Statistical Mechanics of Soft Matter 2019

Sponsored by The School of Physical Sciences, The University of Adelaide

Monday, 16 December 2019						
08:00	**08:50**	**Registration**				
08:50	**09:00**	**Welcome**				
09:00	09:20	Debra	Bernhardt (Searles)	University of Queensland	Irreversibility for arbitrary protocols - fluctuation theorems as a sufficient but not necessary condition	Chair: David Huang
09:20	09:40	Michael	Grünwald	University of Utah	Crystallization and spontaneous resolution of chiral molecules	
09:40	10:00	Nathan	Clisby	Swinburne University of Technology	Universal properties of polymer melts from high resolution Monte Carlo simulations of Hamiltonian paths	
10:00	10:20	Dominic	Robe	Monash University	Physical aging in a colloidal glass as transitions between metastable states	
10:20	**11:00**	**Morning tea**				
11:00	11:20	Peter	Harrowell	University of Sydney	How useful is structure in amorphous materials?	Chair: Billy Todd
11:20	11:40	Tony	Roberts	University of Adelaide	Multiscale computation of microscale systems	
11:40	12:00	Charlotte	Petersen	University of Innsbruck	Understanding confined liquids: confinement by periodic boundaries	
12:00	12:20	Gary	Bryant	RMIT University	Understanding dynamics in complex suspensions using light scattering and differential dynamic microscopy	
12:20	**14:00**	**Lunch**				
14:00	14:10	Kannan	Ridings	University of Auckland	Nanowire stability during solid-liquid phase coexistence	Chair: Kirill Glavatskiy
14:10	14:20	Matthew	King	Griffith University	Fluctuations in a polygonal channel billiards model	
14:20	14:30	Huong Thi Lan	Nguyen	University of Adelaide	Coarse-graining of anisotropic molecules for simplified and fast molecular dynamic simulations	
14:30	14:40	Jared	Wood	University of Sydney	The behavior of nanorod assemblies, examined with biased sampling methods	
14:40	14:50	Luca	Maffioli	Swinburne University of Technology	Three-body entropy computation for an atomic fluid	
14:50	15:00	Patrick	Bowe	University of Adelaide	Modelling carbon nanotube cap formation via carbon vapour deposition	
15:00	**15:40**	**Afternoon tea**				
15:40	16:00	Peter	Daivis	RMIT University	Energy flow in thermostatted nonequilibrium molecular dynamics simulations	Chair: Richard Sadus
16:00	16:20	Asaph	Widmer-Cooper	University of Sydney	Twisting of nano-platelets: a tale of stress and strain	
16:20	16:40	Andreas	Menzel	University of Dusseldorf	Statistical characterization of the collective behaviour in active suspensions of self-propelled microswimmers	
16:40	17:00	Mirella	Simoes Santos	University of Queensland	Local self-diffusion coefficients of confined fluids through local dissipation theorem	
17:00	**18:30**	**Poster session**				
19:00		**Dinner**				

Tuesday, 17 December 2019						
09:00	09:20	Billy	Todd	Swinburne University of Technology	Heat flux beyond Fourier's law	Chair: Asaph Widmer-Cooper
09:20	09:40	Ellie	Hajizadeh	University of Melbourne	Multiscale simulations of polymer-bridged colloidal latex particle suspensions	
09:40	10:00	Gang	Sun	University of Sydney	Structure-dynamics connection in glass forming liquids	
10:00	10:20	Chris	Bradly	University of Melbourne	Phase boundaries and universality in solvent-dependent polymer adsorption	
10:20	**11:00**	**Morning tea**				
11:00	11:20	Richard	Sadus	Swinburne University of Technology	Ab initio potentials in molecular simulation	Chair: Peter Daivis
11:20	11:40	Yawei	Liu	University of Sydney	Dynamic simulations of rod-shaped colloidal particles: phase behaviour, self-assembly, diffusion and electrophoresis	
11:40	12:00	Barry	Cox	University of Adelaide	Graphene wrinkles	
12:00	12:20	Ravi	Jagadeeshan	Monash University	Internal friction can be measured with the Jarzynski equality	
12:20	**14:00**	**Lunch**				
14:00	14:10	Tobias	Hain	Murdoch University	Thermodynamics of the quantizer problem: the Voronoi liquid	Chair: Nathan Clisby
14:10	14:20	Debora	Monego	University of Sydney	Size-dependent sedimentation of nanocrystals: the role the ligand shell structure	
14:20	14:30	Jabr	Aljedani	University of Adelaide	Variational model of a rippled graphene sheet	
14:30	14:40	Sobin	Alosious	Swinburne University of Technology	Prediction of Kapitza length at solid-fluid interfaces	
14:40	14:50	Rahil	Valani	Monash University	Superwalking droplets	
14:50	**15:30**	**Afternoon tea**				
15:30	15:50	Kirill	Glavatskiy	University of Sydney	Interfacially driven transport theory: a way to unify Marangoni and osmotic flows	Chair: Debra Bernhardt
15:50	16:30	Hartmut	Löwen	University of Dusseldorf	Active particles near substrates: from biofilms to colloids in motility patterns	
16:30	**16:40**	**Closing remarks**				

Poster presentations			
Belinda	Boehm	University of Adelaide	Understanding solution-phase aggregation of organic semiconductors
Nicolas	de Souza	ANSTO	Soft matter from neutron backscattering spectroscopy at ACNS
Jordan	Hill	RMIT University	Building phase field simulations to investigate properties of cryoprotectants
Isaac	Pincus	Monash University	Viscometric functions and rheo-optical properties of dilute polymer solutions: comparison of FENE-Fraenkel dumbbells with rodlike models
Madhuranga	Rathnayake	University of Sydney	Evaluating classical force fields to study dissolution and crystallisation of hybrid organometallic halide perovskites
Michael	Rinaudo	University of Sydney	Packing and phase behaviour of nanorods
Aritra	Santra	Monash University	Universal behaviour of associative polymer solutions
Gerd	Schröder-Turk	Murdoch University	Morphometry.org: Minkowski functionals: robust and versatile shape descriptors
Zakiya	Shireen	University of Melbourne	Modeling and simulation of aggregation of binary colloids
Sleeba	Varghese	Swinburne University of Technology	Effect of hydrogen bonds on the dielectric properties of interfacial water