

ACSSSC 2018, Deakin Warrnambool

Week of: 29 January

Scientific Program

	29/1 MONDAY		30/1 TUESDAY		31/1 WEDNESDAY		1/2 THURSDAY		
07:00	BREAKFAST		BREAKFAST	WAKE UP WITH A LUMINARY	BREAKFAST		BREAKFAST	ROOM CLEAN-UP & CHECK OUT	
			SESSION THREE		SESSION SEVEN		SESSION ELEVEN		
09:00	REGISTRATION		PLENARY LECTURE		PLENARY LECTURE		039	Vanessa Wicklein	
09:20								040	Muidh Alheshibri
09:40								041	Aysu Onur
10:00				O11		Casey Thomas	O24	Erico de Godois Baroni	042
10:20	MORNING TEA		O12	Liam Scarratt	O25	Julie Courgibet	O43	Michael Hertaeg	
10:40			MORNING TEA		MORNING TEA		MORNING TEA		
11:10	RESERVED		SESSION FOUR		SESSION EIGHT		SESSION TWELVE		
			O13	Asha Ramachandran	O26	Ragesh Prathapan	O44	Gabriel Huynh	
11:30			O14	Elena Colusso	O27	Isaac Gresham	O45	Jackson Moore	
11:50	OPENING REMARKS		O15	Muthana Ali	O28	Daniel Borrow	END of PROGRAM		
12:10	LUNCH (12:10-1:10 PM)		O16	Xiaolong Zhu	LUNCH	CAREER SESSION	LUNCH		
	SESSION ONE		LUNCH (12:30-1:30 PM)	EQUITY AND DIVERSITY	SESSION NINE				
13:10	O1	Joshua Marlow	SESSION FIVE		O29	Yingxin Liu			
13:30	O2	Haitao Yu	O17	Natalie Riley	O30	Yuqi Yang			
13:50	O3	Zengyi Wei	O18	Dilek Yalcin	O31	Kellie May			
14:10	O4	Edwin Johnson	O19	Thomas McCoy	O32	Samuel Law	DEPART BY 14:00		
14:30	O5	Emily Jamieson	O20	Hana Shiraz	O33	Goldina Kwandou			
14:50	O6	Sampa Sarkar	O21	Ben Humphreys	O34	Varun Prasath Babu Reddiar			
15:10	AFTERNOON TEA	SPONSOR PROMO	AFTERNOON TEA	SPONSORS PROMO	AFTERNOON TEA	SPONSOR PROMO			
	SESSION TWO		SESSION SIX		SESSION TEN				
15:40	O7	Jens Neubauer	O22	Eric Hoefgen	O35	Daniel Zalami			
16:00	O8	Llyza Mendoza	O23	Anais Chalard	O36	Tianyi Bai			
16:20	O9	Alastair Tonge			O37	Haiqiao Wang			
16:40	O10	Matthew Biviano	FREE TIME		O38	Sumit Tripathi			
17:00	POSTER SESSION				ACS ANNUAL GENERAL MEETING				
19:00	WELCOME RECEPTION & TRIVIA NIGHT		DINNER		CONFERENCE DINNER	AWARDS CEREMONY			
20:00						DANCING!			
20:30-LATE				TALENT NIGHT!					

Session One – Monday 29th January

1:10 pm – 3:10 pm

1:10 pm: Effect of volume fraction of water, oil, surfactants and silica particles on structural dimensions in a liquid-crystal system.

Joshua B. Marlow¹, Thomas McCoy¹, Matthew J. Pottage¹, Liliana de Campo², Anna Sokolova², Toby D.M. Bell¹, Rico F. Tabor¹.

1. School of Chemistry, Monash University, Australia 2. Australian Centre for Neutron Scattering, ANSTO.

1:30 pm: Sessile droplet growth on fiber by solvent exchange process.

Haitao Yu^{1,2}, Maaike Rump², Shantanu Maheshwari², Detlef Lohse², Xuehua Zhang^{2,3}.

1. School of Engineering, RMIT University, Australia; 2. Physics of Fluids Group, Max Planck Center Twente, J. M. Burgers Centre for Fluid Dynamics, University of Twente, The Netherlands; 3. Department of Chemical & Materials Engineering, University of Alberta, Edmonton, Canada.

1:50 pm: Structural basis for mixed stabilisers and salt effects on the performance of polymeric stabilisers at the oil-water interface.

Zengyi Wei¹, Andrew Nelson², Patrick Spicer¹, Stuart Prescott¹.

1. School of Chemical Engineering, UNSW, Australia. 2. Australian Science and Technology Organisation, Australia.

2:10 pm: Synthesis and characterisation of multi-stimulus responsive polymer brushes.

Edwin C. Johnson¹, Timothy J. Murdoch¹, Ben Humphreys¹, Grant Webber¹, Erica Wanless¹.

1. Priority Research Centre for Advanced Particle Processing and Transport, University of Newcastle, Australia.

2:30 pm: Adhesive Emulsions: Using Atomic Force Microscopy and Microfluidics to investigate the link between drop interactions.

Emily Jamieson¹, Christopher Fewkes¹, Joe Berry¹, Raymond Dagastine¹.

1. Particulate Fluids Processing Centre and the Department of Chemical Engineering The University of Melbourne, Australia.

2:50 pm: Effect of embedment of DNA on cubic phase.

Sampa Sarkar¹, Charlotte Conn¹, Calum Drummond¹.

1. School of Science RMIT University, Australia.

3:10 pm: Afternoon Tea

Session Two – Monday 29th January

3:40 pm – 5:00 pm

3:40 pm: Sensing Local Stresses with Mechano-Responsive Polymer Structures.

Jens W. Neubauer¹, Julian Thiele¹, Andreas Fery^{1,2}.

1. Leibniz Institute of Polymer Research Dresden, Germany 2. Chair of Physical Chemistry of Polymeric Materials, Technical University Dresden, Germany.

4:00 pm: Nanocellulose hydrogels.

Llyza Mendoza¹, Warren Batchelor¹, Gil Garnier¹.

1. BioPRIA, Department of Chemical Engineering, Monash University, Australia.

4:20 pm: Characterization of Flocculated Dispersions Using Acoustic Backscatter Systems.

Alastair Tonge¹, D.M.J. Cowell³, J.Bux, Jeff Peakall², Steven Freear³, Timothy N. Hunter¹.

1. School of Chemical and Process Engineering, University of Leeds, UK 2. School of Earth and Environment, University of Leeds, UK 3. School of Electronic and Electrical Engineering, University of Leeds, UK.

4:40 pm: Viscoelastic characterisation of an emulsion drops coating via capsule compression.

Matthew Biviano¹, Joseph Berry¹, Lukas Boni², Peter Fischer², Raymond Dagastine¹.

1. Department of Chemical Engineering, The University of Melbourne, Australia. 2. Department of Health Science and Technology, ETH Zürich, Switzerland.

5:00 pm: Poster session

Session Three – Tuesday 30th January
9:00 am – 10:40 am

9:00 am: Plenary Lecture

10:00 am: Electrostatic Formation of Polymeric Stabilised Liquid Marbles.

Casey A. Thomas¹, Syuji Fujii², Peter M. Ireland¹, Grant B. Webber¹, Erica J. Wanless¹.

1. Priority Research Centre for Advanced Particle Processing and Transport, University of Newcastle, Australia 2. Department of Applied Chemistry, Osaka Institute of Technology, Japan

10:20 am: What Makes SLIPS Slippery? Measuring effective slip on lubricated surfaces with colloidal probe AFM.

Liam Scarratt¹, Liwen Zhu¹, Chiara Neto¹ 1. School of Chemistry, University of Sydney, Australia.

10:40 am: Morning tea

Session Four – Tuesday 30th January
11:10 am – 12:10 am

11:10 am: This Effect of Bacterial species and Calcium ions on Biofilm Adhesion forces on Silica based Construction materials at Atomic scale.

Asha Ramachandran¹, Navdeep Kaur Dhami¹, Abhijit Mukherjee¹ 1.

Department of Civil Engineering, Curtin University, Australia.

11:30 am: High-refractive index silk-titanates nanocomposites for biophotonic and optical devices.

Elena Colusso¹, Giovanni Perotto², Fiorenzo Omenetto³, Alessandro Martucci¹.

1. Department of Industrial Engineering, University of Padua, Italy 2. Italian Institute of Technology – IIT, Genova, Italy 3. Silklab, Tufts University, USA.

11:50 am: Colloidal capsules from an emulsion route stabilized by graphene oxide composite materials and their delivery applications.

Muthana Ali¹, Shane P. Meaney¹, Rico F. Tabor¹.

1. School of Chemistry, Monash University, Australia.

12:10 pm: The study of foam film characteristics to improve the efficiency of foam dust suppression technology.

Xiaolong Zhu^{1,2}, Vincent Craig¹.

1. Research School of Physics and Engineering, Australian National University, Australia. 2. China University of Mining Technology, China.

12:30 pm: Lunch

Session Five – Tuesday 30th January
1:30 pm – 3:30 pm

1:30 pm: Development of novel, recombinant lubricin based coatings for implants.

Natalie Riley¹, Anita Quigley², George Warren Greene¹.

1. Institute for Frontier Materials, Deakin University, Australia 2. Clinical Neurosciences, St. Vincent's Hospital, Australia.

1:50 pm: Characterization of Amphiphile Self-Assembly in Neat and Non-Stoichiometric Protic Ionic Liquid Solutions.

Dilek Yalcin¹, Tamar L Greaves¹, Calum J Drummond¹.

1. School of Chemistry, RMIT University, Australia.

2:10 pm: Bulk and interfacial properties of mixed systems comprising surfactants and carbon nanomaterials.

Thomas M. McCoy¹, Liliana de Campo², Anna V. Sokolova², Rico F. Tabor¹.

1. School of Chemistry, Monash University, Australia 2. Australian Centre for Neutron Scattering, ANSTO, Australia.

2:30 pm: Preparation of Novel Film Forming Polymer Latexes using Colloidal Nanoparticles as Emulsion Stabilisers.

Hana Shiraz¹, Neil Cameron¹, Rico Tabor², Simon Peake³, Tim Davey³.

1. Department of Materials Science and Engineering, Monash University, Australia 2. Department of Chemistry, Monash University, Australia 3. Polymer Technology, Dulux Group, Australia.

2:50 pm: Effect of Ionic Strength and Salt Identity on PNIPAM Brush Modified Colloidal Silica Particles.

Ben A. Humphreys¹, Erica J. Wanless¹, Grant B. Webber¹.

1. Priority Research Centre for Advanced Particle Processing and Transport, University of Newcastle, Australia.

3:30 pm: Afternoon Tea

Session Six – Tuesday 30th January

3:40 pm – 4:20 pm

3:40 pm: High Pressure Dewatering Rolls - Applying Shear and Compression Simultaneously to Enhance Dewatering.

Eric Höfgen¹, Anthony D. Stickland¹, Peter J. Scales¹, Robin J. Batterham¹.

Particulate Fluids Processing Centre, Department of Chemical and Biomolecular Engineering, The University of Melbourne, Australia.

4:00 pm: Sugar-based supramolecular gelators as scaffolds for neuronal cell growth.

Anaïs Chalard¹, Laurence Vaysse², Pierre Joseph³, Laurent Malaquin³, Isabelle Loubinoux², Juliette Fitremann¹.

1. IMRCP, CNRS-Université de Toulouse, France. 2. ToNIC, Toulouse NeuroImaging Center, Université de Toulouse, France. 3. LAAS-CNRS, France.

Session Seven – Wednesday 31st January

9:00 am – 10:40 am

9:00 am: Plenary Lecture

10:00 am: Growth-related biophysical characteristics of microalgae cells and their impact on settling.

Érico G. Baroni¹, Paul A. Webley¹, Peter J. Scales¹, Gregory J. O. Martin¹.

1. Department of Chemical Engineering, The University of Melbourne, Australia

10:20 am: Laser incubation for blood typing.

Julie Courgibet¹, Clare Henderson¹, Rico Tabor² and Gil Garnier¹.

1. Bioresource Research Institute of Australia (BioPRIA), Monash University, Australia 2. School of Chemistry, Monash University, Australia.

10:40 am: Morning tea

Session Eight – Wednesday 31st January

11:10 am – 12:10 am

11:10 am: Decreasing the wettability of cellulose nanocrystal surfaces using wrinkle-based alignment.

Ragesh Prathapan¹, Joseph D. Berry², Andreas Fery³, Gil Garnier⁴, Rico F. Tabor¹.

1. School of Chemistry, Monash University, Australia 2. Department of Chemical and Biomolecular Engineering and the Particulate Fluids Processing Centre, University of Melbourne, Australia 3. Institute for Physical Chemistry and Polymer Physics, Leibniz-Institut für Polymerforschung Dresden, Germany 4. Bioresources Processing Research Institute of Australia (BioPRIA), Department of Chemical Engineering, Monash University, Australia.

11:30 am: The effect of SDS on PNIPAM brushes examined with neutron reflectometry: results and methodology.

Isaac J. Gresham¹, Ben A. Humphreys², Patrick T. Spicer¹, Andrew Nelson³, Stuart W. Prescott¹.

1. School of Chemical Engineering, University of New South Wales, Australia 2. School of Engineering, University of Newcastle, Australia 3. The Australian Nuclear Science and Technology Organization, Australia.

11:50 am: Agglomeration of magnetite using a high internal phase water-in-oil emulsion.

Daniel J. Borrow¹, Kim van Netten¹, Kevin P. Galvin¹.

1. Centre for Advanced Particle Processing and Transport, Newcastle Institute for Energy and Resources, University of Newcastle, Australia

12:10 pm: Lunch

Session Nine – Wednesday 31st January

1:10 pm – 3:30 pm

1:10 pm: In-situ small angle X-ray scattering of cellulose nanocrystal dispersions in a confined geometry.

Yingxin Liu^{1,2}, Michael Agthe¹, Andreas B. Fall¹, German Salazar-Alvarez^{1,2}, Christina Schütz¹, Lennart Bergström¹.

1. Department of Materials and Environmental Chemistry, Stockholm University, Sweden 2. Wallenberg Wood Science Center, KTH, Sweden.

1:30 pm: The effect of asphaltene dispersion on characteristics of heavy crude oil in water (O/W) emulsions.

Yuqi Yang^{1,2}, Jixiang Guo¹.

1. Enhanced Oil Recovery Institute, China University of Petroleum, China 2. Particulate Fluids Processing Centre The University of Melbourne, Australia.

1:50 pm: Examining the interaction of mesoporous silica particles with lipid digestion components.

Kellie L. May¹, Andrew J. Clulow¹, Ben J. Boyd^{1,2}.

1. Drug Delivery Disposition and Dynamics, Monash Institute of Pharmaceutical Sciences, Monash University, Australia 2. ARC Centre of Excellence in Convergent Bio-Nano Science and Technology, Monash Institute of Pharmaceutical Sciences, Monash University, Australia.

2:10 pm: Interfacial interaction of ruptured microalgae slurry and nonpolar solvent in a wet lipid extraction method.

Samuel Law QK¹, Srinivas, Mettu¹, Gregory J.O. Martin¹, Peter J. Scales¹.

1. Department of Chemical Engineering, University of Melbourne.

2:30 pm: Rheological effects on bacterial production of biofilm materials.

Goldina Kwandou¹, Stuart W. Prescott¹, Patrick T. Spicer¹.

1. School of Chemical Engineering, University of New South Wales, Australia.

2:50 pm: Molecular insights into amyloid toxicity using model lipid membranes.

Varun Prasath Babu Reddiar¹, Durga Dharmadana¹, Celine Valery¹, Nick Reynolds², Charlotte Conn¹, Calum Drummond¹.

1. School of Applied Sciences, College of Science, Engineering, and Health, RMIT University 2. ARC Training Centre for Biodevices, Swinburne University of Technology.

3:10 pm: Afternoon Tea

Session Ten – Wednesday 31st January

3:40 pm – 5:00 pm

3:40 pm: Single-particle orbit tracking of nanoparticles within triblock terpolymer membranes.

Daniel Zalami¹, Oliver Grimm², Felix H. Schacher², Jürgen Köhler¹ and Uwe Gerken¹.

1. Spectroscopy of Soft Matter and Bayreuth Institute of Macromolecular Research (BIMF), University of Bayreuth, Germany 2. Institute for Organic Chemistry and Macromolecular Chemistry (IOMC) and Jena Centre of Soft Matter (JCSM), Friedrich-Schiller University Jena.

4:00 pm: Self-assembly of polydisperse sodium lauryl sulphates in solution.

Tianyi Bai¹, Rico Tabor², Ray Dagastine^{1,3}.

1. School of Biomolecular and Chemical engineering The University of Melbourne, Australia 2. School of Chemistry Monash University, Australia 3. Melbourne Centre for Nanofabrication, Australia.

4:20 pm: Particle-scale studies of ultrasound and temperature effects on cubosome and hexosome formation.

Haiqiao Wang¹, Vincent Poulichet¹, Patrick Spicer¹.

1. School of Chemical Engineering, University of New South Wales, Australia.

4:40 pm: Studies on adsorption kinetics of PiBSA-based emulsifiers at oil–water interface using dynamic interfacial tension measurements.

Sumit Tripathi^{1,2}, Rico F. Tabor²

1. IITB-Monash Research Academy, Mumbai, India 2. School of Chemistry, Monash University, Australia.

5:00 pm: ACIS annual general meeting

Session Eleven – Thursday 1st February

9:00 am – 10:40 am

9:00 am: Biofabrication of Spider Silk Scaffolds for Biomedical Applications.

Vanessa Wicklein¹, Elise DeSimone¹, Kristin Schacht¹, John Hardy¹, Thomas Scheibel¹.

1. Department of Biomaterials, Faculty of Engineering Science, University of Bayreuth, Germany.

9:20 am: Novel Approaches for the Characterization of Bulk Nanobubbles: A Step towards Solving the Puzzling Existence of Nanobubbles in Aqueous Solution.

Muidh Alheshibri¹, Vincent Craig¹.

1. Research School of Physics and Engineering, Australian National University, ACT 2601, Australia.

9:40 am: Engineering Cellulose Fiber Inorganic Composites for Depth Filtration Adsorption.

Aysu Onur¹, Aaron Ng², Gil Garnier¹, Warren Batchelor¹.

1. BioPRIA, Monash University, Australia 2. 3M Australia, Australia.

10:00 am: Protein sorption into polysaccharide polyelectrolyte multilayers studied by ATR FTIR.

Natalie L. Benbow^{1,2,3}, Marta Krasowska^{1,2}, David A. Beattie^{1,2}.

1. Future Industries Institute, University of South Australia, Australia 2. School of Information Technology and Mathematical Sciences, University of South Australia, Australia 3. Wound Management Innovation Cooperative Research Centre, Australia.

10:20 am: Radial Wicking in Paper: Effect of Biological Fluids.

Michael Hertaeg¹, Gil Garnier¹, Rico Tabor².

1. BioPRIA, Chemical Engineering, Monash University, Australia 2. School of Chemistry, Monash University, Australia.

10:40 am: Morning tea

Session Twelve – Thursday 1st February

11:10 am – 12:10 am

11:10 am: Degradation of Organosilica Nanosensors in Biological Media.

Gabriel Huynh^{1,2}, Kye Robinson^{1,2}, Laurence Meagher^{3,4}, Simon Corrie^{1,2}.

1. Department of Chemical Engineering, Monash University, Clayton VIC 3800, Australia 2. ARC Centre of Excellence in Convergent BioNano Science and

Technology, QLD and Monash Nodes 3. Monash Institute of Medical Engineering, Monash University, Australia 4. Department of Material Science and Engineering, Monash University, Australia.

11:30 am: Structure-function relationships and wormlike micelle formation of novel carbohydrate-based surfactants.

Jackson E. Moore¹, Christopher J. Garvey², Liliana de Campo², Anna V. Sokolova², Brendan L. Wilkinson³, and Rico F. Tabor¹.

1. School of Chemistry, Monash University, Australia 2. Bragg Institute, Australian Nuclear Science and Technology Organisation, Lucas Heights, Australia 3. School of Science & Technology, University of New England, Armidale, Australia.

11:50 am: Closing address