

Program

ASSOCIATIONS IN SOLUTION II *Structure, Function & Performance*

July 26 - 30, 2009

Tomar, Portugal

Conference Chair

Samiul Amin

Malvern Instruments Ltd., UK

Conference Co - Chair

Saad Khan

North Carolina State University, USA



Engineering Conferences International

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Sunday, July 26, 2009

17:00 - 19:00	Registration (Conference level foyer)
18:00 – 19:00	Welcome Reception (Lobby bar)
19:00	Dinner (Hotel restaurant)

NOTES

- Audiotaping, videotaping and photography of presentations are strictly prohibited.
- Speakers – Please leave at least 5 minutes for questions and discussion. Be available for discussion during meals and social periods.
- Please do not smoke at any conference functions.
- Turn your cellular telephones to vibrate or off during technical sessions.
- Sign up for the optional guided Tour of Convento de Cristo at the ECI desk.
- Be sure to make any corrections to your name/contact information on the Master Participant List or confirm that the listing is correct. A corrected copy will be sent to all participants after the conference.

Monday, July 27, 2009

07:30 – 08:30

Breakfast

08:30 - 08:40

Welcome and Introductory Remarks

Samiul Amin, Conference Chair

Herman Bieber, ECI Technical Liaison

Soft Nanotechnology I: Nanostructured Materials, Nanoparticles, Colloids & Stimuli Responsive Systems

Session Chair: **Saad Khan**, NCSU

08:40 - 09:10

Engineering New Materials with Microfluidics

Dave Weitz, Harvard University, USA

09:10 - 09:40

From Foams to Dry Water: Phase Inversion of Nanoparticle Stabilized Materials

Bernard Binks, University of Hull, UK

09:40 - 10:10

Colloidal Electronics: Electrically Active Structures from Water-Based Particles & Gels

Orlin Velev, North Carolina State University, USA

10:10 - 10:40

Responsive Microcapsules and Their Manufacture

Simon Biggs, University of Leeds, UK

10:40 - 11:10

Coffee/Tea Break

Soft Nanotechnology II: Nanostructured Materials, Nanoparticles, Colloids & Stimuli Responsive Systems

Session Chair: **Ulf Olsson**, Lund University

11:10 - 11:40

Reversible Association of Magnetic Colloids and the De-Gennes-Pincus Approach to Ferromagnetic Colloids

A. P. Philipse, Utrecht University, The Netherlands

11:40 - 12:10

Model Polyamide Rods to Explore Aggregation & Bundling Transitions in Anisotropic Colloidal Systems

Michael J. Solomon, University of Michigan, USA

12:10 - 12:40

Stimuli Induced Association in Responsive Gels for the Mediation of Thermodynamic and Transport Properties of Solutes

T. Alan Hatton, MIT, USA

12:40 - 13:10

Structural Evolution and Formation of Nano-Vesicles in Surfactant Self - Assembly by the Addition of Co-Surfactants

Jeff Penfold, ISIS, STFC

13:15 - 14:15

Lunch

14:15 - 16:30

ad hoc discussions, free time

16:30 - 17:00

Afternoon Coffee/Tea

Monday, July 27, 2009 (continued)

Soft Nanotechnology III: Nanostructured Materials, Nanoparticles, Colloids & Stimuli Responsive Systems

Session Chair: **Simon Biggs**, Leeds University

- 17:00 - 17:30 ***Nanoparticle Templated Nanostructures Through Self-Assembly***
Saad Khan, North Carolina State University, USA
- 17:30 – 18:00 ***Interfacial Composition and Microstructure in Quaternary Microemulsions: A Pulsed Gradient Spin - Echo NMR Approach***
Gerardo Palazzo, University of Bari, Italy
- 18:00 - 18:30 ***Synthesis and Characterisation of "Breathable" Hollow Core Self - Assembled Silica Particles***
Jaroslav Hanus, Institute of Chemical Technology, Czech Republic
- 18:30 – 19:00 ***Impact of Aggregation and Diffusion on Nanofluid Thermal Conductivity***
Patricia E. Gharagozloo, Stanford University, USA
- 19:00 - 19:30 ***Structured Soft Materials Formed by Polymerization Reactions in Surfactant Systems***
Salomé dos Santos, Lund University, Sweden
- 19:30 - 21:00 Dinner
- 21:00 - 22:00 Social Hour

Tuesday, July 28, 2009

07:30 – 08:30

Breakfast

Self-Assembled Surfactant & Polymeric Systems I

Session Chair: **Patrick Spicer**, P&G

08:30 - 09:00

Slow Dynamics of Worm-like Micelles

Ulf Olsson, Lund University, Sweden

09:00 - 09:30

Impact of Branching on the Linear and Non Linear Rheology of Lecithin Based Worm-like Micelles

Samiul Amin, Malvern Instruments, UK

09:30 - 10:00

A Tale of Two Surfactants: Combining Light and Neutron Scattering with Rheology to Understand Shear Banding and Shear Induced Phase Transitions in Worm-like Micellar Solutions

Norman Wagner, University of Delaware, USA

10:00 - 10:30

Host-Guest Association between Bolaform Surfactants and Alfa - or Beta-Cyclodextrins: A NMR and Calorimetry Study

Olle Söderman, Lund University, Sweden

10:30 - 11:00

Coffee/Tea Break

Self-Assembled Surfactant & Polymeric Systems II

Session Chair: **Gerardo Palazzo**, University of Bari

11:00 - 11:30

Synthesis of Pha Block – Co-polymers with Bacteria

Friedrich Sreenc, University of Minnesota, USA

11:30 - 12:00

Orientalional Order under Shear in Hexagonal Surfactant Mesophases

Claudia Schmidt, University of Paderborn, Germany

12:00 - 12:30

Shear Induced Transformations in Complex Fluids: Lamellar Phase and Multilamellar Vesicles in a Nonionic System

Bruno Medronho, University of Coimbra, Portugal

12:30 – 13:00

Structured Soft Materials Formed by Polymerization Reactions in Surfactant Systems

Salomé dos Santos, Lund University, Sweden

13:00 - 14:00

Lunch

14:00 - 16:30

ad hoc discussions/free time

16:30 - 17:00

Afternoon Coffee/Tea

Tuesday, July 28, 2009 (continued)

Self-Assembled Surfactant & Polymeric Systems III

Session Chair: **Norman Wagner**, University of Delaware

- 17:00 - 17:30 ***Multicompartment Micelles and Gels From ABC Block Terpolymers in Water***
Tim Lodge, University of Minnesota, USA
- 17:30 - 18:00 ***Networks or Micelles through Charged Peptide or Block Co-polymer Self Assembly***
Darrin Pochan, University of Delaware, USA
- 18:00 - 18:30 ***Amphiphile Self-Assembly in Room Temperature Ionic Liquids***
Gregory Warr, University of Sydney, Australia
- 18:30 - 19:00 ***Phase Behavior of Double - Hydrophilic Block Co-polymers Mixed with Oppositely Charged Surfactants***
Martin In, CNRS, France
- 19:00 - 19:30 ***Experimental and Theoretical Investigation of Active Polymer Microsponges***
Ales Zadrazil, Institute of Chemical Technology, Czech Republic
- 20:00 - 21:15 Dinner
- 21:15 - 23:00 Social Hour and Poster Session
(SPONSORED BY MALVERN INSTRUMENTS)

Wednesday, July 29, 2009

07:30 – 08:30 Breakfast

Industrial Applications & Future Challenges

Session Chair: **Peter Griffiths**, Cardiff University

Foods

08:30 - 09:00 *Colloidal Delivery Systems for Micronutrients and Nutraceuticals*
Krassimir Velikov, Unilever R&D, Vlarrdingen, The Netherlands

09:00 - 09:30 *Lyotropic Liquid Crystals: From Fundamentals to Applications*
Raffaele Mezzenga, Nestle Research Centre/ University of Fribourg, Switzerland

Pharmaceuticals, Drug Delivery

09:30 - 10:00 *Nanoparticles of Poorly Soluble Drugs*
Lennart Lindfors, Astra Zeneca R&D, Sweden

10:00 - 10:30 *Association in Solution in Pharmaceutical Formulation and Delivery of Poorly Soluble Small Molecules*
Rossitza Alargova, Vertex Pharmaceuticals, USA

10:30 - 11:00 Coffee/Tea Break

Personal Care & Other FMCG Products

11:00 - 11:30 *In Complex Fluids, Heterogeneous Microstructures Aren't All That Bad*
Patrick Spicer, Proctor & Gamble Company, USA

11:30 - 12:00 *Rheological Characterization of Cosmetic Emulsions*
Ruediger Brummer, Beiersdorf AG, Germany

Chemicals & Speciality Chemicals

12:00 - 12:30 *Design of Experiments and Statistical Analysis in High Throughput Formulation*
Christian Holtze, BASF, Germany

12:30 - 13:30 Lunch

13:30 - 17:00 Free Time or optional guided tour of Convento de Cristo

17:00 - 17:30 Afternoon coffee/tea

Wednesday, July 29, 2009 (continued)

Special Session: SOFTCOMP Network of Excellence

Session Chair: **Andrea Ferrante**, Unilever

- 17:30 - 18:00 ***Wax Control in middle distillate fuels by self-organizing polymers – a scientific approach***
Dieter Richter, Forschungszentrum Jülich, Institut für Festkörperforschung/
Jülich Center for Neutron, Germany
- 18:00 - 18:30 ***Rheology of Glasses from Colloidal Star Polymers & Mixtures***
Dimitris Vlassopolous, FORTH & University of Crete, Greece
- 18:30 - 19:00 ***Entangled Worm-like Micelles Bridged by Telechelic Polymers: A Model of Soft Composite Transient Networks***
Christian Ligoure, CNRS/University Montpellier, France
- 19:00 - 19:30 ***Self-Assembly and Surface Rheology of Particles at Interfaces and Its Role in Applications***
Jan Vermant, K.U. Leuven, Belgium
- 19:30 - 20:00 ***Particle Stabilized Liquid - Liquid Foam***
Paul Clegg, University of Edinburgh, Scotland
- 20:00 - 21:30 Dinner
- 21:30 - 23:00 Social Hour and Posters

Thursday, July 30, 2009

- 07:30 – 08:30 Breakfast
- Biomaterials, Biological Systems, Biotechnology, Drug Delivery**
Session Chair: **Lennert Lindfors**, Astra Zeneca
- 08:30 - 09:00 ***Bioactive Surfaces and Biomaterials via Surface Initiated Controlled Radical Polymerizations***
E.T. Kang, National University of Singapore, Singapore
- 09:00 - 09:30 ***Exploiting Chitosan's Properties in Surface/Materials Tailoring for Bio-Applications***
K.G. Neoh, National University of Singapore, Singapore
- 09:30 – 10:00 ***Biomaterials with Growth Factors for Tissue Engineering***
Yoshihiro Ito, Nano Medical Engineering Laboratory, RIKEN, ASI, Japan
- 10:00 – 10:30 ***Self-Association of Proteins in the Design of Biosolar Cell***
V. Renugopalakrishnanan, Harvard Medical School and Northeastern University, USA
- 10:30 - 11:00 Coffee/Tea Break
- 11:00 - 11:30 ***Physicochemical Characterization of Polymeric Drug Delivery Vehicles***
Peter Griffiths, Cardiff University, Wales
- 11:30 – 12:00 ***Mechanical Spectroscopy of Biological Molecules and Cells***
Thomas Andrew Waigh, University of Manchester, UK
- 12:00 – 12:30 ***Uni-Molecular Aggregation of Polymer-Drug Conjugates: Solution Conformation as the Missing Link between Molecular Architecture and Therapeutic Performance***
Alison Paul, Cardiff University, Wales
- 12:30 - 12:45 Conference wrap-up and Closing Remarks
Samiul Amin
- 12:45 – 14:00 Lunch and departure

Poster Presentations

1. **PECULIARITIES OF BETA-CASEIN ASSOCIATION IN MICELLAR AND NONMICELLAR SOLUTIONS OF SYNTHETIC BLOCK COPOLYMER. MIXED MICELLIZATION**
Irina Portnaya, Technion - Israel Institute of Technology, Haifa, Israel
2. **NON-IONIC SURFACTANT-DNA INTERACTIONS**
Alexandra Machado, Centre for Chemistry and Chemical Engineering, University of Lund, Lund, Sweden
3. **UNI-MOLECULAR AGGREGATION OF POLYMER-DRUG CONJUGATES: SOLUTION CONFORMATION AS THE MISSING LINK BETWEEN MOLECULAR ARCHITECTURE AND THERAPEUTIC PERFORMANCE**
Dr. Alison Paul, School of Chemistry, Cardiff University, Cardiff, United Kingdom
4. **INTERACTION OF ARGININE-BASED CATIONIC SURFACTANTS WITH LIPID MEMBRANES. AN EXPERIMENTAL AND MOLECULAR SIMULATION STUDY**
João A. S. Almeida, Chemistry Department, University of Coimbra, Coimbra, Portugal
5. **SYNTHESIS AND SPECTROSCOPIC CHARACTERIZATION OF AN ACTIVE PHARMACEUTICAL INGREDIENT (API): CHOLINE/NAPROXEN IONIC LIQUID**
César A.T. Laia, REQUIMTE, Monte da Caparica, Portugal
6. **BIOCONJUGATION AS A TOOL TO THE SELF ASSEMBLAGE OF PROTEINS INTO COLLOIDAL CARRIERS: STRATEGIES TO IMPROVE THE DELIVERY OF THERAPEUTIC ENZYMES**
Barbara Figueira Martins, Reasearch Institute for Medical and Pharmaceutical Sciences, Lisboa, Portugal