

# THE FIFTH BIENNIAL AUSTRALIAN

# COLLOID & INTERFACE SYMPOSIUM //



## 2011 PROGRAM BOOK

Wrest Point Hotel  
Hobart, Tasmania

// 30th Jan to 3rd Feb 2011

### DINNER SPONSOR



### EXHIBITORS



### COFFEE CART SPONSOR

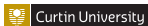


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// 30th Jan to 3rd Feb 2011

## WELCOME FROM THE CHAIR //

On behalf of the ACIS Organising Committee I am delighted to welcome you to Hobart for the 5th biennial Australian Colloid and Interface Science Symposium. To our international guests welcome to Australia. This year's conference hosts over 100 delegates from 15 countries with 100 presentations we trust that you will find ACIS a rewarding and enjoyable experience.

*Russell Crawford*

Conference Chair ACIS 2011

## ACIS 2011 ORGANISING COMMITTEE

Professor Russell Crawford	<i>Swinburne University of Technology</i>
Associate Professor Ben Boyd	<i>Monash University</i>
Dr Tim Muster	<i>CSIRO</i>
Dr Karen Stack	<i>The University of Tasmania</i>
Associate Professor Erica Wanless	<i>The University of Newcastle</i>
Dr Gayle Morris	<i>Flinders University</i>
Professor Paul Mulvaney	<i>University of Melbourne</i>

## ACIS 2011 THEME CHAIRS

Inherent and Interfacial Interfaces

*David Beattie, George Franks, Kathryn McGrath*

Neutron Scattering and Synchrotron Techniques

*Jamie Schulz, Mark Tobin, David Beattie*

Advanced Functional and Nanoscale Materials

*Lin Li, Paul Mulvaney*

Frontiers in Colloid and Interface Science

*Erica Wanless, Gayle Morris*

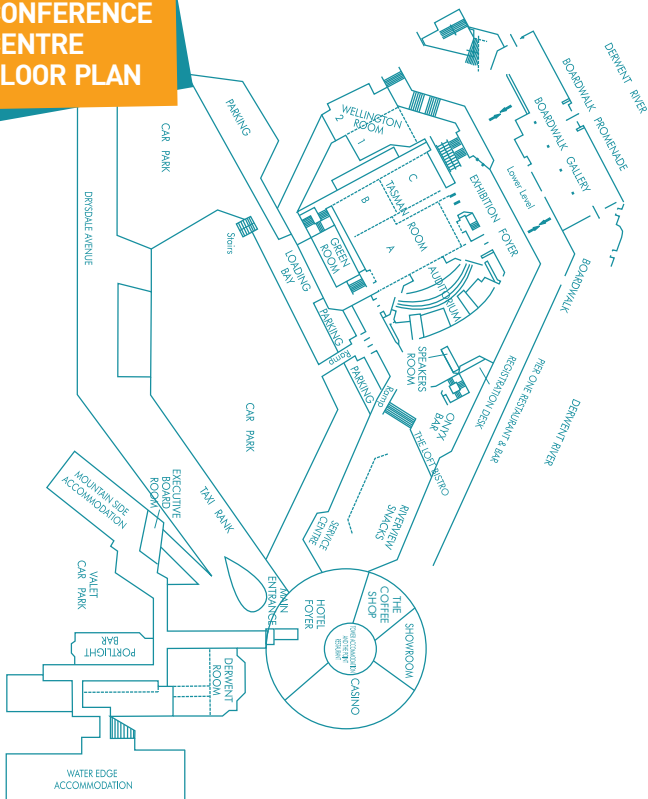
Microfluidics and Separation Sciences

*Leslie Leo, Michael Breadmore*

Surface Forces

*Ian Larson, Ray Dagastine*

# CONFERENCE CENTRE FLOOR PLAN



*The ACIS 2011 Organising Committee, members of the RACI Division of Colloid and Surface Chemistry, Tulips Meetings Management and the sponsoring bodies accept no liability to any persons for loss, in urry or damage, whether arising directly or indirectly, from any action or cause undertaken, organized or sponsored by ACIS 2011 or the RACI Division of Colloid and Surface Chemistry. The programme is sub ect to change at any time. The views expressed by presenters at this conference are not necessarily those of the ACIS 2011 Organising Committee. The RACI Division of Colloid and Surface Chemistry accepts no responsibility for the content of the presentations or the abstracts.*

*// 30th Jan to 3rd Feb 2011*

## GENERAL INFORMATION //

### ACCOMMODATION DEPOSITS

All pre-paid accommodation deposits have been credited to your hotel accounts. You are required to pay the balance of your account, plus any incidentals, upon departure.

If a credit card number was supplied to guarantee the reservation, this is being used as a guarantee only (unless requested otherwise) and the full account will need to be settled upon arrival. If you supplied a credit card to guarantee your reservation that was NOT your own card and you will NOT be paying on arrival with your own card, you will need the card holder to complete a third party credit card authority.

#### West Point Hotel

100 Sandy Bay Road  
SANDY BAY TASMANIA

TEL: 61 3 6225 7001

EMAIL: [email@westpoint.com.au](mailto:email@westpoint.com.au)

### MESSAGES & EMERGENCY CONTACT DETAILS

Messages may be left for you during the conference by phoning the registration desk at West Point on 13 221 1 20 or after hours you can call the West Point Hotel on 13 22 001. Emergency messages ONLY may be left by phoning 040 4 60.

A message board is located near the registration desk.

### ORAL PRESENTERS

PowerPoint presentations can be loaded in the speakers' preparation room on Sunday 30 January between 3pm and 6pm, or on Monday, Tuesday or Wednesday between 9am and 10am.

Please bring your presentation on a USB drive and have a back-up. The presentations will be pre-loaded onto the notebooks in advance of your session. Presenters should ensure that their PowerPoint presentation is loaded and operating NO LATER than 10am the day before your presentation (unless you are presenting Monday).

If you prefer to use a MAC or have specifically installed software on your notebook, please supply your own MAC/adaptor or notebook and set this up in the break before your presentation, please also notify the team at the Speakers Preparation room.

### BUS SERVICES

#### METRO BUS INFORMATION: 13 22 01

The Metro Busy Bee bus service runs frequently from the City (GPO on Elizabeth Street in the city centre) to the West Point Hotel front entrance. In addition, there is a "Sandy Bay" Casino" Taroona service. The Casino Bus stop on Sandy Bay Road (stop 15) is only a few minutes from the Casino and Convention Centre entrance.

### INTERNET ACCESS

Complimentary wireless internet access is available in the foyer area of the conference floor.

**SOCIAL EVENTS & CATERING //****ACIS  
WELCOME  
MIXER**

Sunday 30 January 5.30PM - 7.30PM

**ACIS  
SYMPOSIUM  
DINNER**

Wednesday 2 February 7.30pm - 11.30pm

*DRESS CODE: Smart Casual**Tickets can be purchased at the registration desk.*

The ACIS 2011 Dinner has a Birthday theme to celebrate the 60th birthday of a few special guests. We will also be entertained by Sugar Train, a 7 piece disco, soul, funk, & dance music band.

The Conference Dinner is an optional event; tickets are available at a subsidised cost of \$70 for full delegates and \$105 for exhibitors, day delegates and guests.

Additional tickets to the Welcome Mixer and Symposium Dinner are available to purchase for guests. If you have purchased guest tickets for the Welcome Mixer and / or Symposium Dinner you will have a ticket in the back of your name badge. If you haven't booked for your guest to attend the Symposium Dinner please see the registration team.

**CATERING**

Full registration includes attendance at the Welcome Mixer on Sunday evening, morning tea, lunch and afternoon tea and the Poster session Tuesday evening.

The Welcome Mixer on Sunday is in the Boardwalk Gallery at Wrest Point Hotel, commencing at 5.30pm.

We will be entertained by Carey Lewincamp.  
Included in a full registration.

**GOVERNMENT  
HOUSE  
RECEPTION**

Monday 31 January 6.00PM - 7.00PM

*DRESS CODE:  
Lounge suit / Day dress*

This is a very special event for conference delegates, you have the opportunity to meet Tasmania's Governor & tour the main areas of Government House.

The event is hosted by His Excellency, the Honourable Peter Underwood, Governor of Tasmania and Mrs Underwood. Bus transfers are provided and will depart Wrest Point at 5.40pm. Buses return to Wrest Point Hotel via Salamanca for those that wish to dine out in Hobart's historic waterfront area.

If you indicated that you wanted to attend the Reception at Government House you should have been provided a ticket when registering. If you do not have a ticket, please see the team at the registration desk. Note there are NO cloakroom facilities; please *do not take your conference satchels*. These can be stored at the registration desk until Tuesday morning if you are not staying at Wrest Point Hotel.

**NOTE FOR SPECIAL REQUIREMENTS AT ALL EVENTS:** For pre-arranged special dietary requirements please make yourself known to the waiting staff at **all** functions.

## SUNDAY 30 - MONDAY 31 JANUARY 2011 //

PL - Plenary  
KN - Keynote

OC - Oral Communication  
PP - Poster Presentation

15:00 - 17:30 REGISTRATION OPEN

17:30 - 19:30 WELCOME MIXER

*Boardwalk Gallery, Wrest Point Hotel*

TIME

**PLENARY HALL,  
WREST POINT CONVENTION CENTRE**

8:30

WELCOME AND OPENING REMARKS.

*ACIS 2011 Chair: Russell Crawford*

8:40

*PL001 RACI Colloid Division Plenary Lecture:*

**Prof Helmuth Möhwald**

*New Challenges in Colloid & Interfacial Science*

**Chair: Paul Mulvaney**



Sponsored By:



*Helmuth Möhwald received his Diploma in Physics (1971) and PhD (1974) from University of Gottingen (Germany). He spent nearly 5 years in industry at IBM San Jose (1974/75) and Domier-Systems (1975-81), in between having an appointment at the University of Ulm (1975-78).*

*After professorships in biophysics (TU Munich, 1981-1987) and physical chemistry (University of Mainz 1987-93), he became the founding director of the Max Planck Institute of Colloids and Interfaces in Potsdam, Germany.*

*Among his recent awards are the lectureship award of the Japanese Chemical Society, the Overbeek Medal of the European Colloid and Interface Society, the Wolfgang-Ostwald award of the German Kolloidgesellschaft, the Gay-Lussac-award from the French Ministry of Science and Technology and an Honorary Doctorate of the University of Montpellier. He has more than 780 publications which are cited more than 27,000 times. His main interests are in the areas of molecular interfaces and films, capsules and controlled release, membrane biophysics and supramolecular interactions.*

SUNDAY 30 - MONDAY 31 JANUARY 2011 //

9:30



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10:20

*PL002 Alexander Lecture:*

**Prof Kazue Kurihara**

Surface Forces Measurement for Nano-Materials Science

**Chair: Greg Warr**

*Professor Kazue Kurihara was the first female professor and Principal Investigator of the Tohoku University Advanced Institute for Materials Research (WPI-AIMR).*

*She belongs to the Interface Physical Chemistry Laboratory of Soft Materials, where she has been exploring the research field of surface forces to develop this technique as a unique tool in material science. Their research studies the interactions between biological molecules, polyelectrolytes, confined liquids, and novel instrumentation.*

TEA/COFFEE BREAK

**PLEASE TAKE TIME TO VISIT OUR EXHIBITORS:**

*They will be exhibiting Monday to Wednesday only.*

## MONDAY 31 JANUARY 2011 //

<b>TIME</b>	<b>PLENARY HALL,</b> <b>THEME 1: SURFACE FORCES</b> <b>SESSION CHAIR: IAN LARSON</b>
<b>10:50</b>	<i>KN001</i> Mechanisms affecting bubble coalescence in electrolyte solutions <b>Roger Horn</b>
<b>11:30</b>	<i>OC001</i> Fabrication of Polymer Nanolenses through <i>in-situ</i> Polymerization of Nanodroplets at Solid-liquid Interfaces <b>Xuehua Zhang</b>
<b>11:50</b>	<i>OC002</i> From immature Drainage models to premature Coalescence <b>Evert Klaseboer</b>
<b>12:10</b>	<i>OC003</i> Thin film drainage and coalescence of drops and bubbles <b>Rogério Manica</b>
<b>12:30</b>	<b>LUNCH</b> <i>Tasman Room</i>

**MONDAY 31 JANUARY 2011 //**

**WELLINGTON ROOM,  
THEME 2: NEUTRON SCATTERING  
& SYNCHROTRON TECHNIQUES**  
**SESSION CHAIR: MARK TOBIN**

**KN002** Advanced Synchrotron  
Soft X-ray Spectroscopy Applied  
to Monomolecular Films

**Michael Zharnikov**

*Sponsored By:*



Australian Synchrotron  
synchrotron.vic.gov.au

**OC004** A spectroscopic  
photoemission and low energy  
electron microscope (SPELEEM)  
investigation of the galvanic  
interactions between Cu sulfides

**Sarah Harmer**

**OC005** Synchrotron PEEM and SPEM  
Studies of Metal Sulfide Minerals

**David Beattie**

**OC006** Transfer of lipid and phase  
reorganisation of self assembled  
liquid crystal nanoparticles

**Adam Tilley**

**BOARDWALK GALLERY,  
THEME 3: MICROFLUIDICS &  
SEPARATION SCIENCES**  
**SESSION CHAIR:  
MICHAEL BREADMORE**

**KN003** Colloids, Biomarkers  
and Cheap Microfluidics: New  
Approaches to Preventative,  
Personalised and "At Home"  
Medicine

**Matt Trau**

**OC007** On-chip Sensing of  
Proteolytic Cleavage using  
Bioluminescence Resonance Energy  
Transfer (BRET)

**Yonggang Zhu**

**OC008** A Portable Microfluidic Drug  
and Gene Delivery Platform

**Anushi Rajapaksa**

**OC009** Formation and Stability of  
Nanoparticle-Stabilised Oil-in-  
Water Emulsions Generated in a  
Microfluidic Chip

**Catherine Whitby**

**LUNCH** *Tasman Room*

TIME	<i>PLENARY HALL, THEME 1: SURFACE FORCES SESSION CHAIR: JASON STOKES</i>
13:30	<i>OC010 Forces between sterically stabilized droplets: how important is the polymer brush? Ray Dagastine</i>
13:50	<i>OC011 Dynamic bubble-mica interactions in water and electrolyte solution Satomi Ohnishi</i>
14:10	<i>OC012 Surface force measurements between Titania surfaces prepared by Atomic Layer Deposition in aqueous electrolyte and CTAB solutions Rick Walsh</i>
14:30	<i>OC013 A Newly Designed Surface Force Apparatus for Friction Measurements JinSung Park</i>
14:50	<i>OC014 Hydrophobic Force between Silanated Silica Surfaces without Bubbles " Measurement of True' Hydrophobic Attraction Naoyuki Ishida</i>
15:10	TEA/COFFEE BREAK

## MONDAY 31 JANUARY 2011 //

**WELLINGTON ROOM,  
THEME 2: NEUTRON SCATTERING  
& SYNCHROTRON TECHNIQUES  
SESSION CHAIR: DAVID BEATTIE**

*OC015* Real time evolution of liquid crystalline nanostructure during the digestion of lipids using synchrotron small angle x-ray scattering

**Ben Boyd**

*OC016* Self Assembly Behaviour of Cationic Surfactants as Calcium Biomineral Precursors

**Connie Liu**

*OC017* *In-situ* Synchrotron SAXS Study of Polymerizable Microemulsions

**Shuhua Peng**

*OC018* Spheroid to rod to spheroid transitions in polymerizing micelles: manipulation of self-assembly by amphiphilic polymers

**Paul FitzGerald**

*OC019* Star-Polyphile Self-Assembly in Bulk and Dispersion

**Liliana de Campo**

**BOARDWALK GALLERY,  
THEME 3: MICROFLUIDICS  
& SEPARATION SCIENCES  
SESSION CHAIR:  
CATHERINE WHITBY**

*OC020* Drop deformation and three-phase contact-line displacement under MHz Acoustic frequency

**Ofer Manor**

*OC021* Droplet Dynamics on Micro-Textured Surfaces - Impact, Splashing, Wetting and Drainage

**Yonggang Zhu**

*OC022* Coalescence-induced droplet actuation

**Mathieu Sellier**

*OC023* High Resolution Studies of Drop-Enhanced Capillary Uptake

**Geoff Willmott**

*OC024* Elastic 'Size-Tunable' Nano/Micropores for Improving the Detection, Discrimination and Selective Gating of Polydisperse Colloidal Suspensions

**Darby Kozak**

TEA/COFFEE BREAK

TIME	<i>PLENARY HALL, THEME 1: SURFACE FORCES SESSION CHAIR: RICO TABOR</i>
15:40	OC025 TBC
16:00	OC026 Surface Initiated Polymerisation Using Atom Transfer Radical Polymerisation: Grafting Density and Surface Forces <b>Laurence Meagher</b>
16:20	OC027 Effects of Solvent Quality on Lubricious, Water-Soluble Polymer Brushes <b>Jarred Clasohm</b>
16:40	OC028 Drag reduction by Leidenfrost vapor layers <b>Ivan Vakarelski</b>
17:00	TALKS END
17:40	<i>transfer to oernor o e e e t o n</i>
18:00 - 19:00	<i>o ernor o e e e t o n</i>

**MONDAY 31 JANUARY 2011 //**

**WELLINGTON ROOM,  
THEME 2: NEUTRON SCATTERING  
& SYNCHROTRON TECHNIQUES  
SESSION CHAIR: JAMIE SCHULZ**

**KN004** Small reverse micelles containing ion pairs, the  $\alpha$ -tom at the origin of ion separation as observed by SAXS, SANS and osmometry

**Thomas Zemb**

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**ansto**

Multi-based science benefiting all Australians

**OC029** Thin films, surfaces, interfaces and neutrons - the age of Platypus

**Michael James**

**OC030** Crystal Truncation Rod, Interdigitated Bilayers and Anomalous Adsorption Isotherms: Synchrotron XRR on Mica

**Wuge H. Briscoe**

**TALKS END**

**BOARDWALK GALLERY,  
THEME 3: MICROFLUIDICS &  
SEPARATION SCIENCES SESSION  
CHAIR: GEOFF WILLMOTT**

**OC031** Polyaniline Circuits for Microfluidics

**Michael Breadmore**

**OC032** An Integrated Hand Held Device with On-Chip Contactless Conductivity Detection for Multiplex Fingerprinting of Chemical Warfare Agents

**Karolina Petkovic-Duran**

**OC033** Boundary Effects on Electrophoresis of a Charge-regulated Sphere along the Axis of a Cylindrical Pore Filled with Multiple Ionic Species

**Yi-Hsuan Tai**

**OC034** Implications of Ion Conservation for Microfluidic Circuit Analysis

**Christian Biscombe**

**TALKS END**

*tran er to o ernor o e e e t o n*

*o ernor o e e e t o n*

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TIME	<b>PLENARY HALL,</b> <b>THEME 1: SURFACE FORCES CONTINUED</b> <i>SESSION CHAIR: RAY DAGASTINE</i>
8:50	KN005 van der Waals Interaction at Small Separations <b>Lee White</b> <i>Sponsored By:</i> 
9:30	OC100 How Surface Forces Control the Coalescence of Bubbles <b>Rico Tabor</b>
9:50	OC101 Forces between a particle and the underside of a monolayer at an air/water interface for like- and unlike-charged systems <b>Cathy McNamee</b>
10:10	OC102 Effect of Disjoining Pressure on the Terminal Velocity of a Bubble Sliding along an Inclined Wall in Liquid <b>Lorena A. Del Castillo</b>
10:30	<b>TEA/COFFEE BREAK</b>
	<b>PLENARY HALL,</b> <b>THEME 1: SURFACE FORCES</b> <i>SESSION CHAIR: ROB ATKIN</i>
11:00	OC106 Surface Forces in Cell Biology <b>Michelle Gee</b>
11:20	OC107 Direct Measurement of Responsive Forces between Bubbles from Switchable Peptide Surfactants <b>Thakshila Balasuriya</b>

**TUESDAY 1 FEBRUARY 2011 //**

**WELLINGTON ROOM,  
THEME 4: MINERAL & MATERIAL INTERFACES  
SESSION CHAIR: DAVID BEATTIE**

KN006 Biomineralization: the burning questions

**Pupa Gilbert**

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The MacDiarmid Institute  
for Advanced Materials and Nanotechnology

S P E C S™

OC103 Templated mineral growth - a pathway to synthetic biomineralisation

**Kathryn McGrath**

OC104 Silicate Polymerization on Aqueous Metal Oxide Surfaces: One Dimensional Epitaxy?

**Peter Swedlund**

OC105 Polyzwitterions as Novel Additives for Wet Strength in Paper  
**Wade Mosse**

**TEA/COFFEE BREAK**

**WELLINGTON ROOM,  
THEME 4: MINERAL &  
MATERIAL INTERFACES  
SESSION CHAIR:  
GEORGE FRANKS**

OC116 Partial Coalescence of Emulsion Drops as a result of Colloidal Adsorption

**Patrick Spicer**

OC117 Colloid Deposition on Calcite and Limestone Surfaces as a Function of Surface Roughness

**Cornelius Fischer**

**BOARDWALK GALLERY,  
THEME 5: ADVANCED FUNCTIONAL  
& NANOSCALE MATERIALS  
SESSION CHAIR:  
PAUL MULVANEY**

OC111 Influence of Surface Charge on Wetting Kinetics

**John Ralston**

OC112 Wenzel State Pinning Behaviour on Micropillar Arrays

**Craig Priest**

11:40	OC108 Insights into Aqueous Lubrication of Polysaccharides and Emulsions using ex-situ Surface Adsorption and Wetting Studies <b>Jason Stokes</b>
12:00	OC109 Surfactant-Free Tetradecane Emulsions Investigated Using AFM <b>Hannah Lockie</b>
12:20	OC110 Independent separation measurement between rigid and deformable surfaces in atomic force microscopy <b>Marta Krasowska</b>
12:40	LUNCH <i>Tasman Room</i>
	<b>THEME 1: SURFACE FORCES CONTINUED</b> <i>SESSION CHAIR: CATHY MCNAMEE</i>
13:40	OC121 Structure of PEO in ethylammonium nitrate and adsorbed at the silica interface <b>Rob Atkin</b>
14:00	OC122 The Kinetics of Colloidal Aggregation - Effect of bimodal Hamaker Constant distribution and Brownian Forces <b>Siubhan Macpherson</b>
14:20	OC123 Measuring Hollow Silica Shell-Water-Silica Plate Van der Waals Forces in Total Internal Reflection Microscopy (TIRM) <b>Stefanie Sham</b>

## TUESDAY 1 FEBRUARY 2011 //

OC118 Stabilisation of graphene suspensions using cationic polyelectrolytes

**Shannon Notley**

OC113 New photocatalysts working under visible and ultraviolet irradiation: supported gold and silver nanoparticles

**Huai-Yong Zhu**

OC119 Controlling Clay Behaviour in Suspensions Using Different Controlled Dispersion Strategies

**Josephine Lim**

OC114 Cubic Scaffolds in Polar Lipids: Effects of Salts Durga Acharya

**Catherine Whitby**

OC120 Colloids Engineering for Paper-Based Biosensors

**Ping Peng**

OC115 The Effect of Grafting Density on Phase Transition Behaviour for Poly(N-isopropylacryamide) Brushes in Aqueous Solutions

**Naoyuki Ishida**

LUNCH *Tasman Room*

### THEME 4: MINERAL & MATERIAL INTERFACES

**SESSION CHAIR: SHANNON NOTLEY**

### THEME 5: ADVANCED FUNCTIONAL & NANOSCALE MATERIALS

**SESSION CHAIR: JOHN RALSTON**

OC129 Competitive Adsorption/Desorption Kinetics to Iron Oxide of Arsenate and Antimonate from Aqueous Solution by *in situ* Infrared Spectroscopy

**Jim McQuillan**

OC125 Nanotoxicology 1.01- nm silica nanoparticle interaction with human serum albumin

**John White**

OC130 Attachment and Colonization Behaviour of *Acidithiobacillus ferrooxidans* to Metal Sulfides in the Bioleaching Process

**Miao Chen**

OC126 Formation of Underbrushes on thiolated Poly (ethylene glycol) PEG monolayers by Oligoethylene glycol (OEG) terminated alkane thiols on Gold

**Arcot Raghupathi**

OC131 Morphology of Ceramic Particle Stabilised Foams: Influence of Particle Aggregation

**George Franks**

OC127 Electric force-assisted deposition of nanoparticles from aqueous suspension

**M. Nazli Naim**

14:40	OC124 Reliable Measurement and Modelling of Slip by AFM Liwen Zhu
15:00	TEA/COFFEE BREAK
	<b>THEME 1 CONTINUED</b> <i>SESSION CHAIR: IAN LARSON &amp; RAY DAGASTINE</i>
15:30	OC133 Computational Fluid Dynamics Study of Surface-Active Particles in Immiscible Two-Phase Fluids Hiroyuki Shinto
15:50	OC134 Wetting and Symmetries Ciro Sempregon
16:10	OC135 Adhesion behaviour for cellulose nanocomposite design Niklas Nordgren
16:30	<i>Commentary and Rebuttal of the above talks</i> Derek Chan (Invited)
17:00 - 19:00	POSTER SESSION: PP001-PP048

## POSTER PRESENTERS //

There is one poster session on Tuesday between 5pm and 7pm & posters should be placed on the marked poster board before 3.30am on Monday morning. Posters need to be removed from the poster boards before the completion of lunch on Wednesday afternoon. ACIS is awarding best poster prizes to encourage participation & to recognize excellence. Recipients will be determined on the basis of the scientific content & quality of presentation. Prizes will be presented during the Conference Dinner on Wednesday. These prizes are Nikon Coolpix digital cameras sponsored by Coherent Scientific.

## TUESDAY 1 FEBRUARY 2011 //

OC132 New Considerations in Contact Angle Determination by the Capillary Rise Technique

David Verrelli

OC128 Stabilization of W/O Microemulsion by Screening Effect and Hydrophobic Interaction

Jun Oshitani

TEA/COFFEE BREAK

### THEME 4 CONTINUED

**SESSION CHAIR: KATE MCGRATH**

KN007 Role of Colloidal Forces in Flotation

Zhenghe Xu

*Sponsored By:*



### THEME 5 CONTINUED

**SESSION CHAIR: NAOYUKI ISHIDA**

OC136 Preparation of nanocomposite of polymer with inorganic nanoparticles through hetero-coagulation and its flame retardancy

Yasushige Mori (*Invited*)

OC137 Nanodiamond functionalization by primary and secondary amines

Lin Lai

OC140 Adsorption of Polysaccharide-based Polymers on Talc: the Role of Impurities and Cleavage

Agnieszka Mierczynska-Vasilev

OC138 Development of Polymer Coatings for Biomedical Applications via Thin Film Dewetting and Polymer Grafting

Andrew Michael Telford

OC141 The Size of Particle Aggregates Produced by Flocculation with PNIPAM, as a Function of Temperature

Elizaveta Burdukova

OC139 Adsorption and chromatographic properties of microdispersed sintered nanodiamonds

Pavel Nesterenko

POSTER SESSION: PP001-PP048

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- PP001** *Inorganic/Organic Core-Shell Hybrid Colloids studied by Small Angle Neutron scattering*  
 Matthias Karg<sup>1</sup>, Thomas Hellweg<sup>2</sup>, Paul Mulvaney<sup>1</sup>  
<sup>1</sup>University of Melbourne, Bio21 Institute & School of Chemistry, Melbourne, VIC, Australia,  
<sup>2</sup>Universität Bielefeld, Physikalische Chemie II, Bielefeld, NRW, Germany
- PP002** *Understanding the Thermodynamics of Dewetting and Cross-linking in Poly(N-vinyl pyrrolidone)/Polystyrene Thin Bi-layer Films*  
 Andrew Michael Telford<sup>1,3</sup>, Michael James<sup>2</sup>, Chiara Neto<sup>1</sup>  
<sup>1</sup>The University of Sydney, Sydney, NSW, Australia, <sup>2</sup>Australian Nuclear Science and Technology Organization, Menai, NSW, Australia, <sup>3</sup>CSIRO Future Manufacturing National Research Flagship, Clayton, VIC, Australia
- PP003** *Measurement of Boundary Slip at Polymer Brush Surfaces using Atomic Force Microscopy*  
 Thomas Lee<sup>1</sup>, Philip Attard<sup>1</sup>, Chiara Neto<sup>1</sup>  
<sup>1</sup>The University of Sydney, Sydney, NSW, Australia
- PP004** *The Origin of the Contact Electrification of Insulators*  
 Thomas Lee<sup>1</sup>, Peter Harrowell<sup>1</sup>, Chiara Neto<sup>1</sup>  
<sup>1</sup>The University of Sydney, Sydney, NSW, Australia
- PP005** *Understanding Globular Protein Structural Rearrangement at Oil-water Interfaces*  
 Jiali Zhai<sup>1,2</sup>, Andrew Miles<sup>3</sup>, Leonard Pattenden<sup>4</sup>, Tzong-Hsien Lee<sup>1</sup>, Mary Ann Augustin<sup>2</sup>, Bonnie Wallace<sup>3</sup>, Marie-Isabel Aguilar<sup>1</sup>, Tim Wooster<sup>2</sup>  
<sup>1</sup>Department of Biochemistry and Molecular Biology, Monash University, Melbourne, VIC, Australia,  
<sup>2</sup>CSIRO Food and Nutritional Sciences, Werribee, VIC, Australia, <sup>3</sup>Department of Crystallography, Birkbeck College, University of London, London, United Kingdom, <sup>4</sup>Health Innovations Research Institute, School of Medical Sciences, RMIT University, Bundoora, VIC, Australia
- PP006** *Novel Colloidal Delivery System Of Natural Polyphenol Using Food Biopolymer As A Carrier Material*  
 Ashok Patel<sup>1</sup>, Yingchun Hu<sup>2</sup>, Jyoti Tiwari<sup>3</sup>, Velikov Krassimir<sup>1</sup>  
<sup>1</sup>Unilever R&D, Vlaardingen, Netherlands, <sup>2</sup>Unilever R&D, Shanghai, China, <sup>3</sup>Unilever R&D, Bangalore, India
- PP007** *Hindered Colloidal Diffusion near a Planar Wall – a Simulation Study*  
 Hongfei Fang<sup>1</sup>, Moses Tade<sup>1</sup>, Qin Li<sup>1</sup>  
<sup>1</sup>Curtin University, Perth, Australia
- PP008** *Tunable 2D Array Patterning of Antibody Annuli through Microsphere Templating*  
 Cornel Wolf<sup>1</sup>, Eva-Kathrin Sinner<sup>3</sup>, Qin Li<sup>1</sup>  
<sup>1</sup>Curtin University, Perth, Australia, <sup>2</sup>Max Planck Institute for Polymer Research, Mainz, Germany, <sup>3</sup>University of Natural Resources and Life Science, Vienna, Austria
- PP009** *Phase and Rheological Behavior of Long Polyoxyethylene Chain Phytosterol/Polyoxyethylene Alkyl Ether/Water Systems*  
 Suraj Sharma<sup>1,2</sup>, Masahiko Abe<sup>2,3</sup>  
<sup>1</sup>School of Chemistry, The University of Sydney, Sydney, NSW 2006, Australia, <sup>2</sup>Department of Pure and Applied Chemistry, Faculty of Science and Technology, Tokyo University of Science, Yamazaki, Noda, Chiba 278-8510, Japan,  
<sup>3</sup>Institute of Colloid and Interface Science, Tokyo University of Science, 1-3 Kagurazaka, Shinjuku, Tokyo 162-8601, Japan
- PP010** *Nano-patterning of Proteins for Bio-sensing Applications using Block Copolymer Thin Films*  
 Say Kwang Lim<sup>1</sup>, Wilasinee Sriprom<sup>1</sup>, Sébastien Perrier<sup>1</sup>, Chiara Neto<sup>1</sup>  
<sup>1</sup>University of Sydney, Sydney, New South Wales, Australia
- PP011** *Studies On Solvophobic Interactions And Micelle Formation In Non - Aqueous Solvents.*  
 Mohammad Salim Akhter<sup>1</sup>, Sadeq Mahdi Alawi<sup>1</sup>  
<sup>1</sup>University of Bahrain, Sakheer, Bahrain
- PP012** *Controlling the growth-collapse mechanism of mesostructured PEI/CTAB films*  
 Richard Campbell<sup>1</sup>, Karen Edler<sup>2</sup>  
<sup>1</sup>Institut Laue-Langevin, Grenoble, France, <sup>2</sup>Bath University, Bath, United Kingdom

- PP013** *Tuning the Surface Chemistry of Poly(N-vinyl pyrrolidone) Films*  
 Sarah Dodds<sup>1</sup>  
<sup>1</sup>University of Melbourne, Melbourne, Australia
- PP014** *Site-Specific Interaction in Polymer Adhesion*  
 Ponlawat Tayati<sup>1</sup>, Tim Senden<sup>1</sup>  
<sup>1</sup>Department of Applied Mathematics, Research School of Physics and Engineering, The Australian National University, Canberra, ACT, Australia
- PP015** *Hydration Studies of Metal Oxide Surfaces by in situ Infrared Spectroscopy*  
 Jan Scholz<sup>1</sup>, A. James McQuillan<sup>1</sup>  
<sup>1</sup>University of Otago, Dunedin, New Zealand
- PP016** *Mesophase Nanoparticles for the Delivery of MRI Contrast Agents*  
 Durga Acharya<sup>1</sup>, Benjamin Muir<sup>1</sup>, Guoliang Zhen<sup>1</sup>, Richard Evans<sup>1</sup>, Patrick Hartley<sup>1</sup>, Lynne Waddington<sup>2</sup>, Brad Moffatt<sup>3</sup>, Paul Mulvaney<sup>4</sup>  
<sup>1</sup>CSIRO Materials Science and Engineering, Clayton, VIC, Australia, <sup>2</sup>CSIRO Materials Science and Engineering, Parkville, VIC, Australia, <sup>3</sup>Royal Melbourne Hospital, Parkville, VIC, Australia, <sup>4</sup>Bio 21 Institute and School of Chemistry, University of Melbourne, Parkville, VIC, Australia
- PP017** *Characterisation of Aggregate Structure by Fractal Dimensions, and associated Uncertainties*  
 David Verrelli<sup>1</sup>  
<sup>1</sup>CSIRO, Clayton, VIC, Australia
- PP018** *Quantitative Constraints to the Deposition of Colloids at Rough Mineral Surfaces - an Analog Study with Patterned Silicon*  
 Gopala Krishna Darbha<sup>1</sup>, Cornelius Fischer<sup>1,3</sup>, Alexander Michler<sup>1</sup>, Thorsten Schäfer<sup>2</sup>  
<sup>1</sup>Georg-August-Universität Göttingen, Göttingen, Germany,  
<sup>2</sup>Institut für Nukleare Entsorgung, Karlsruhe, Germany, <sup>3</sup>Rice University, Houston, Texas, United States
- PP019** *Steric stabilisers for Non-lamellar liquid crystal particles*  
 Josephine Chong<sup>1,2</sup>, Xavier Mulet<sup>1,2</sup>, Lynne Waddington<sup>1</sup>, Ben Boyd<sup>2</sup>, Calum Drummond<sup>1</sup>  
<sup>1</sup>CSIRO, Melbourne, VIC, Australia, <sup>2</sup>Monash University, Melbourne, VIC, Australia
- PP020** *Ultra-fast Charge Kinetics of ZnO-Gold Nanoparticle Composites*  
 Nicholas Kirkwood<sup>1,2</sup>, Anthony Morfa<sup>1,2</sup>, Enrico Della Gaspera<sup>1,2</sup>, Paul Mulvaney<sup>1,2</sup>  
<sup>1</sup>Bio21 Institute, Melbourne, Victoria, Australia, <sup>2</sup>The University of Melbourne, Melbourne, Victoria, Australia
- PP021** *Polyelectrolyte Solutions Confined Between Two Solid Surfaces: The Effect of Chain Length and Architecture on the Structuring*  
 Çağrı Üzümlü<sup>1</sup>, Rikardas Makuska<sup>2</sup>, Regine v. Klitzing<sup>1</sup>  
<sup>1</sup>Technical University of Berlin, Berlin, Germany, <sup>2</sup>Vilnius University, Vilnius, Lithuania
- PP022** *Stable, Water-Tolerant, Ionic Liquid Ferrofluids*  
 Nirmesh Jain<sup>1</sup>, Xiaoli Zhang<sup>1</sup>, Brian Hawke<sup>1</sup>, Gregory Warr<sup>1</sup>  
<sup>1</sup>School of Chemistry, The University of Sydney, Sydney, NSW, Australia
- PP023** *A Low-Cost Microfluidic System for Femto Molar Fluorescence Detection*  
 Chuanpin Chen<sup>1</sup>, Yonggang Zhu<sup>1</sup>  
<sup>1</sup>CSIRO, Melbourne, Australia
- PP024** *Simultaneous In Situ IR and UV-Visible Absorption Spectroscopies of Aqueous TiO2 Photocatalytic Systems*  
 David Savory<sup>1</sup>, Jim McQuillan<sup>1</sup>, Dave Warren<sup>1</sup>  
<sup>1</sup>University of Otago, Dunedin, Otago, New Zealand
- PP025** *Structure of wood extract colloids using Electron Paramagnetic Resonance*  
 Roland Lee<sup>1</sup>, Karen Stack<sup>1</sup>, Trevor Lewis<sup>1</sup>, Gil Garnier<sup>2</sup>, Des Richardson<sup>3</sup>, Francesca Ottaviani<sup>4</sup>, Steffen Jockusch<sup>4</sup>, Nicholas Turro<sup>4</sup>  
<sup>1</sup>University of Tasmania, Hobart, Tasmania, Australia, <sup>2</sup>Monash University, Melbourne, Victoria, Australia,  
<sup>3</sup>Norske Skog Paper Mill, Hobart, Tasmania, Australia, <sup>4</sup>Columbia University, New York, United States

- PP026** *Correlating molecular behaviour to aggregation*  
 Rhitu Rao<sup>1</sup>, Karen Stack<sup>1</sup>, James Horne<sup>1</sup>, Trevor Lewis<sup>1</sup>, Gil Garnier<sup>2</sup>, Des Richardson<sup>3</sup>  
<sup>1</sup>University of Tasmania, Hobart, Tasmania, Australia, <sup>2</sup>Monash University, Melbourne, Victoria, Australia, <sup>3</sup>Norske Skog paper mill, Hobart, Tasmania, Australia
- PP027** *Particle Sizing: a Comparison of Techniques*  
 Victoria Coleman<sup>1</sup>, Åsa Jämting<sup>1</sup>, Heather Catchpole<sup>1</sup>, John Miles<sup>2</sup>, Jan Herrmann<sup>1</sup>  
<sup>1</sup>National Measurement Institute, Lindfield, NSW, Australia, <sup>2</sup>National Measurement Institute, Port Melbourne, VIC, Australia
- PP028** *Imaging of Particle Coated Oil Droplets using Atomic Force Microscopy*  
 Sin-Ying Tan<sup>1</sup>, Raymond Dagastine<sup>1</sup>  
<sup>1</sup>University of Melbourne, Parkville, Victoria, Australia
- PP029** *Chemical State XPS Analysis of First Row Transition Metal Species: Improved Speciation for Materials and Minerals*  
 Mark Biesinger<sup>1,2</sup>, Leo Lau<sup>1</sup>, Andrea Gerson<sup>2</sup>, Roger Smart<sup>2</sup>  
<sup>1</sup>Surface Science Western, The University of Western Ontario, London, ON, Canada, <sup>2</sup>ACeSSS (Applied Centre for Structural and Synchrotron Studies), University of South Australia, Mawson Lakes, SA, Australia
- PP030** *Molecular Dynamics Simulations as a Tool to Predict Phase Behaviour of Liquid Systems*  
 Dylan King<sup>1</sup>, Dallas Warren<sup>2</sup>, Colin Pouton<sup>2</sup>, David Chalmers<sup>1</sup>  
<sup>1</sup>UROF Student, Monash Institute of Pharmaceutical Sciences, Victoria, Australia, <sup>2</sup>Monash Institute of Pharmaceutical Science, Victoria, Australia
- PP031** *Shear stability of water-in-oil-in-water (W/O/W) emulsions*  
 Agustina Goh<sup>1,2</sup>, Leif Lundin<sup>1</sup>, Raymond Dagastine<sup>2</sup>, Tim J. Wooster<sup>1</sup>, Fernando L. Calderon<sup>1</sup>  
<sup>1</sup>CSIRO Food and Nutritional Sciences, Werribee, Victoria, Australia, <sup>2</sup>The University of Melbourne, Melbourne, Victoria, Australia
- PP032** *Microfluidic Solvent Extraction of Metal Ions from Complex Leach Solutions*  
 Craig Priest<sup>1</sup>, Jingfang Zhou<sup>1</sup>, Rossen Sedev<sup>1</sup>, John Ralston<sup>1</sup>, Kazuma Mawatari<sup>2</sup>, Takehiko Kitamori<sup>2</sup>  
<sup>1</sup>Ian Wark Research Institute, University of South Australia, Mawson Lakes, SA, Australia, <sup>2</sup>Department of Chemical Engineering, The University of Tokyo, 7-3-1 Hongo, Bunkyo, Tokyo, Japan
- PP033** *Understanding Silicate Oligomerization at the Ferrhydrite-Water Interface: An Application of the Diffuse Layer Model*  
 Rossuriati Dol Hamid<sup>1,2</sup>, Peter Swedlund<sup>1</sup>, Gordon Miskelly<sup>1</sup>  
<sup>1</sup>University of Auckland, Auckland, New Zealand, <sup>2</sup>Universiti Teknologi MARA, Shah Alam, Selangor, Malaysia
- PP034** *Close Columnar Packing and Macroscopic Alignment of Planar Carbenium Ions*  
 Jens B. Simonsen<sup>1,2</sup>, Niels Harrit<sup>2</sup>, Bo W. Laursen<sup>2</sup>,  
<sup>1</sup>Biophysics Group, University of Copenhagen, Frederiksberg, Denmark, <sup>2</sup>Nano-Science Center, University of Copenhagen, Copenhagen, Denmark
- PP035** *Effect of adsorbed polymers on dynamic bubble-particle interactions - colloid probe AFM studies*  
 Marta Krasowska<sup>1</sup>, David Beattie<sup>1</sup>, Daniel Fornasiero<sup>1</sup>, John Ralston<sup>1</sup>  
<sup>1</sup>Ian Wark Research Institute, University of South Australia, Mawson Lakes Campus, South Australia, 5095, Australia
- PP036** *Silica Sol-Gel Method for Surface Modification of PDMS Microfluidic Devices*  
 Ingrid Hoek<sup>1</sup>, Andrea Bubendorfer<sup>1</sup>, Tim Kemmitt<sup>1,2</sup>,  
 W. Mike Arnold<sup>1,2</sup>  
<sup>1</sup>Industrial Research Ltd, Lower Hutt, New Zealand, <sup>2</sup>MacDiarmid Institute for Advanced Materials and Nanotechnology, Wellington, New Zealand
- PP037** *Effect of Polyelectrolyte Adsorption Kinetics and Ionic Strength on Flocculation Kinetics*  
 Ping Peng<sup>1</sup>, Gil Garnier<sup>1</sup>  
<sup>1</sup>Monash University, Melbourne, VIC 3800, Australia
- PP038** *Viscosity and temperature dependencies of solid-liquid separation of alumina with aqueous and organic solvents*  
 Anthony Stickland<sup>1</sup>, Ross de Kretser<sup>1</sup>, Shane Usher<sup>1</sup>, Peter Scales<sup>1</sup>  
<sup>1</sup>The University of Melbourne, Melbourne, VIC, Australia
- PP039** *Capillary zone electrophoresis of graphene nanosheets*  
 Joselito Quirino<sup>1</sup>, Pavel Nesterenko<sup>1</sup>, Paul Haddad<sup>1</sup>, Marc Müller<sup>2</sup>, Gordon Wallace<sup>2</sup>, Dan Li<sup>2</sup>  
<sup>1</sup>University of Tasmania, Hobart, Australia, <sup>2</sup>University of Wollongong, Wollongong, Australia
- PP040** *Fabrication and Characterisation of Biomimetic Silicate Nanoparticles*  
 Frances Neville<sup>1,3</sup>, Grant Webber<sup>2</sup>, Erica Wanless<sup>3</sup>, Roberto Moreno Atanasio<sup>2</sup>, Graeme Jameson<sup>1</sup>  
<sup>1</sup>Centre for Multiphase Processes, University of Newcastle, Callaghan, NSW, Australia, <sup>2</sup>School of Engineering, University of Newcastle, Callaghan, NSW, Australia, <sup>3</sup>School of Environmental and Life Sciences, University of Newcastle, Callaghan, NSW, Australia
- PP041** *Preparation of Colloidal Semiconductor Nanocrystals for Biolabelling via "Click Chemistry"*  
 Anneke Ryan<sup>1</sup>, Emma Lees<sup>1</sup>, Tich-Lam Nguyen<sup>1</sup>, Spencer Williams<sup>1</sup>, Andrew Clayton<sup>2</sup>, Paul Mulvaney<sup>1</sup>  
<sup>1</sup>School of Chemistry and Bio21 Institute, University of Melbourne, Parkville, Vic, Australia, <sup>2</sup>Ludwig Institute for Cancer Research, Royal Melbourne Hospital, Parkville, Vic, Australia
- PP042** *Electroviscous Flow Through a 2D Microfluidic Contraction with Finite Dielectric Ratio*  
 Joseph Berry<sup>1</sup>, Dalton Harvie<sup>1</sup>, Malcolm Davidson<sup>1</sup>  
<sup>1</sup>University of Melbourne, Melbourne, Australia
- PP043** *Shear-Induced Coalescence of Oil-in-Water Pickering Emulsions*  
 Franziska Fischer<sup>1</sup>, Catherine Whitby<sup>1</sup>  
<sup>1</sup>Ian Wark Research Institute, University of South Australia, Mawson Lakes, South Australia, Australia
- PP044** *Study on Double Emulsion Droplets for directed evolution in Microfluidic System*  
 Nan Wu<sup>1</sup>, John Oakeshott<sup>2</sup>, Yonggang Zhu<sup>1</sup>  
<sup>1</sup>CSIRO Material Science and Engineering, Highett/Victory, Australia, <sup>2</sup>CSIRO Entomology, Blackmountain/Canberra, Australia
- PP045** *Amonton's Laws on Nanoscales: Friction of Nanostructured Surfaces*  
 Georgia Pilkington<sup>1</sup>, Esben Thormann<sup>2</sup>, Per Claesson<sup>2</sup>, Gareth Fuge<sup>1</sup>, Mike Ashfold<sup>1</sup>, Wuge H. Briscoe<sup>1</sup>,  
<sup>1</sup>University of Bristol, Bristol, United Kingdom, <sup>2</sup>Royal Institute of Technology, Stockholm, Sweden
- PP046** *Self-Assembled Conducting Nanofilms*  
 Thomas Dane<sup>1</sup>, Zhecheng Shao<sup>1</sup>, Charl Faul<sup>1</sup>, Oier Bikondoa<sup>2</sup>, Philip Cresswell<sup>1</sup>, Wuge Briscoe<sup>1</sup>,  
<sup>1</sup>University of Bristol, Bristol, United Kingdom, <sup>2</sup>European Synchrotron Radiation Facility, Grenoble, France
- PP047** *Single-cell analysis method for secretory products using picoliter microwell array*  
 Yasuhiro Sasuga<sup>1</sup>, Yoshie Harada<sup>1,2</sup>  
<sup>1</sup>Rinshoken, Tokyo, Japan, <sup>2</sup>iCeS, Kyoto University, Kyoto, Japan
- PP048** *Hierarchical functionalization of porous coordination polymer crystals*  
 Shuhei Furukawa<sup>1</sup>, Kenji Hirai<sup>1</sup>, Mio Kondo<sup>1</sup>, Susumu Kitagawa<sup>1</sup>,  
<sup>1</sup>Kyoto University, Kyoto, Japan

TIME	<b>PLENARY HALL,</b> <b>THEME 6: FRONTIERS OF COLLOID &amp; INTERFACE SCIENCE</b> <i>SESSION CHAIR: ERICA WANLESS</i>
8:50	KN008 Tuning of foam film and wetting film stability by addition of (poly)electrolytes: electrostatics vs. ionspecificity <b>Regine von Klitzing</b> <i>Sponsored By:</i> 
9:30	OC201 Non-equilibrium Nature of the Interfacial Properties of Oppositely Charged Polyelectrolyte/ Surfactant Mixtures as a result of the Evolving Bulk Phase Interaction <b>Richard Campbell</b>
9:50	OC202 A New Explanation of the Hydrophobic Effect <b>James Beattie</b>
10:10	OC203 Determining Concentration Depth Profiles in Thin Foam Films with Neutral Impact Collision Ion Scattering Spectroscopy <b>Gunther Andersson</b>
10:30	<b>TEA/COFFEE BREAK</b>
	<b>THEME 6 CONTINUED</b> <i>SESSION CHAIR: XUEHUA ZHANG</i>
11:00	OC207 Demonstrating the Wenzel-to-Cassie transition on textured hydrophobic surfaces: selective application for droplet motion control <b>Vince Craig</b>
11:20	OC208 Parametric Excitation of Capillary Waves: Did Faraday Miss Something? <b>Leslie Yeo</b>
11:40	OC209 Adsorption of Dispersants at a Polyester Resin-Alkane Interface <b>Drew Evans</b>

**WEDNESDAY 2 FEBRUARY 2011 //**

**WELLINGTON ROOM,**  
**THEME 5: ADVANCED FUNCTIONAL &  
NANOSCALE MATERIALS CONTINUED**  
**SESSION CHAIR: YASUSHIGE MORI**

KN009 Hydrothermal Synthesis and Applications of Ordered Mesoporous Carbon Materials

**Dongyuan Zhao**

*Sponsored By:*



THE UNIVERSITY  
OF QUEENSLAND  
AUSTRALIA

OC204 Carbon nanoparticles dispersion by using fine beads milling with simultaneous surface modification

**Hidehiro Kamiya**

OC205 From carbon black to photoluminescent nanoprobes

**Qin Li**

OC206 Highly aligned and porous carbon nanotube modified electrode surface using CNT

**Mustafa Musameh**

**TEA/COFFEE BREAK**

**THEME 5 CONTINUED**  
**SESSION CHAIR: KO HIGASHITANI**

OC212 Structural and optical properties of hexagonal arrays of sub-wavelength holes in various metallic thin films

**Michael Giersig** (*Invited*)

OC213 Inorganic/organic core-shell hybrid microgels with tunable optical properties: from 2D to 3D self-assembly

**Mattias Karg**

OC214 From nanocrystalline to bulk - crystal growth in solution deposited CdTe films for sintered solar cells

**Brandon McDonald**

12:00	OC210 The Effect of Chain Structure on Solution and Interfacial Properties of Aliphatic Alcohols <b>Tom Healy</b>
12:20	OC211 Nanostructure of Protic Ionic Liquids and their ability to promote Amphiphile Self Assembly <b>Danielle Kennedy</b>
12:40	LUNCH <i>Tasman Room</i>
	<b>SESSION CHAIR: DREW EVANS</b>
13:40	OC217 Acoustic bubble coalescence behaviour in aqueous electrolyte solutions saturated with different gases <b>Franz Grieser</b>
14:00	OC218 Rheology of stimulus responsive biopolymer microgel suspensions <b>Heather Shewan</b>
14:20	OC219 Immobilization of Enzymes into large p-NIPAM Microgels by Solvent Exchange <b>Kornelia Gawlitza</b>
14:40	OC220 Swelling and collapse of an adsorbed pH-responsive film-forming microgel measured by Optical Reflectometry and CM <b>Erica Wanless</b>
15:05	<b>RACI Colloid and Surface Science Annual General Meeting</b> <i>Wellington Room</i>
16:00	FREE TIME
19:30	<b>CONFERENCE BIRTHDAY DINNER AND POSTER PRIZE PRESENTATIONS</b> <i>Boardwalk Gallery</i>

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## WEDNESDAY 2 FEBRUARY 2011 //

OC215 Nanostructured nanoparticulate inorganic contrast agent for medical imaging

**Nicholas M.K. Tse**

OC216 nm Cadmium Sulfide nanoparticle interaction with human serum albumin

**Chuan Ang Joo**

**LUNCH** *Tasman Room*

**SESSION CHAIR: MARK BIGGS**

OC221 An Evaporative Self-Assembly Lithography for Large-Scale Fabrication of Flexible Transparent Conductive Film

**Ko Higashitani** (*Invited*)

OC222 Nanoparticle transistors: relation between defects and electron mobility

**Anthony Morfa**

OC223 Novel mesoporous materials formed by micelle templating

**Chengzhong Yu**

OC224 High throughput electrochemical screening and investigation of the corrosion barrier properties of multilayer oxides

**Adrain Trinchi**

**RACI Colloid and Surface Science Annual General Meeting**

*Wellington Room*

**FREE TIME**

**CONFERENCE BIRTHDAY DINNER AND POSTER PRIZE PRESENTATIONS**

*Boardwalk Gallery*

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TIME	<b>PLENARY HALL, THEME 6: FRONTIERS OF COLLOID &amp; INTERFACE SCIENCE</b> <i>SESSION CHAIR: GAYLE MORRIS</i>
8:50	KN010 Using Block Copolymers as Emulsifiers in Novel multi-component Formulations <b>Terence Cosgrove</b> <i>Sponsored By:</i> 
9:30	OC301 Polyelectrolyte and cation interactions studied by diffusion coefficient measurement by NMR pulsed field gradient <b>Emily Perkins</b>
9:50	OC302 Growth and Shrinking of Pluronic Micelles in Pluronic-Flurbiprofen Solutions: Variation of Concentration and pH <b>Shirin Alexander</b>
10:10	<b>TEA/COFFEE BREAK</b> <i>SESSION CHAIR: KAREN STACK</i>
10:40	OC305 UV-triggered Swelling of Microgel Complexes <b>Melanie Bradley</b>
11:00	OC306 Engineering pH-Responsive Polyelectrolyte Capsules for Cytosolic Delivery of Therapeutics <b>Hannah Lomas</b>
11:20	OC307 $\infty$ Helix Unfolding in Simple Shear Flow <b>Dave Dunstan</b>
11:40	OC308 Identification of Key Properties of Polymeric Precipitation Inhibitors for Use with Poorly Water Soluble Drugs to Improve Bioavailability <b>Dallas Warren</b>
12:00	OC309 Recognition of protein chain structure and folding <b>Stephen Hyde</b>
12:20	<b>LUNCH</b> <i>Foyer</i>

THURSDAY 3 FEBRUARY 2011 //

**TASMAN ROOM,**  
**THEME 5: ADVANCED FUNCTIONAL &  
NANOSCALE MATERIALS CONTINUED**  
**SESSION CHAIR: QIN LI**

KN0011 Towards the Rational *de novo* Design of Solid-binding Peptides for Advanced Functional & Nanoscale Materials & Systems

**Mark Biggs**

Sponsored By:



Curtin University

OC303 Manipulating plasmonic nanocolloids via DNA

**Wenlong Cheng**

OC304 Nanostructured materials from peptide-polymer conjugates

**Sebastien Perrier**

**TEA/COFFEE BREAK**

**SESSION CHAIR: MICHAEL GIERSIG**

OC310 Multifunctional composite colloidal microgels

**Luis Liz-Marzan** *Invited*

OC311 Shear Orientation & Elastic Instability of Poly (ethylene oxide)/ silica Dispersions Probed by Time-resolved Polarized Light Imaging

**Siling Su**

OC312 Stimuli-responsive nanoparticles at interfaces

**Dayang Wang**

OC313 Surface Chemistry of Nanocrystals via Analytical Ultracentrifugation

**Tich-Lam Nguyen**

OC314 Light responsive nanostructured matrices for pulsatile drug delivery

**Khay Fong**

LUNCH *Foyer*

	<b>THEME 6 CONTINUED</b> <i>SESSION CHAIR: MELANIE BRADLEY</i>
13:20	OC315 Effect of multiple salts on colloidal stability of <i>pinus radiata</i> wood resins <b>Roland Lee</b>
13:40	OC316 Viscoelastic Micelles of Nonionic Surfactants in Water and Ionic Liquids <b>Greg Warr</b>
14:00	OC317 Fabrication of Asymmetric Nanos Structures via Plasma Polymerization <b>Rodney Chen</b>
14:20	OC318 Plasma Polymerization of Silica Particles for Water Treatment <b>Karyn Jarvis</b>
14:40	OC319 Concentrated Nanoparticle Synthesis in Aqueous Systems <b>Peter Scales</b>
15:05	CLOSING REMARKS <i>Plenary Hall</i>
15:15	TEA/COFFEE BREAK
15:30	ACIS CONFERENCE CLOSES

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**THURSDAY 3 FEBRUARY 2011 //**

**THEME 5 CONTINUED**

**SESSION CHAIR: LUIS LIZ-MARZAN**

OC320 Functional cubic phase lipid nanoparticles for siRNA delivery

**Guoliang Zhen**

OC321 Capsosome: Cargo-loaded Liposomes within Polymer Carrier Capsule

**Leticia Hosta-Rigau**

OC322 Competition between dewetting and layer inversion in thin film bilayers

**Chiara Neto**

OC323 Biomimetic patterned surface coatings by dewetting of polymer films for use in atmospheric water capture

**Stuart Thickett**

OC324 Surface Plasmon Spectroscopy of Single Gold Nanocrystals

**Paul Mulvaney**

**CLOSING REMARKS** *Plenary Hall*

**TEA/COFFEE BREAK**

**ACIS CONFERENCE CLOSES**

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**CONFERENCE SECRETARIAT**

**Tulips Meetings Management**

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*o l l o d o o r - a*

## 2011 PROGRAM AT A GLANCE //

SUN 30  
JAN //

- : - : REGISTRATION OPEN
- : - : WELCOME MIXER *Boardwalk Gallery, Wrest Point Hotel*

MON 31  
JAN //

- : WELCOME AND OPENING REMARKS
- : ' PLO01 RACI Colloid Division Plenary Lecture:  
*Prof Helmuth Möhwald*
- : PLO02 Alexander Lecture: *Prof Kazue Kurihar*
- : - : THEME 1: *Surface Forces*      THEME 2: *Neutron Scattering and Synchrotron Techniques*      THEME 3: *Microfluidics and Separation Sciences*
- : ' BUS TRANSFERS to Governor's House Reception
- : - : **Governor's House Reception**

TUE 1  
FEB //

- : - -: THEME 1: *Surface Forces Continued*      THEME 5: *Advanced Functional and Nanoscale Materials*      THEME 4: *Mineral and Material Interfaces*
- : - : POSTER SESSION PP001-PP048

WED 2  
FEB //

- : - : THEME 6: *Frontiers of Colloid Interface Science*      THEME 5: *Advanced Functional Nanoscale Materials Continued*
- : RACI Colloid and Surface Science Annual General Meeting
- : FREE TIME
- : CONFERENCE BIRTHDAY DINNER POSTER PRIZE PRESENTATIONS *Boardwalk Gallery*

THU 3  
FEB //

- : - : THEME 6: *Frontiers of Colloid Interface Science Continued*      THEME 5: *Advanced Functional Nanoscale Materials Continued*
- : CLOSING REMARKS *Plenary Hall*
- : TEA/COFFEE BREAK
- : ACIS CONFERENCE CLOSES