



AUSTRALASIAN
COLLOID AND
INTERFACE
SOCIETY

The 9th Australian Colloid & Interface Symposium

Hotel Grand Chancellor • Hobart, Tasmania
3 to 7 February 2019



2019 Program

ACIS 2019 Program

PL Plenary, KN Keynote, IN Invited, OC Oral Communication, PP Poster Presentation

Sunday 3 February 2019

14:30-17:30	Registration Open Mezzanine in the Exhibition Foyer, Hotel Grand Chancellor
17:30-19:30	Welcome Reception Harbour View 1

Monday 4 February 2019

7:30	Registration Open Mezzanine in the Exhibition Foyer, Hotel Grand Chancellor
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TIME GRAND BALLROOM

8:20	Welcome and opening remarks Ray Dagastine, University of Melbourne
8:40	PL01: A. E. Alexander Lecture: Ordering of hydrophilic and hydrophobized Silica nanoparticles in thin liquid films Regine von Klitzing, TU Darmstadt, Darmstadt, Germany <i>Session Chair: Greg Warr</i>

Sponsored by:



THE UNIVERSITY OF SYDNEY

9:30 CHANGEOVER

TIME	BALLROOM 1	BALLROOM 2	BALLROOM 3
	Soft Material Engineering In Foods, Consumer Care Products And Pharmaceuticals	Colloidal Frontiers: Fundamentals And Applications From Micro To Macro	Colloidal Systems Of Graphene And 2D Materials
	Frontiers In Soft Material Engineering <i>Session Chair: Jason Stokes</i>	Microstructure 1 <i>Session Chair: Ray Dagastine</i>	Processing-1 <i>Session Chair: Dan Li</i>
9:40	KN01: The colloidal science of protein nanofibrils <i>Raffaele Mezzenga, ETH Zurich, Switzerland</i>	KN02: Connecting rheology to nanoscale structure of block copolymer micelle liquid crystals and nanocomposites <i>Lynn Walker, Carnegie Mellon University, USA</i>	KN03: Graphene oxide liquid crystal <i>Sang Ouk Kim, National Creative Research Initiative Center for Multi-dimensional Directed Nanoscale Assembly, Department of Materials Science & Engineering, KAIST, The Republic of Korea</i>
		Sponsored by:  THE UNIVERSITY OF MELBOURNE	Sponsored by:  THE UNIVERSITY OF MELBOURNE

10:20-10:50

TEA/COFFEE BREAK & EXHIBITION

TIME	BALLROOM 1	BALLROOM 2	BALLROOM 3
	Soft Material Engineering In Foods, Consumer Care Products And Pharmaceuticals	Colloidal Frontiers: Fundamentals And Applications From Micro To Macro	Colloidal Systems Of Graphene And 2D Materials
	Food Structure: from molecules to colloids <i>Session Chair: Jason Stokes</i>	Microstructure 2 <i>Session Chair: Wren Greene</i>	Processing-2 <i>Session Chair: Dan Li</i>
10:50	IN01: Revealing the nanostructure of fat crystals by atomic force microscopy <i>David A. Beattie, Future Industries Institute, University of South Australia, Australia</i>	OC004: Influence of a pH-responsive electroactive amphiphile on the formation of lipid cubic phases <i>Esther Townsend, School of Chemistry, University of Bristol, Bristol Centre for Functional Nanomaterials, University of Bristol, UK</i>	IN02: Interface properties and reactions of boron nitride nanosheets and nanotubes <i>Ying Chen, Deakin University, Australia</i>
11:10	OC001: Food materials science @ ANSTO <i>Elliott Gilbert, ANSTO, Australia</i>	OC005: Agglomeration of ultrafine hydrophobic particles using a high internal phase emulsion binder with thin permeable oil films <i>Gabrielle Deluliis, The University of Newcastle, Australia</i>	IN03: Scalable graphene chemistries for processing and fabrication <i>David Officer, ARC Centre of Excellence in Electromaterials Science, The University of Wollongong, Australia</i>
11:30	OC002: Droplet-stabilised emulsions: colloidal and oxidative stability advantages <i>Sewuese Okubanjo, Riddet Institute, New Zealand</i>	OC006: Characterisation of dispersion interactions between aluminium-doped titania pigment particles and polyphosphate salt during milling <i>Laura Nicola Elliott, University of Leeds, UK</i>	IN05: Photocatalytic activity at interstitial sites across vertical-aligned graphene patterned surfaces <i>Ludovic (Ludo) Dumeé, Deakin University, Australia</i>
11:50	OC003: Seaweed polysaccharides as excipients and functional food ingredients <i>Helen Fitton, Marinova Pty Ltd, Australia</i>	OC007: Energy-landscapes of chemically anisotropic particles at an air-water interface <i>Ellen Knapp, Department of Chemical Engineering, The City College of New York, USA</i>	

12:10-13:30

LUNCH

12:50-13:30

Poster Presentations, Mezzanine level

PP01	Tuning of Surface Lattice Resonances via Mechanical Deformation <i>Yannic Brasse, Leibniz-Institut für Polymerforschung Dresden e.V., Germany and Center for Advanced Electronics Dresden, Germany</i>
PP03	Silicone-based fully nanoballs: their structural characterization and potential as DDS carriers <i>Shota Fujii, The University of Kitakyushu, Japan</i>
PP05	Magnetic scaffolds for 3D cell culture from recombinant spider silk protein eADF(C16) <i>Kai Mayer, Universität Bayreuth, Germany and University of Melbourne, Australia</i>
PP07	Towards agglomeration studies on gold nanoparticles at microgravity <i>Andrea Pyttlik, InnovationCenter INM, Germany</i>

12:50 - 13:30

Poster Presentations, Mezzanine level

PP09	Effects of shear rate on the micron scale structure of a gelling silica Christopher Garvey, <i>ANSTO, Australia</i>
PP11	QUOKKA - A pinhole fixed wavelength small angle neutron scattering instrument at the Australian Centre for Neutron Scattering Christopher Garvey, <i>ANSTO, Australia</i>
PP13	Phase behaviour of graphene oxide in various solvents for producing tailored rheological fluids Md Abedin, <i>Monash University, Australia</i>
PP15	Shaped particles for improved pulmonary drug delivery Haoda Zhao, <i>UNSW, Australia</i>
PP17	Temperature-Jump Spectroscopy: A new tool to monitor equilibria in a model colloid system Benjamin D. Tadjell, <i>University of Melbourne, Australia</i>
PP21	The effect of electrostatics on the formation and functionality of AMP-loaded microgels Bruno C. Borro, <i>University of Copenhagen, Denmark</i>
PP23	Cobalamins as reactive SERS probes for detection of small molecules Paul W. Denman, <i>University of Queensland, Australia</i>
PP25	Structuring of nonadsorbing polyelectrolyte between a Brownian nanoparticle and a flat plate Avinash Ashok, <i>The University of Melbourne, Australia</i>
PP27	Spectroelectrochemical investigation of charge transfer in CdSe quantum dots Arun Ashokan, <i>University of Melbourne, Melbourne, Australia</i>
PP29	A Processing Regime of High Dispersive Graphene Inks From Graphite Albert K. Guirguis, <i>Deakin University, Australia</i>

TIME	BALLROOM 1	BALLROOM 2	BALLROOM 3
13:30	Soft Material Engineering In Foods, Consumer Care Products And Pharmaceuticals	Colloidal Frontiers: Fundamentals And Applications From Micro To Macro	Colloidal Systems Of Graphene And 2D Materials
	Engineering Advances in Nutritional and Industrial Research <i>Session Chair: David Beattie</i>	Microstructure 3 <i>Session Chair: Lynn Walker</i>	Applications-1 <i>Session Chair: David Officer</i>
13:50	KN04 : Application of colloid and interface science in dairy systems <i>Christina Coker, Fonterra Research and Development Centre, Fonterra Co-operative Group Ltd, New Zealand</i>	OC010: Quantum chemically investigating the origins of Specific Ion Effects <i>Kasimir Gregory, Chemistry, University of Newcastle, Australia</i>	IN06: Graphene oxide modification of natural materials and biomaterials for various water treatments <i>Amanda Ellis, Department of Chemical Engineering, University of Melbourne, Australia</i>
13:50	Sponsored By:  Dairy for life	OC011: Specific ion effects in mixed salt environments on a thermoresponsive poly(oligoethylene glycol methacrylate) brush <i>Edwin Johnson, Chemistry, University of Newcastle, Australia</i>	IN07: EGO/PDMS nanobeads composites for highly stretchable and sensitive wearable tactile sensor <i>Yulin Zhong, Griffith University, Australia</i>

TIME	BALLROOM 1	BALLROOM 2	BALLROOM 3
	Soft Material Engineering In Foods, Consumer Care Products And Pharmaceuticals	Colloidal Frontiers: Fundamentals And Applications From Micro To Macro	Colloidal Systems Of Graphene And 2D Materials
	Engineering Advances in Nutritional and Industrial Research <i>Session Chair: David Beattie</i>	Microstructure 3 <i>Session Chair: Lynn Walker</i>	Applications-1 <i>Session Chair: David Officer</i>
14:10	OC008: Understanding the interfacial behaviour of bile salts, a key to their role in lipid digestion <i>Olivia Pabois, Institut Laue-Langevin, France, School of Cancer and Pharmaceutical Sciences, King's College London, UK</i>	OC012: Colloidal aggregation and gelation used to prepare composite materials with improved mechanical properties <i>Marco Lattuada, University of Fribourg, Switzerland</i>	IN08: Molecularly engineered graphene surfaces for bio-applications <i>Wenrong Yang, Deakin University, Australia</i>
14:30	OC009: Controlling liquid crystalline structure formation in digesting milk-like emulsions <i>Andrew Clulow, Monash Institute of Pharmaceutical Sciences, Monash University, Australia</i>	OC013: Properties and applications of multi-functional lubricin coatings in electrokinetic, sensor, and bionic technologies <i>George (Wren) Greene, Deakin University, Australia</i>	IN09: Application of graphene oxide membranes <i>Rakesh Joshi, School of Materials Science and Engineering, University of New South Wales, Australia</i>

14:50-15:20

TEA/COFFEE BREAK & EXHIBITION

TIME	BALLROOM 1	BALLROOM 2	BALLROOM 3
	Soft Material Engineering In Foods, Consumer Care Products And Pharmaceuticals	Colloidal Frontiers: Fundamentals And Applications From Micro To Macro	Colloidal Systems Of Graphene And 2D Materials
	Emerging Emulsion Technologies & Interfacial Design <i>Session Chair: Andrew Clulow</i>	Nanostructure <i>Session Chair: Erica Wanless</i>	Applications-2 <i>Session Chair: Amanda Ellis</i>
15:20	OC014: Formulating pharmaceutically acceptable non-aqueous microemulsions <i>Simona Kolarova, School of Cancer and Pharmaceutical Sciences, King's College London, UK</i>	OC020: High throughput and machine learning approaches to characterising stoichiometric and non-stoichiometric protic ionic liquid-water solutions <i>Tamar Greaves, School of Science, RMIT University, Australia</i>	IN10: Electrified layered organic-inorganic hybrids for capacitive storage <i>Dawei Wang, University of NSW, Australia</i>
15:40	OC015: Skin, creams and the ambient from a 3D perspective <i>Johan Engblom, Malmö University, Sweden</i>	OC021: Nanostructure of the deep eutectic solvent / platinum electrode interface as a function of potential and water content <i>Rob Atkin, University of Western Australia, Australia</i>	IN11: Surface chemistry for 2D materials and applications <i>Zongyou Yin, Research School of Chemistry, The Australian National University, Australia</i>

TIME	BALLROOM 1	BALLROOM 2	BALLROOM 3
	Soft Material Engineering In Foods, Consumer Care Products And Pharmaceuticals	Colloidal Frontiers: Fundamentals And Applications From Micro To Macro	Colloidal Systems Of Graphene And 2D Materials
	Emerging Emulsion Technologies & Interfacial Design <i>Session Chair: Andrew Clulow</i>	Microstructure 3 <i>Session Chair: Erica Wanless</i>	Applications-1 <i>Session Chair: Amanda Ellis</i>
16:00	OC016: Binary coalescence of drops with bulk and interfacial flows triggered by the presence of surfactant <i>Emilia Nowak, MIFST, College of Sciences, Massey University, New Zealand</i>	OC022: Universal nano-lithographic technique for different shaped functional anisotropic nanoparticles <i>Tanweepriya Das, PFPC and the Department of Chemical and Biomolecular Engineering, The University of Melbourne, Australia</i>	OC026: Dynamic graphene oxide network enables spray printing of colloidal gels for high-performance micro-supercapacitors <i>Zhiyuan Xiong, Department of Chemical Engineering, The University of Melbourne, Australia</i>
16:20	OC017: Liquid marbles using electrostatics: Effect of core particle size <i>Casey Thomas, Priority Research Centre for Advanced Particle Processing and Transport, University of Newcastle, Australia</i>	OC023: Uniquely shaped polymer colloids via liquid crystal templating <i>Haiqiao Wang, Complex Fluids Group, School of Chemical Engineering, University of NSW, Australia</i>	OC027: Efficient room-temperature production of high-quality graphene by introducing removable oxygen functional groups to precursor <i>Hongwu Chen, Department of Chemistry, Tsinghua University, China</i>
16:40	OC018: Clofazimine flash nanoprecipitated nanoparticle formulations for the treatment of cryptosporidiosis <i>Malinda Salim, Monash Institute of Pharmaceutical Sciences, Monash University, Australia</i>	OC024: Composite ink development from bioceramic nanoparticles for bone tissue regeneration <i>Sahar Salehi, Department of Biomaterials, Faculty of Engineering Science, University of Bayreuth, Germany</i>	OC028: Improved rheology and high-temperature stability of hydrolysed polyacrylamide by using graphene oxide <i>Maje Haruna, School of Chemical and Process Engineering, University of Leeds, UK</i>
17:00	OC019: Raspberry particles in paint?: Film-forming latexes prepared by Pickering emulsion polymerisation <i>Hana Shiraz, Monash University, Australia</i>	OC025: Designing food colloidal systems using microstructure engineering approach <i>Izabela Gladkowska Balewicz, Nestle Research and Development Center, Singapore</i>	

17:20

SESSION CLOSE

TIME	GRAND BALLROOM
18:00-20:00	<p>PL02: ACIS Plenary And Public Lecture - The science of taste</p> <p>Ole G. Mouritsen, University of Copenhagen, Copenhagen, Taste for Life—Danish Center for Taste, Denmark</p> <p>Followed by a Taste of Tasmania Networking Hour (drinks and light canapes only)</p> <p><i>Session Chair: Ben Boyd</i></p>

Sponsored By:



TIME	BALLROOM 1	BALLROOM 2	BALLROOM 3
	Nanoparticles: Colloidal Stability, Self-Assembly and Interactions With Light	Colloidal Systems of Graphene and 2D Materials	Scattering in Colloid and Interface Science
	Colloidal Stability 1 <i>Session Chair: Paul Mulvaney</i>	Processing-3 <i>Session Chair: Mainak Majumder & Jiaying Huang</i>	Scattering 1 <i>Session Chair: Gary Bryant</i>
9:00	KN05: Dynamic hybrid particles and materials <i>Tobias Kraus, Structure Formation Group, Innovation Center INM, INM - Leibniz-Institute for New Materials, Germany</i>	KN06: Soft Carbon Sheets: Some New Insights into an Old Material <i>Jiaying Huang, Northwestern University, USA</i>	OC033: Specific ion modulated thermoresponse of PNIPAM brushes <i>Erica Wanless, Priority Research Centre for Advanced Particle Processing and Transport, University of Newcastle, Australia</i>
9:20	Sponsored By:  Australian Research Council Centre of Excellence in	Sponsored By:  	OC34: Heavy molecules from the national deuteration facility for application within colloidal and interfacial sciences <i>James Howard, ANSTO, Australia</i>
9:40	OC030: Ligand-mediated interaction between colloidal nanoparticles <i>Debora Monego, ARC Centre of Excellence in Exciton Science, University of Sydney Nano Institute, School of Chemistry, University of Sydney, Australia</i>	IN13: Colloidal capsules from graphene oxide Pickering emulsions <i>Rico Tabor, School of chemistry, Monash university, Australia</i>	OC035: What do surfactants do at the oil/water interface? <i>Stuart Prescott, University of NSW Chemical Engineering, Australia</i>
10:00	OC031: Characterization of surface properties of nano- and microparticles by Hansen parameters to predict particle-particle and particle liquid interaction <i>Dietmar Lerche, LUM GmbH, Germany</i>	IN14: Chemical and topological design of high-performance chemically modified graphene films <i>Chun Li, Department of Chemistry, Tsinghua University, China</i>	OC036: Understanding interfaces in organic optoelectronic devices using neutron and x-ray scattering <i>Ian Gentle, The University of Queensland, Australia</i>
10:20	OC032: Colloidal stability of apolar nanoparticles: effect of ligand and solvent structure <i>Asaph Widmer-Cooper, ARC Centre of Excellence in Exciton Science, School of Chemistry, The University of Sydney, Australia</i>	IN15: Colloidal approach to ultralight graphene-based elastomers <i>Ling Qiu, Tsinghua-Berkeley Shenzhen Institute</i>	OC037: An improved depolarized dynamic light scattering method to calculate translational and rotational diffusion coefficients of nanorods <i>Gary Bryant, Centre for Molecular and Nanoscale Physics, School of Science, RMIT University, Australia</i>

10:40-11:20

11:05-11:20

TEA/COFFEE BREAK & EXHIBITION

ATA SCIENTIFIC LIVE DEMONSTRATION -

Use the latest advanced technologies for the study of colloids, surfaces and interfaces:
New Zetasizer Ultra and Theta Tensiometer

TIME	BALLROOM 1	BALLROOM 2	BALLROOM 3
	Nanoparticles: Colloidal Stability, Self-Assembly and Interactions With Light	Colloidal Frontiers: Fundamentals And Applications From Micro To Macro	Scattering in Colloid and Interface Science
	Colloidal Stability 2 <i>Session Chair: Tobias Kraus</i>	Drops 1 <i>Session Chair: Anthony Stickland</i>	Scattering 2 <i>Session Chair: Anna Sokolova</i>
11:20	IN16: Nanoparticle sinks and melts under the influence of charge and van der Waals forces <i>Drew Parsons, Murdoch University, Australia</i>	OC041: Significance of non-DLVO attractions in coalescence of bubbles in salt solutions <i>Mahshid Firouzi, School of Chemical Engineering, The University of Queensland, Australia</i>	OC045: Stability of hard-core/soft-shell colloids at different packing fractions probed by light, X-ray and neutron scattering <i>Matthias Karg, Physical Chemistry I, Heinrich-Heine-University Düsseldorf, Germany</i>
11:40	OC038: Quantifying the dynamic and equilibrium interactions of confined anisotropic nanoparticles <i>Christopher Bolton, University of Melbourne, Particulate Fluids Processing Centre, Australia</i>	OC042: Stability of liquid-infused surfaces in microchannels under pressure-driven fluid flow <i>Christopher Vega Sánchez, School of Chemistry and University of Sydney Nano Institute, The University of Sydney, Australia</i>	OC046: Thermodynamic and kinetic consideration of the micelles with the discrete aggregation numbers and mono-dispersity <i>Kazuo Sakurai, The University of Kitakyushu, Japan</i>
12:00	OC039: Emergent properties of Janus Spheres: experiments <i>Qaisar Latif, Department of Physics, The University of Auckland, The MacDiarmid Institute for Advanced Materials and Nanotechnology, New Zealand</i>	OC043: Wet stain kinetics for paper based bio-diagnostics <i>Michael Hertaeg, Monash University, Australia</i>	OC047: Aggregation kinetics quantified on single biofunctionalized particle dimers reveals heterogeneity in particle surface reactivity <i>Max Scheepers, Eindhoven University of Technology, Institute for Complex Molecular Systems, The Netherlands</i>
12:20	OC040: Nanoparticles self-assembly for the preparation of bioinspired materials with stimuli-responsive color changing ability <i>Marco Lattuada, Department of Chemistry, University of Fribourg, Fribourg, Switzerland</i>	OC044: Droplet motion on superhydrophobic surfaces <i>Alexander Smith, Department of Physics, The University of Auckland, The MacDiarmid Institute for Advanced Materials and Nanotechnology, New Zealand</i>	OC048: Characterization of heparin-mediated aggregation of native neuropeptide somatostatin-14: importance of protofilament interactions in amyloid formation <i>Durga Dharmadana, School of health and biomedical science, RMIT University, Australia</i>

12:40-14:00

LUNCH

PP02	Uptake of cubosomes in vitro Jamie Strachan, <i>RMIT University, Australia</i>
PP04	Design of porous lipid-silica nanocarriers for local enzyme-controlled drug administration Hanna I. Gustafsson, <i>University of South Australia, Australia</i>
PP06	Electrostatic formation of liquid marbles & aggregates: conductivity overcoming size limitations Benjamin Lobel, <i>University of Newcastle, Australia</i>
PP08	Freeze-drying of human red blood cells for biomedical applications Francisca Diana Alves de Sousa, <i>Monash University, Australia</i>
PP10	Designing nanocellulose gels for applications Llyza Mendoza, <i>Monash University, Australia</i>
PP12	Stability and formation of surface nanobubbles: a computer simulation study Yawei Liu, <i>The University of Sydney, Australia</i>
PP14	KOOKABURRA, the ultra-small-angle neutron scattering instrument at ANSTO: design and recent applications Jitendra P. Mata, <i>Australian Nuclear Science and Technology Organization, Australia</i>
PP16	Fluid and rheology effects on biological tissue separation Zhiwei Li, <i>The University of New South Wales, Australia</i>
PP18	Liquid-infused tympanostomy tubes for reduced biofouling and improved fluid transport Sam Peppou-Chapman, <i>The University of Sydney, Australia</i>
PP20	Filtration with a twist! Eric Höfgen, <i>The University of Melbourne, Australia</i>
PP22	Energy transfer within CdSe QDs-organic dye assemblies Na Wu, <i>The University of Melbourne, Australia</i>
PP24	Aligned droplet patterns by dewetting of polymer bilayers Ming Chiu, <i>The University of Sydney, Australia</i>
PP26	Moving microdroplets in 3D with light David L. Officer, <i>The University of Wollongong, Australia</i>
PP28	Formulation of the N-acylethanolamine, linoleoylethanolamide into cubosomes targeted to the blood-brain barrier Younus Mohammad, <i>University of Otago, New Zealand</i>
PP30	The influence of surface-active species on small diameter bubble rise velocities Dinesh Srikar Karra, <i>The University of Melbourne, Australia</i>

TIME	BALLROOM 1	BALLROOM 2	BALLROOM 3
	Nanoparticles: Colloidal Stability, Self-Assembly and Interactions With Light	Colloidal Frontiers: Fundamentals And Applications From Micro To Macro	Scattering in Colloid and Interface Science
	Self-assembly 1 <i>Session Chair: Asaph Widmer-Coper</i>	Drops 2 <i>Session Chair: Catherine Whitby</i>	Scattering 3 <i>Session Chair: Chris Garvey</i>
14:00	IN17: Soft plasmene nanosheets: from design to applications <i>Wenlong Cheng, Monash University, Melbourne Centre for Nanofabrication (MCN), Australia</i>	OC052: Femtoliter surface droplets with dual functionalities for nanoextraction and online microanalysis <i>Miaosi Li, School of Engineering, RMIT University</i>	KN07: Lipid self-assembly in bulk and at interfaces - Neutron and X-ray studies of non-lamellar phases and biomolecular interactions <i>Tommy Nylander, Lund University, Sweden</i>
14:20	OC049: Self-assembly of nanorods in polymer solution <i>Jared Wood, ARC Centre of Excellence in Exciton Science, The University of Sydney Nano Institute, University of Sydney, Australia</i>	OC053: Femtoliter droplets on a microlens: formation and application <i>Lei Bao, School of Engineering, RMIT University, Australia</i>	<div style="text-align: center;">Sponsored By:</div>  
14:40	OC050: Modelling hard-rod suspensions for use in molecular-dynamics simulations <i>Yawei Liu, ARC Centre of Excellence in Exciton Science, School of Chemistry, The University of Sydney, Australia</i>	OC054: A fully coupled analytical model of sessile droplet evaporation with combined effects of substrate conductivity and interfacial cooling <i>Tuan Nguyen, School of Chemical Engineering, The University of Queensland, Australia</i>	
15:00	OC051: Exploring asymmetry in nanoparticle superstructures <i>Alison Funston, ARC Centre of Excellence in Exciton Science, School of Chemistry, Monash University, Australia</i>	OC055: Composition of surfaces of salty solutions <i>Gunther Andersson, College of Science and Engineering, Flinders University, Australia</i>	OC056: Small molecule profiles between lipid bilayers by neutron diffraction <i>Christopher Garvey, ACNS, ANSTO, Australia</i>
			OC057: Effect of embedment of functional siRNA on cubic phase <i>Sampa Sarkar, School of Science, RMIT University, Australia</i>

15:20-16:00

TEA/COFFEE BREAK & EXHIBITION

15:45-16:00

ANTON PAAR LIVE DEMONSTRATION
New Horizons In Nanoparticle Analysis: A complete characterization suite

TIME	BALLROOM 1	BALLROOM 2	BALLROOM 3
	Nanoparticles: Colloidal Stability, Self-Assembly and Interactions With Light	Colloidal Frontiers: Fundamentals And Applications From Micro To Macro	Scattering in Colloid and Interface Science
	Self-assembly 2 <i>Session Chair: Wenlong Cheng</i>	Drops 3 <i>Session Chair: Patrick Spicer</i>	Scattering 4 <i>Session Chair: Chris Garvey</i>
16:00	OC058: Interface modification using self-assembly of polymer brushes and colloids in solar cells <i>Mukundan Thelakkat, Applied Functional Polymers, University of Bayreuth, Germany</i>	OC061: Symmetry splitting of impacting droplets on partly wetting surfaces <i>Matheu Broom, Department of Physics, The University of Auckland, The MacDiarmid Institute for Advanced Materials and Nanotechnology, New Zealand</i>	OC064: The effect of humidity and temperature on a dry, thermoresponsive polymer brush <i>Isaac Gresham, University of NSW Sydney, Australia</i>
16:20	OC059: Direct assembly of single nanoparticle arrays <i>Heyou Zhang, ARC Centre of Excellence in Exciton Science, The University of Melbourne, Australia</i>	OC062: Drop chains: a microfluidic approach to understanding attraction between drops in polymer surfactant systems <i>Emily Jamieson, Particulate Fluids Processing Centre, Department of Chemical Engineering, The University of Melbourne, Australia</i>	OC065: Structure-property relationships of sodium carboxymethyl cellulose (Na-CMC) characterised with rheology and light scattering <i>Timothy Hunter, School of Chemical and Process Engineering, University of Leeds, UK</i>
16:40	OC060: Self-assembled nanocrystals as advanced optoelectronic materials <i>Anum Nisar, ARC Centre of Excellence in Exciton Science, School of Chemistry, Monash University, Australia</i>	OC063: From rings to bumps in colloid patterning: the effect of short chain amphiphiles <i>Catherine Whitby, Institute of Fundamental Sciences and The MacDiarmid Institute for Advanced Materials and Nanotechnology, Massey University, New Zealand</i>	OC066: SPATZ: the second time-of-flight neutron reflectometer at the OPAL research reactor <i>Anton Le Brun, ACNS, ANSTO, Australia</i>

17:00

SESSIONS CLOSE - FREE EVENING



8:15 Registration Open

TIME	BALLROOM 1	BALLROOM 2	BALLROOM 3
	<p>Soft Material Engineering In Foods, Consumer Care Products And Pharmaceuticals</p> <p>Biomacromolecular Assemblies: Towards Rational Design of Functional Materials <i>Session Chair: Jitendra Mata</i></p>	<p>Nanoparticles: Colloidal Stability, Self-Assembly and Interactions With Light</p> <p>Interactions with Light <i>Session Chair: Alison Funston</i></p>	<p>Colloids in Medicine</p> <p>Drug Delivery 1 <i>Session Chair: Ben Boyd</i></p>
9:00	<p>OC068: Soft, but strong, bacterial cellulose microcapsules <i>Patrick Spicer, University of NSW, Australia</i></p>	<p>OC073: The effects of hydrostatic pressure on the spectra of nanocrystals <i>Paul Mulvaney, University of Melbourne, Australia</i></p>	<p>KN08: Developing globally accessible vaccines through scale-independent manufacture of liposomal adjuvants <i>Yvonne Perrie, Strathclyde Institute of Pharmacy and Biomedical Sciences, University of Strathclyde, UK</i></p>
9:20	<p>OC069: Bio-selective bacteriostatic and fungistatic surfaces made of recombinant spider silk proteins <i>Gregor Lang, Biopolymer Processing, University of Bayreuth, Germany</i></p>	<p>OC074: Resonant energy transfer in a single nanocrystal:dye assembly <i>Ali Abd Ali, ARC Centre of Excellence in Exciton Science, School of Chemistry, Monash University, Australia, Department of Chemistry, College of Science, Al-Nahrain University, Iraq</i></p>	<div style="border: 1px solid black; padding: 5px;"> <p>Sponsored By:</p>   </div>
9:40	<p>OC070: Tracking the adsorption of biomolecules at the cellulose interface for bio-diagnostics <i>Vikram Raghuvanshi, Bioresource Processing Research Institute of Australia (BioPRIA), Department of Chemical Engineering, Monash University, Australia</i></p>	<p>OC075: Excitonic processes in diketopyrrolopyrrole derivatives <i>Siobhan Bradley, ARC Centre of Excellence in Exciton Science, School of Chemistry, University of Melbourne, Australia</i></p>	<p>OC078: Formulation of dual component solid drug nanoparticles for improved oral bioavailability of Darunavir and Ritonavir <i>Alison Savage, Department of Chemistry, University of Liverpool</i></p>
10:00	<p>OC071: Linking adsorbed film properties to aqueous lubrication in polysaccharide-protein complexes <i>Jason Stokes, School of Chemical Engineering, The University of Queensland, Australia</i></p>	<p>OC076: Metal-semiconductor hybrid nanostructures <i>Anchal Yadav, ARC Centre of Excellence in Exciton Science, School of Chemistry, Monash University, Australia</i></p>	<p>OC079: Overcoming challenges for drug delivery towards poorly endocytic cells in the fight of malaria and haematological malignancies <i>Ernest Moles, Tumour Biology and Targeting Program, Children's Cancer Institute, University of New South Wales, Australian Centre for NanoMedicine, ARC Centre of Excellence in Convergent Bio-Nano Science and Technology, Australia</i></p>
10:20	<p>OC072: Nanocellulose-polyelectrolyte Composite as Superabsorbent <i>Laila Hossain, BioPRIA, Department of Chemical Engineering, Monash University, Australia</i></p>	<p>OC077: Distance-dependent plasmon resonance coupling in nanoparticle superstructures <i>Ekaterina Ponomareva, Heinrich-Heine-University, Germany</i></p>	<p>OC080: Drug delivery vehicles based on engineered spider silk proteins <i>Thomas Scheibel, Chair of Biomaterials, Faculty of Engineering Science, Universität Bayreuth, Germany</i></p>

TIME	BALLROOM 1	BALLROOM 2	BALLROOM 3
	Commercialisation and Translation Panel Session	Colloidal Frontiers: Fundamentals and Applications From Micro to Macro	Colloids in Medicine
	Navigating the path to Translation <i>Session Chair: Patrick Spicer</i>	Rheology <i>Session Chair: George Franks</i>	Drug Delivery 2 <i>Session Chair: Alison Savage</i>
11:10	Short 'Pearls of Wisdom' presentations by experts in Commercialisation and Translation of Research covering the continuum from invention to fortune. Expert speakers from Universities, industry, patent firms, entrepreneurs Speakers include:	OC081: Using pipettes for mechanical characterization of soft colloids <i>Geoff Willmott, Department of Physics, The University of Auckland, The MacDiarmid Institute for Advanced Materials and Nanotechnology, School of Chemical Sciences, The University of Auckland, New Zealand</i>	OC086: The effect of micromixer geometry on the properties of peptide-loaded microgels <i>Bruno Borro, Department of Pharmacy, University of Copenhagen, Denmark</i>
11:30	Dr Maria Harrison-Smith <i>Senior Manager – Intellectual Property, Monash University</i>	OC082: Rheological and acoustic properties of harvested, incubated and ruptured microalgae slurries (Nannochloropsis sp.) at high solids concentration <i>Peter Scales, Chemical Engineering, Univ. of Melbourne, School of Chemistry, Australia</i>	OC087: In-vitro digestion profile of curcumin encapsulated in Pickering emulsions stabilized by Fe ₃ O ₄ @CNC nanocomposites <i>Liang Ee Low, Monash University Malaysia</i>
11:50	Prof Calum Drummond <i>Deputy Vice-Chancellor Research and Innovation and Vice-President, RMIT University</i>	OC083: Colloidal and gel assemblies of brush-like polysaccharides with motif-specific interactions <i>Long Yu, University of Adelaide, Australia</i>	OC088: A novel drug delivery vehicle for treatment of recurrent high grade glioma <i>Alison White, The University of Queensland, CSIRO Probing Biosystems Future Science Platform, Australia</i>
12:10	Dr Johann (Hans) Zank <i>Senior Manager Emerging Technologies, Strategic Marketing and Technology, Orica</i>	OC084: Impact of gas injection on flow and physicochemical properties of municipal sewage sludge <i>Nicky Eshtiaghi, School of Engineering, RMIT University, Australia</i>	OC089: Acoustically active colloids for use in ultrasound drug delivery systems <i>Boon Teo, School of Chemistry Monash University, Australia</i>
12:30	Dr Kathy Nielsen <i>Senior Commercialisation Manager, Monash University</i>	OC085: Combining shear and compressional rheology <i>Anthony Stickland, Particulate Fluids Processing Centre and the Department of Chemical Engineering, The University of Melbourne, Australia</i>	OC090: Acoustic enhancement of intracellular delivery for ex vivo therapeutics <i>Leslie Yeo, School of Engineering, RMIT University, Australia</i>
	Prof Darren Martin <i>AIBN Senior Group Leader, The University of Queensland</i>		
	Paula de Bruyn <i>Principal, Patent Attorney, Davies Collison Cave</i>		
	Dr Christina Coker <i>Programme Manager – Consumer Experience and Dairy Food Design Programmes (Senior Research Scientist), Fonterra Research and Development Centre, New Zealand</i>		
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TIME	BALLROOM 1	BALLROOM 2	BALLROOM 3
	Commercialisation and Translation Shark Tank (Career Development Session)	Colloidal Frontiers: Fundamentals and Applications From Micro to Macro	Colloids in Medicine
	Shark Tank <i>Session Chair: Patrick Spicer</i>	Liquid Marbles <i>Session Chair: Nicky Eshtiaghi</i>	Antimicrobial materials and Diagnostics <i>Session Chair: Alison White</i>
13:50	Bring your concepts (non-confidential), bring your IP, bring your prototypes, (and if you are a Shark) bring your cheque book!	OC091: Manipulating liquid marbles using dielectrophoresis <i>Chin Hong Ooi, Griffith University, Australia</i>	OC096: Active biofilm treatment: Magnetic liquid metal nanoparticles as antibacterial agents <i>Aaron Elbourne, School of Science, RMIT University, Australia</i>
14:10	This session will provide an entertaining and enlightening session in a 'Shark Tank' format where you can expect reinforcement or dismemberment of your's and others' science and applications, discussion of hurdles and pathways to translation and the odd epiphany for sure.	OC092: Application of electrostatic particle/droplet interactions to mineral systems <i>Grant Webber, The University of Newcastle, Australia</i>	OC097: Rifampicin loaded lipid nanoparticles for treating <i>Staphylococcus aureus</i> infection <i>Nhiem Tran and Benjamin Muir, School of Science, RMIT University, CSIRO Manufacturing, Australia</i>
14:30	ECRs, this is your time to shine! Pitch the next big idea and see if the sharks get a taste for it. Experienced researchers don't be shy either. Whether you sink or swim, if you don't have a go you'll never know.	OC093: Effect of field characteristics on electrostatic formation of liquid marbles <i>Peter Ireland, The University of Newcastle, Australia</i>	OC098: A new mechanobactericidal surface: the role of nanostructure stiffness contributing to bacterial cell death <i>Denver Linklater, Swinburne University of Technology, Australia</i>
14:50	There will be tears, there will be triumph, there will be thoughtful poses from the session chair Patrick Spicer. Expect the unexpected, this is a first for ACIS!	OC094: Particle stabilized foams and emulsions as pastes for 3D printing multiscale porous ceramics <i>George Franks, Particle Stabilized Foams and Emulsions as Pastes for 3D Printing Multiscale Porous Ceramics, Australia</i>	OC099: Paper diagnostics for rapidly determining fibrinogen concentration <i>Marek Bialkower, Bioresource Processing Research Institute of Australia (BioPRIA), Department of Chemical Engineering, Monash University, Australia</i>
15:10	Sponsored By: 	OC095: Sintering-free conductive inks for inkjet-printed electrochemical biosensors <i>Maria Alba Martin, Monash Institute of Pharmaceutical Sciences, Monash University, CSIRO Manufacturing, Australia</i>	OC100: Nanocellulose hydrogels for blood typing tests <i>Rodrigo Curvello, Bioresource Processing Research Institute of Australia (BioPRIA), Department of Chemical Engineering, Monash University, Australia</i>

TIME	BALLROOM 1
15:50	ACIS Annual General Meeting - TEA/COFFEE provided

16:50

FREE TIME

TIME

HARBOUR VIEW 1

19:00-23:00

ACIS 2019 Symposium Dinner - Entertainment by Tony Voglino. MC: Ian Gentle

Thursday 7 February 2019

8:15

Registration Open

TIME	BALLROOM 1	BALLROOM 2	BALLROOM 3
	Colloids in Medicine Biomaterials <i>Session Chair: Andrew Whittaker</i>	Scattering in Colloid and Interface Science Scattering 5 <i>Session Chair: Tam Greaves</i>	Colloidal Systems of Graphene and 2D Materials Soft Matter-1 <i>Session Chair: Mainak Majumder</i>
9:00	KN09: Polysaccharide materials based on polyelectrolyte interactions <i>Lisbeth Grondahl, Australian Institute for Bioengineering and Nanotechnology, The University of Queensland, School of Chemistry & Molecular Biosciences, The University of Queensland, Australia</i>	OC105: Biocompatible ionic liquid nanostructure determines self-assembly of weak amphiphiles <i>Shurui Miao, The University of Sydney, Australia</i>	KN10: The importance of classical soft matter physics in the development of new nanomaterials <i>Lauren Taylor, presenting on behalf of Matteo Pasquali, Rice University, USA</i>
9:20	Sponsored By: 	OC106: Catanionic surfactant self-assembly in ionic liquids <i>Gregory Warr, School of Chemistry, The University of Sydney, Australia</i>	Sponsored By: 
9:40	OC102: Recombinant spider silk proteins for cardiac tissue engineering <i>Vanessa Troßmann, Universität Bayreuth, Germany</i>	OC107: Lyotropic liquid crystal phase behavior of various amphiphiles in ternary protic ionic liquid containing solvents <i>Dilek Yalcin, School of Science, College of Science, Engineering and Health, RMIT University, Australia</i>	IN19: 2D Materials of unique nano- and micro-structures for energy harvesting <i>Lingxue Kong, Deakin University, Australia</i>
10:00	OC103: Drug-induced morphology transition of self-assembled glycopolymers: Insight into the drug-polymer interaction <i>Cheng Cao, ANSTO, School of Chemistry, University of New South Wales, Australia</i>	OC108: Small Angle Neutron Scattering instrument BILBY: basics of the technique and its capabilities to study colloids and complex hierarchical systems <i>Anna Sokolova, ACNS, ANSTO, Australia</i>	IN20: Graphene suspension for polymer composites <i>Jun Ma, University of South Australia, Australia</i>
10:20	OC104: Study of the unfolding and Oolonal antibody (mAb) and a mixed mAb-excipient system at the surface of water <i>Ankit Kanthe, Department of Chemical Engineering, The City College of New York, USA</i>	OC109: Monodisperse micelles in the system of reverse micelles <i>Shota Fujii, The University of Kitakyushu, Japan</i>	OC110: Insights into the exfoliation process of graphene oxide: a polarized optical microscopy perspective <i>Md Abedin, Monash University, Australia</i>

TIME	BALLROOM 1	BALLROOM 2	BALLROOM 3
	Colloids in Medicine	Colloidal Frontiers: Fundamentals and Applications From Micro to Macro	Colloidal Systems of Graphene and 2D Materials
11:10	Cell Interactions <i>Session Chair: Boon Teo</i>	Surface Forces 1 <i>Session Chair: Naoyuki Ishida</i>	Soft Matter-2 <i>Session Chair: Matteo Pasquali</i>
	IN21: Design strategies for nanomaterials to cross lipid bilayers <i>Vladimir Baulin, Universitat Rovira i Virgili, Spain</i>	OC114: Interactions between gypsum crystal interfaces <i>Christine Browne, Bioresource Processing Research Institute of Australia (BioPRIA), Department of Chemical Engineering, Monash University, Australia, Université Grenoble Alpes, Université Savoie Mont Blanc, CNRS, IRD, IFSTTAR, ISTerre, France</i>	OC118: Enhanced properties of the high internal phase water-in-oil emulsion using graphene oxide-based additives <i>Tanesh Gamot, Monash University, Australia</i>
11:30	OC111: Functionalizing polymeric nanoparticles using microfluidics for enhanced cell interaction <i>Arlene McDowell, School of Pharmacy, University of Otago, New Zealand</i>	OC115: New colloidal probes for direct force measurements by combining AFM and nanofluidics <i>Georg Papastravrou, Physical Chemistry II, University of Bayreuth, Germany</i>	OC119: Probing interaction mechanisms between molybdenite and dodecane oil droplets using atomic force microscopy <i>Liyuan Feng, University of Alberta, Canada</i>
11:50	OC112: Poly-ε-caprolactone (PCL) particle - hydrogel colloid system for enhanced cell interaction <i>David Sonleitner, Universität Bayreuth, Germany</i>	OC116: Mapping depletion of lubricant films on anti-biofouling wrinkled slippery surfaces <i>Sam Peppou-Chapman, School of Chemistry, The University of Sydney, The University of Sydney Nano Institute, Australia</i>	OC120: Tuning the rheological properties of graphene colloids by reduction reaction <i>Yang Cao, PFPC and the Department of Chemical and Biomolecular Engineering, The University of Melbourne, Australia</i>
12:10	OC113: Synthesis, characterization, and antimicrobial activity of cubosome encapsulated metal nanocrystal <i>Thomas Meikle, School of Science, RMIT University, Australia</i>	OC117: The structure of polymer-surfactant adsorbed on neutral and charged surfaces studied by AFM and QCM-D relevant to product formulation <i>Tianyi Bai, Department of Chemical Engineering, The University of Melbourne, Particulate Fluids Processing Centre, Australia</i>	OC21: In the curl: Interface-mediated formation of polymer/mineral composite micro scrolls <i>Anna Schenk, Physical Chemistry - Colloidal Systems, University of Bayreuth, Germany</i>

12:30-13:30

LUNCH

TIME	BALLROOM 1	BALLROOM 3
	Colloidal Frontiers: Fundamentals and Applications From Micro to Macro	Scattering in Colloid and Interface Science
	Surface Forces 2 <i>Session Chair: Peter Scales</i>	Scattering 6 <i>Session Chair: Patrick Spicer</i>
13:30	OC122: Low-temperature surface force apparatus to determine interactions between ice and silica surfaces <i>Kazuo Kurihara, Tohoku University, Japan</i>	OC126: Inspecting colloids with a SAXS/WAXS instrument <i>Pierre Panine, Xenocs, France</i>
13:50	OC123: Direct force determination of interfacial rheology via AFM <i>Matthew Dominic Biviano, Particulate Fluids Processing Centre and the Department of Chemical Engineering, The University of Melbourne</i>	OC127: Nano and microstructure investigation of photocrosslinked silk fibroin and silk fibroin-based hydrogels: A SANS and USANS study <i>Jitendra Mata, Australian Centre for Neutron Scattering, Australian Nuclear Science and Technology Organization</i>
14:10	OC124: Direct measurement of the interaction forces between silanated silica surfaces in organic solvents: Effect of affinity between surface and solvent molecules on the interaction <i>Naoyuki Ishida, Okayama University, Japan</i>	OC128: Ultra-thin spider silk films: insights into silk assembly on surfaces <i>Sarah Lentz, Universität Bayreuth, Germany</i>
14:30	OC125: Bio-surfactant adsorption at an O/W interface: from visualisation to quantification <i>Yuan Gao, Australian Institute of Bio-engineering and Nanotechnology, University of Queensland, Australia</i>	

14:50

CHANGEOVER

TIME

BALLROOM 1

15:00

Closing Remarks

15:20

ACIS 2019 CLOSES



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