Program

Association in Solution IV

July 31 - August 4, 2017
Memorial University
St. John's, Newfoundland, Canada

Conference Co-Chairs

Ulf Olsson
Lund University, Sweden

Norman Wagner
University of Delaware, USA

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Engineering Conferences International (ECI) is a not-for-profit global engineering conferences program, originally established in 1962, that provides opportunities for the exploration of problems and issues of concern to engineers and scientists from many disciplines.

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Previous conferences in this series:

Association in Solution for Function, Performance, and Synthesis
July 22-26, 2007
Barga, Italy
Conference Chairs:
Saad Khan, North Carolina State University, USA
Robert Prud'homme, Princeton University, USA

Association in Solution II
July 26-30, 2009
Tomar, Portugal
Conference Chairs:
Samiul Amin, Malvern Instruments Ltd., UK
Saad Khan, North Carolina State University, USA

Association in Solution III
July 23-27, 2012
Iceland
Conference Chairs:
Ulf Olsson, Lund University, Sweden
Norman Wagner, University of Delaware, USA

Conference Sponsors

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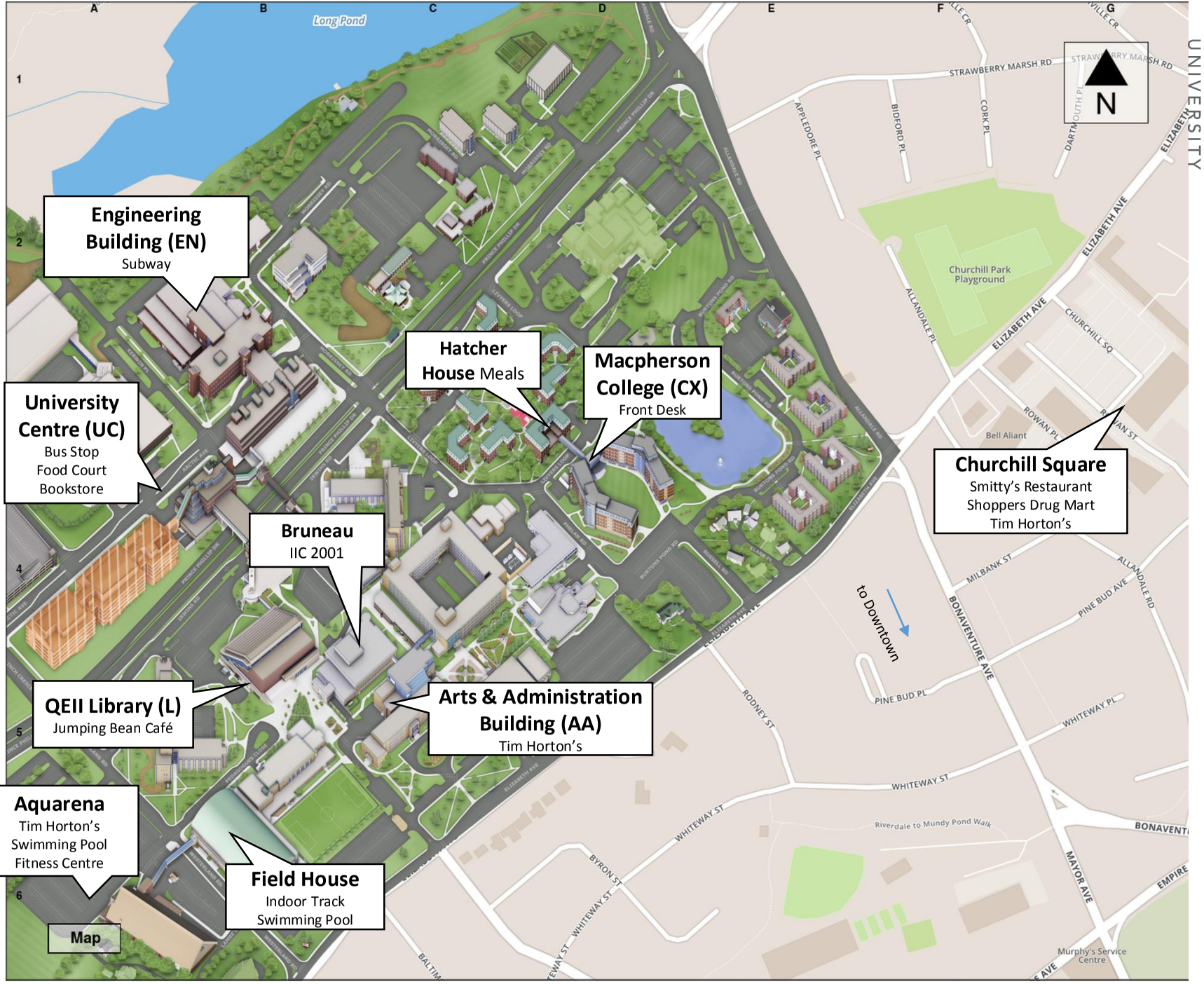
Soft Matter



MEMORIAL UNIVERSITY

GUEST ACCOMMODATIONS

www.mun.ca/conferences

Monday, July 31, 2017

16:00 - 17:00	Conference Check-in (Bruneau Building Atrium) (The check-in desk for accommodations is in Macpherson College)
17:00 - 17:15	Welcome
	Association in Solution Intro
17:15 - 17:45	**Three components, four phases. What does Gibbs' phase rule state?** Hakan Wennerström, Lund University, Sweden
17:45 - 18:15	**Cellulose association in solution** Ulf Olsson, Lund University, Sweden
18:15 - 19:45	**Presentation of posters**
19:00 - 20:30	Dinner *Dinner Speaker: Shannon Lewis-Simpson, Memorial University* *Iron Rings: Meet the Iron Age in Newfoundland and Labrador*

Notes and room locations

- *Technical sessions will be in Room IIC 2001 in the Bruneau Building.*
- *Poster Sessions will be in the Bruneau Building Atrium.*
- *All meals will be in Hatcher House.*
- *Audiotaping, videotaping and photography of presentations are prohibited.*
- *Speakers – Please have your presentation loaded onto the conference computer prior to the session start (preferably the day before).*
- *Speakers – Please leave at least 3-5 minutes for questions and discussion.*
- *Please do not smoke at any conference functions.*
- *Turn your mobile telephones to vibrate or off during technical sessions.*
- *Please write your name on your program so that it can be returned to you if lost or misplaced.*
- *After the conference, ECI will send an updated participant list to all participants. Please check your listing now and if it needs updating, you may correct it at any time by logging into your ECI account.*

Tuesday, August 1, 2017

07:30 - 08:30	Breakfast
	Electrostatics
08:30 - 09:00	**Light from within: Illuminating the complexity of co-assembly from the inside out** Joris Sprakel, Wageningen University, Netherlands
09:00 - 09:30	**The salt curve revisited - Electrostatic charges govern the viscoelastic properties of micellar solutions** Peter Fischer, ETH Zurich, Switzerland
09:30 - 10:00	**Polyelectrolyte/Surfactant complexes (PESCs) – versatile self-assembled systems studied with respect to their structural, dynamical and rheological properties** Michael Gradzielski, TU Berlin, Germany
10:00 - 10:30	Coffee Break
	Capsules and Vesicles
10:30 - 11:00	**Nature-inspired multi-compartment and multi-layered capsules** Srinivasa R. Raghavan, University of Maryland, USA
11:00 - 11:30	**Morphologies in vesicle-vesicle adhesion** Masayuki Imai, Tohoku University, Japan
11:30 - 12:00	**Solutions with structure for cellular delivery** Cecilia Leal, University of Illinois, Urbana-Champaign, USA
12:00 - 13:00	Lunch
13:00 - 15:30	**Discussions**
15:30 - 16:00	Coffee Break
	Driven Colloids
16:00 – 16:30	**Drying aqueous colloidal systems: Molecular interactions, self-assembly and homeostatic behavior** Kevin Roger, CNRS/Toulouse University, France
16:30 - 17:00	**Self-assembly of particles via controlled evaporation** Basavaraja Madivala Gurappa, IIT Madras, India
17:00 - 17:30	**Swimmer-Microrheology** Shigeyuki Komura, Tokyo Metropolitan University, Japan

Tuesday, August 1, 2017 (continued)

17:30 - 17:45	Break
	Emulsions
17:45 - 18:15	**Joining emulsion droplets using colloidal rods** Paul Clegg, University of Edinburgh, United Kingdom
18:15 – 18:45	**Surfactant aggregation in hydrophobic ionic liquid to formulate microemulsions for the enhancement of the solubility of enzymes and their catalytic performance** Xirong Huang, Shandong University, China
19:00 - 20:30	Dinner

Wednesday, August 2, 2017

07:30 - 08:30	Breakfast
	Colloidal Assembly
08:30 - 09:00	**Field-directed assembly of responsive colloids** Peter Schurtenberger, Lund University, Sweden
09:00 - 09:30	**Phase behavior of colloid-polymer mixtures with unary or binary depletants** Jacinta C. Conrad, University of Houston, USA
09:30 - 10:00	**Inverse design of interactions for assembly** Thomas M. Truskett, The University of Texas at Austin, USA
10:00 - 10:30	Coffee Break
	Transport in Confined Spaces
10:30 - 11:00	**Polymer conformation and dynamics in crowded environments: A combined diffusion NMR and small-angle neutron scattering study** Anand Yethiraj, Memorial University of Newfoundland, Canada
11:00 - 11:30	**Diffusion of small ligands in complex confining and reactive landscapes: The geometry of chemoreception** Francesco Piazza, University of Orléans and Centre de Biophysique Moléculaire (CBM), France
11:30 - 12:00	**Collective morphologies of the assemblies of the intrinsically disordered proteins of the Nuclear Pore Complex** Anton Zilman, University of Toronto, Canada
12:00 - 13:00	Lunch
13:00 - 15:30	**Discussions**
15:30 - 16:00	Coffee Break
	Particles and Interfaces
16:00 - 16:30	**Adaptive microgels in complexes and at interfaces** Walter Richtering, RWTH Aachen, Germany
16:30 - 17:00	**Distortion of surfactant lamellar phases with particles and rough interfaces** Adrian R. Rennie, Uppsala University, Sweden

Wednesday, August 2, 2017 (continued)

17:00 - 17:30	**Multivalent binding and selectivity in cell targeting, molecular recognition and receptor activation** Jure Dobnikar, Institute of Physics, Chinese Academy of Sciences, Beijing, China; Department of Chemistry, University of Cambridge, UK, China
17:30 - 17:45	Break
	Lasers and Algorithms
17:45 - 18:15	**On the stability of metal nanoparticles synthesized by laser ablation in liquids** Gerardo Palazzo, University of Bari, Italy
18:15 - 18:45	**Non linear physics for early immune recognition** Paul Francois, McGill University, Canada
	Free Evening

Thursday, August 3, 2017

07:30 - 08:30	Breakfast
	Protein/Peptide Association
08:30 - 09:00	**Self-association of a highly charged, arginine-rich cell-penetrating peptide** Mikael Lund, Lund University, Sweden
09:00 - 09:30	**Protein-protein interactions in lipid membranes: A single particle study of Bcl-2 family proteins** Cécile Fradin, McMaster University, Canada
09:30 - 10:00	**Phase behavior study of human antibody solution using multi-scale modeling** Limei Xu, Peking University, China
10:00 - 10:30	Coffee Break
	Patchy Colloids/Interactions
10:30 - 11:00	**Manifestation of one-patch attractive protein interactions in solution scattering and in solution structures** Malin Zackrisson Oskolkova, Lund University, Sweden
11:00 - 11:30	**Exploring a new class of effective interactions in crowded environment** Nicoletta Gnan, Institute of Complex Systems (CNR-ISC), Italy
11:30 - 12:00	**Polymer-salt-solvent effects on colloidal interactions** Johan Bergenholtz, University of Gothenburg, Sweden
12:00	Boxed lunch distribution
12:45	**Buses depart for whale watching excursion** (Pick up at Macpherson College)
14:00 - 16:00	**Whale watching boat tour** (Returning to Memorial University by 17:00)
18:00 - 19:00	**Poster Session**
19:00 - 20:30	Banquet Dinner *Dinner speaker: Wayne Ledwell* *40 years of working with fishermen releasing large whales from fishing gear in Newfoundland and Labrador*

Friday, August 4, 2017

07:30 - 08:30	Breakfast
	Gels
08:30 - 09:00	**Can softer junctions lead to stiffer gels? Understanding the role of stereochemistry in associative polymer gels** Surita Bhatia, Stony Brook University, USA
09:00 - 09:30	**Shear-gradient induced transport and non-local stresses: Non-uniform flow of glasses and gels** Jan K.G. Dhont, Forschungszentrum Juelich and Heinrich-Heine Universität Düsseldorf, Germany
09:30 - 10:00	**Self-assembly in patchy proteins: From transient networks to attractive glasses** Anna Stradner, Lund University, Sweden
10:00 - 10:30	Coffee Break
	Nanostructured Materials
10:30 - 11:00	**Engineering multi-responsive complex coacervate core micelles for biomedical and materials science applications** Ilja Voets, Eindhoven University of Technology, Netherlands
11:00 - 11:30	**Structure and hydration of phytoglycogen nanoparticles: Nature's dendrimer** John R. Dutcher, University of Guelph, Canada
11:30 - 12:00	**Self-assembly of block copolymers in ionic liquids: Ultrastretchable iono-elastomers with mechanoelectrical response** Norman J. Wagner, University of Delaware, USA
12:00 - 13:00	Lunch and Departure

Poster Presentations

1. **Thermoelectrochemistry for harvesting waste heat**
   Jeffrey J. Black, UNSW Australia, Australia

2. **Assembly of colloidal nanocrystals into open networks**
   Delia J. Milliron, University of Texas at Austin, USA

3. **In-situ liquid phase imaging of block copolymer vesicle assembly**
   Hanglong Wu, Eindhoven University of Technology, Netherlands

4. **Tuning cracks by exploiting the shape of particles and external magnetic field**
   Hisay Lama, IIT Madras, India

5. **Studying solution self-assembled morphology and thermal stability of Polysorbate fractions and their implications in micellar degradation via small angle neutron scattering**
   Jannatun Nayem, University of Delaware and NIST, USA

6. **Hydrogelation of cyclic peptide amphiphile, colistin, through formation of hierarchically organized structure**
   Kosuke Morimoto, The University of Kitakyushu, Japan

7. **Structures and dynamic viscoelastic properties of micelles of mixtures of surfactin with cationic surfactant in aqueous solution**
   Kazuyuki Ito, The University of Kitakyushu, Japan

8. **Study on relation between spatial distribution and release rate of hydrophobic compounds incorporated in polymer micelles with anomalous small angle X-ray scattering**
   Shota Sasaki, The University of Kitakyushu, Japan

9. **Sensitive biosensors exploiting the minute changes in the capacitance of protein layers associated to the ligand recognition**
   Gerardo Palazzo, University of Bari, Italy

10. **Self-assembly of the peptide A10K – Intermediate state in aggregate formation**
    Axel Rüter, Lund University, Sweden

11. **Probing the structure of electrochemically-aggregated collagen**
    Kristin M. Poduska, Memorial University of Newfoundland, Canada

12. **Nanodroplets and the equation of state of deeply supercooled water**
    Shahrazad Malek, Memorial University of Newfoundland, Canada

13. **Deuterium NMR and rheology of microgel colloids at ambient and high pressure**
    Suhad A. Sbeih, Memorial University, Canada

14. **Multisequence algorithm for coarse-grained biomolecular simulations: Exploring the sequence-structure relationship of proteins**
    Adekunle Aina, Memorial University of Newfoundland, Canada

15. **Electrorheological responses of soft ionic colloids**
    Ealisha Jha, Memorial University, Canada