via Molecular Dynamics and Quantum Corrections for Polarizable Water Models
14:45 - 15:15	Richard Sadus	Swinburne Uni	Ab Initio Potential for Classical Hydrogen
15:15 - 15:45	Michael Hough	Murdoch University	Ultrasonic spray nozzle-mediated activation for hierarchically structured carbon bead
Break			
Chair: Debra Bernhardt			
16:00 - 16:30	Tim Duignan	Griffith Uni	Accel. accurate 1st principles simulation of electrolytes w equivariant neural networks
16:30 - 16:50	Claudio Pedrick	Curtin Uni	The effect of cryoprotective agents on model cell membranes
16:50 - 17:10	Lara Frcej	Curtin Uni	Mechanism of interaction of plant vitrification solutions with model cell membranes
<i>Drinks at the Guild Tavern on Murdoch campus</i>			

Tuesday 21 Nov 2023 (SM² Conference)

Chair: Billy Todd			
09:15 - 09:45	Andreas Menzel	Magdeburg Uni DE	From polar to nematic and chiral actively driven motion
09:45 - 10:15	Prabhakar Ranganathan	Monash University	Hyperfluidity in sperm suspensions
10:15 - 10:35	Alvin Jenner Walinghe	Curtin Uni	Crystal Shape & Topography: Prediction & Optimisation with CrystalGrower Model
Coffee Break			
Chair: Tim Duignan			
11:15 - 11:45	Ravi Jagadeeshan	Monash University	Universal diffusion of dendrimers in semidilute solutions of linear polymers
11:45 - 12:15	Charlotte Petersen	Uni of Melbourne	Direct measurement of structural change with amorphous solidification from simulated static speckle scattering
12:15 - 12:45	Debra Bernhardt	Uni of Queensland	Distribution functions: their existence and utility
Lunch (generously provided by the College of Science, Technology, Engineering and Mathematics of Murdoch University) -- Sir Walters terrace			
Chair: Andreas Menzel			
14:15 - 14:45	David Huang	Uni of Adelaide	Non-equilibrium molecular dynamics of steady-state fluid transport through a 2D membrane driven by a concentration gradient
14:45 - 15:15	Nathan Clisby	Swinburne Uni	Enhanced Flory screening for Hamiltonian walks
15:15 - 15:45	Hor (Ebi) Dashti	Uni of Queensland	Pheromonal Random Walk
Coffee Break			
Chair: Richard Sadus			
16:15 - 16:45	Zhaochuan Fan	SINANO, Suzhou, CN	Anisotropy in Near-Spherical Colloidal Nanoparticles
16:45 - 17:15	Peter Harrowell	Uni of Sydney	The Structural Change Associated with Amorphous Solidification
Casual pay-your-own dinner in Fremantle from 6:30 pm onwards: Gage Road Brewery, A Shed, Walyalup Waterfront, Fremantle			

Wednesday 22 Nov 2023 (SM² Conference)

Chair: Charlotte Petersen			
09:00 - 09:30	Stephen Sanderson	Uni of Queensland	Measuring partial or local temperature in inhomogeneous systems with rigid constraints
09:30 - 10:00	Peter Davis	RMIT	Can a mesoscopic model explain stick-slip flow?
10:00 - 10:30	Gerd Schroeder-Turk	Murdoch University	Disordered bicontinuous structures in sea urchin stereoms
Coffee break			
Chair: Nathan Clisby			
11:15 - 11:45	Almantas Pivrikas	Murdoch Uni	From application requirements to device photophysics of opto-electronic devices
11:45 - 12:15	Shibu Saw (via TEAMS)	Roskilde Uni DK	Active-parameter polydispersity in the 2d Active Brownian Particle model
Close of conference			

Thursday 23 Nov 2023 (Research School)

9am - 12pm	Andreas Menzel	Hydrodynamic interactions in viscous suspensions with links to elastic systems and statistical physics
1:30 - 4:30pm	Tim Duignan	Equivariant Neural network potentials: CP2K and NequIP simulations of neural network potentials for water

Posters to be displayed for the duration of the conference

Riccardo Civello	Swinburne Uni	Transient Time Correl Function to compute slip length of a sheared water on graphene
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Attendees without presentation likely include: Paolo Raitera (Curtin), Julian Gale (Curtin), Jaime Brook (Curtin), Peter Spackman (Curtin), Ricardo Mancera (Curtin), Allan Millsted (Murdoch), Graeme Hocking (Murdoch), Soudabeh Shemehsava (Murdoch), Annie Jessop (Murdoch), Wafaa Mansoor (Murdoch)