Program

Colloidal, Macromolecular & Biological Gels: Formulation, Properties & Applications

July 10 - 14 2016
Hernstein, Austria

Conference Co-Chairs

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Sunday, July 10, 2016

3:30 pm – 4:30 pm  Conference check-in

4:30 pm – 4:45 pm  Welcome and conference logistics
Dr. Samiul Amin, Conference chair
Prof. Saad Khan, Conference co-chair

4:45 pm – 5:15 pm  Michael Rubinstein, University of North Carolina, USA
Super-soft and super-elastic dry gels

5:15 pm- 5:45 pm  Erik van der Linden, Wageningen University, Netherlands
Designing mesostructures for food functionality

5:45 pm- 7:30 pm  Wine tasting reception

7:45 pm – 9:00 pm  Dinner

Notes

- Technical sessions will be in the Studio.
- Poster Sessions will be in the Hofsuite 1-2.
- Meals will be held in the Panorama Restaurant.
- 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.
Monday, July 11, 2016

7:30 am – 9:00 am Breakfast buffet

9:00 am – 1:30 pm **Session 1: Colloidal & Particulate Gels I**
Session Chairs: Patrick Spicer, University of New South Wales, Australia

9:00 am – 9:30 am Roberto Piazza, Politecnico di Milano, Italy
*Colloidal swarms can settle faster than isolated particles*

9:30 am – 10:00 am Roseanna Zia, Cornell University, USA
*Gravitational collapse of colloidal gels*

10:00 am – 10:30 am Jan Dhont, Forschungszentrum Juelich, Germany
*Non-uniform flow of colloidal glasses and gels: The “shear-gradient concentration coupling instability”*

10:30 am – 11:00 am Coffee break

11:00 am – 11:30 am Mufit Akinc, Iowa State University, USA
*Role of hydration layer on rheology of nano alumina suspensions*

11:30 am – 12:00 pm James Swan, Massachusetts Institute of Technology, USA
*Long-range hydrodynamic interactions enhance colloidal gelation*

12:00 pm – 12:30 pm Luca Ciprelli, Universite de Montpellier, France
*Rheology, microscopic dynamics and material failure in the creep of a colloidal gel*

12:30 pm – 1:00 pm Paul Clegg, University of Edinburgh, UK
*Particle-stabilized water droplets that sprout millimeter-scale tubes*

1:00 pm – 2:30 pm Buffet lunch

2:30 pm – 4:30 pm Networking / free time / ad hoc sessions

4:30 pm – 6:00 pm **Session 2: Colloidal & Particulate Gels II**
Session Chair: Saad Khan, North Carolina State University, USA

4:30 pm – 5:00 pm Patrick Spicer, University of New South Wales, Australia
*Microstructure and yielding of microfiber gels*

5:00 pm – 5:30 pm Robert Leheny, Johns Hopkins University, USA
*Coherent x-ray studies of the microscopic dynamics underlying the phase behavior and nonlinear rheology of gel-forming nanocolloidal suspensions*

5:30 pm – 6:00 pm Philipp Erni, Firmenich, Switzerland
*Core/shell capsules formed by silica precipitation in biopolymer coaerveate scaffold*

6:00 pm – 6:30 pm Krassimir Velikov, Unilever, Netherlands
*Gravity-driven instabilities in fibrillar colloidal gels containing a second disperse phase*

6:30 pm – 7:00 pm Sergio Murgia, University of Cagliari, Italy
*Cubosomes as potential theranostic tools*

7:30 pm – 9:00 pm Dinner

9:00 pm – 10:30 pm Social hour / Poster Session
Tuesday, July 12, 2016

7:30 am – 8:30 am  Breakfast buffet

8:30 am – 1:30 pm  **Session 3: Biopolymers, Biological Gels & Networks**  
Session Chairs: Erik van der Linden, Wageningen University, Netherlands

8:30 am – 9:00 am  Gareth McKinley, Massachusetts Institute of Technology, USA  
*Modeling the shear and extensional rheology of saliva and mucin hydrogels using a sticky gel network model*

9:00 am - 9:30 am  Saad Khan, North Carolina State University, USA  
*Ultralight, reusable biopolymer aerogels: Formation mechanisms to applications in selective fluid sorption and oil spill remediation*

9:30 am – 10:00 am  Daniel Bonn, University of Amsterdam, Netherlands  
*Porosity governs normal stresses in polymer gels*

10:00 am – 10:30 am  Darrin Pochan, University of Delaware, USA  
*Materials construction through peptide design and solution assembly*

10:30 am – 11:00 am  Coffee break

11:00 am – 11:30 am  Cecile Dreiss, Kings College London, UK  
*Biopolymers, nanoparticles and surfactants: short stories in building-up gels from self-assembly*

11:30 am – 12:00 pm  Ulf Olsson, Lund University, Sweden  
*On cellulose dissolution and gelation*

12:00 pm – 12:30 pm  Job Ubbink, Food Concept & Physical Design "The Mill", Switzerland  
*Structural and dynamic aspects of plasticization and antiplasticization in carbohydrate glasses.*

12:30 pm – 1:00 pm  Srini Raghavan, University of Maryland, USA  
*Nature-inspired hydrogels that change shape in response to external stimuli or to specific biomolecules.*

1:00 pm  Pick up boxed lunch

1:30 pm – 7:00 pm  Excursion / Sightseeing trip to Vienna

7:00 pm – 8:00 pm  Networking / free time / *ad hoc* sessions

8:00 pm – 9:30 pm  Buffet dinner

9:30 pm – 11:00 pm  Poster Session / Social hour
Wednesday, July 13, 2016

7:30 am – 9:00 am         Breakfast buffet

9:00 am – 12:00 pm        Session 4: Novel Characterization Techniques
                          Session Chair: Gerardo Palazzo, University of Bari, Italy

9:00 am – 9:30 am         Frank Scheffold, University of Fribourg, Switzerland
                          Superresolution microscopy of individual and densely packed pNIPAM microgels

9:30 am – 10:00 am        Dganit Danino, Technion, Israel
                          Spatial and temporal CryoEM of molecular gels and 1-dimensional structures

10:00 am – 10:30 am       Stuart W. Prescott, University of New South Wales, Australia
                          Probing yield stress fluids with a vibrational rheometer

10:30 am – 11:00 am       Coffee break

11:00 am – 11:30 am       Joerg Laeuger, Anton Paar, Germany
                          Relative humidity as a new parameter in rheological testing

11:30 am – 12:00 pm       Roland Ramsch, Formulaction, France
                          Passive microrheology as a useful tool for milk gel analyses

12:00 pm – 1:30 pm        Buffet lunch

1:30 pm – 4:00 pm         Networking / free time / ad hoc sessions

2:00 pm – 3:00 pm         Optional guided tour of historic castle led by Peter Glaser

4:00 pm – 6:00 pm         Session 5: Surfactant, Polymeric & Biological Networks & Films
                          Session Chair: Srini Raghavan, University of Maryland, USA

4:00 pm – 4:30 pm         Gerardo Palazzo, University of Bari, Italy
                          Soft matter films interfaced to electronic devices: capacitance-modulated field effect
                          transistors integrating protein layers

4:30 pm – 5:00 pm         Claudia Schmidt, Paderborn University, Germany
                          Surfactant gels with vesicular structure

5:00 pm – 5:30 pm         Alex Levine, University of California at Los Angeles, USA
                          Rheology and nonlinear mechanics of transiently cross linked semiflexible networks:
                          Bundling, ripping, healing, and mechnomemory

5:30 pm – 6:00 pm         Ulyana Shimanovich, Weizmann Institute, Israel
                          Bio-inspired protein-based biomaterial

6:00 pm – 7:30 pm         Networking / free time

7:30 pm – 9:30 pm         Conference Banquet

9:30 pm – 10:30 pm        Social hour / Poster Session
Thursday, July 14, 2016

7:30 am – 9:00 am  Breakfast buffet

9:00 am – 12:00 pm  Session 6: Hydrogels and Polymeric Systems
            Session Chairs: Samiul Amin, L’Oreal, USA

9:00 am – 9:30 am  Abu Zayed Md Badruddoza, Massachusetts Institute of Technology, USA
            Core-shell composite hydrogels for the controlled formation and release of nanocrystals of poorly soluble active pharmaceutical ingredient

9:30 am – 10:00 am  Ronit Bitton, Ben-Gurion University of the Negev, Israel
            Structure-properties Relationships of Multicomponent Polysaccharide-peptide Hydrogels

10:00 am – 10:30 am  Coffee break

10:30 am – 11:00 am  Juliette S. Behra, University of Leeds, UK
            From dilute polyelectrolyte solutions to entangled polyelectrolyte networks: a study of sodium carboxymethyl cellulose in water by light scattering and rheology

11:00 am – 11:30 am  Thomas Goudoulas, Technische Universität München, Germany
            On the creep ringing behavior of semi-dilute polyacrylamide and polyethylene oxide solutions

12:00 pm – 1:30 pm  Buffet lunch and Departures
1. Colloidal inorganic particle-based edible oleogels and bigels  
   Ashok Patel, Ghent University, Belgium

2. Influence of pH, temperature and sample size on natural and enforced syneresis of precipitated silica  
   Sebastian Wilhelm, Karlsruhe Institute of Technology, Germany

3. Prediction of collapse time of polymer stabilized O/W emulsions  
   Roland Ramsch, Formulaction, France

4. Anthracyclines gels: Chemical structure and functional behaviour  
   Mauro Giustini, "La Sapienza" University, Italy

5. From dilute polyelectrolyte solutions to entangled polyelectrolyte networks: A study of sodium carboxymethyl cellulose in water by light scattering and rheology  
   Juliette S. Behra, University of Leeds, United Kingdom

6. A general approach to the encapsulation of glycoenzymes chains inside calcium alginate gel beads  
   Gerardo Palazzo, University of Bari, Italy

7. Protein repelling coatings based on stimuli-responsive aqueous microgels decorated with oligo ethylene glycols  
   Andrea Melle, DWI - Leibniz Institute for Interactive Materials, Germany

8. Carbonized polyaniline cryogel: A spectroscopic study  
   Miroslava Trchova, Academy of Sciences of the Czech Republic, Czech Republic

9. Polyaniline cryogels: Soft and conducting  
   Jaroslav Stejskal, Academy of Sciences of the Czech Republic, Czech Republic

10. Enzyme-mediated surface functionalisation of stimuli-responsive microgels  
    Elisabeth Gau, DWI - Leibniz Institute for Interactive Materials, Germany

11. Self supporting Nanodiamond gels: Elucidating colloidal interactions through rheology  
    Anurodh Tripathi, North Carolina State University, USA

12. Ultralight, reusable biopolymer aerogels: Formation mechanisms to applications in selective fluid sorption and oil spill remediation  
    Anurodh Tripathi, North Carolina State University, USA