

## *Program*

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

July 10 - 14 2016  
Hernstein, Austria

### Conference Co-Chairs

**Dr. Samiul Amin**  
L'Oreal  
USA

**Professor Saad Khan**  
North Carolina State University  
USA



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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 <i>Super-soft and super-elastic dry gels</i>
5:15 pm- 5:45 pm	Erik van der Linden, Wageningen University, Netherlands <i>Designing mesostructures for food functionality</i>
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 Cipeletti, 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 coaverate 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 Srinu 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, Formulacion, 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: Srinu 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

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

## Poster Presentations List

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, Formulacion, 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