

Conference Program Diffusion Fundamentals V

Monday, August 26th, 2013

9:15 Welcome
 Matthias Schwarz (Vice-Rector for Research and Young Academics)
 Organizing Committee

Biophysics and Single Molecules

Chair: Gunter Schütz (Forschungszentrum Jülich, Germany)

9:30 Steve Granick (University of Illinois at Urbana-Champaign, USA)
 Surprises from Single-Particle Imaging of Passive and Active Diffusion

10:05 Akihiro Kusumi (Kyoto University, Japan)
 *Hypothesis of Unit Rafts as Organizers of the Meso-scale Domain Structure
 and Function in the Plasma Membrane*

10:40 Coffee Break

11:10 Thomas Schmidt (Leiden University, The Netherlands)
 How Diffusion might lead to Non-linear Response

11:45 Eli Barkai (Bar-Ilan University, Israel)
 Weak Ergodicity Breaking for Single Molecule Diffusion in the Cell

12:20 Lunch

Biophysics and Single Molecules

Chair: Marc-Olivier Coppins (University College London, UK)

14:00 Ilpo Vattulainen (Tampere University of Technology, Finland)
 *Diffusion Driving the Formation of Functional Nanoscale Machines
 in Cell Membranes*

Porous and Confined Systems

Chair: Marc-Olivier Coppins (University College London, UK)

14:35 Peter Reimann (Universität Bielefeld, Germany)
 Modeling DNA-Translocation through Nanopores: Two Case Studies

15:10 Matthias Fuchs (Universität Konstanz, Germany)
 Driven Motion of Colloids in Active Microrheology

15:45 Gerhard Schmid (Universität Augsburg, Germany)
 Diffusive Transport in Corrugated Channels

16:20 Coffee & Posters AI, B, C, D (Foyer)

18:45 Dinner (On Site)

Plenary Lecture

Chair: Jörg Kärgner (Universität Leipzig, Germany)

20:15 Cees Dekker (Delft University of Technology, The Netherlands)
 The Appeal of Single-Molecule and Single-Cell Studies

Tuesday, August 27th, 2013

Fluctuations, Optical Traps, Hot Colloids

Chair: Armin Bunde (Universität Gießen, Germany)

- 9:00 Ernst-Ludwig Florin (University of Texas at Austin, USA)
Seeing is Believing: Direct Visualization of Fluctuations in Biopolymer Networks with 3D Thermal Noise Imaging
- 9:35 Erik Schäffer (Universität Tübingen, Germany)
Hydrodynamic Resonance in Optical Traps & Friction of Molecular Machines
- 10:10 Debashish Chowdhury (Indian Institute of Technology, India)
First Passage Times: A Common Theme in the Kinetics of Macromolecular Motors
- 10:45 Coffee Break
- 11:15 Werner Köhler (Universität Bayreuth, Germany)
Hot Colloids in Polymer Networks: Cage Formation and Transient Network Deformation
- 11:50 Lunch & Posters AII, E, F (Foyer)

Excursion

- 14:30 Departure to the Monument to the Battle of the Nations
- 16:30 Concert at Alte Handelsbörse
- 18:00 Guided City Tour
- 19:00 Conference Dinner (Ratskeller Leipzig)

Wednesday, August 28th, 2013

Dynamics in Social and Animal Systems

Chair: Gero Vogl (Universität Wien, Austria)

9:00 Ingolf Kühn (Helmholtz Center for Environmental Research, Halle, Germany)
Drivers and Impacts of the Spread of Alien Species in Europe

9:35 Matthew Turner (University of Warwick, UK)
Dynamics in Social Fluids

10:10 Coffee Break

Active Brownian Motion

Chair: Michael Saxton (University of California, USA)

10:40 Clemens Bechinger (Universität Stuttgart, Germany)
Active Brownian Motion of Asymmetric Particles

11:15 Masaki Sano (The University of Tokyo, Japan)
Self-Organization Dynamics of Active Colloids

11:50 Best Poster Talks

12:30 Lunch

Active Brownian Motion

Chair: William S. Price (University of Western Sydney, Australia)

14:00 Paul Chaikin (New York University, USA)
Diffusion and Organization in Driven Particle Systems

14:35 Coffee Break

Diffusion in Material Science

Chair: Helmut Mehrer (Universität Münster, Germany)

15:05 Paul Heitjans (Universität Hannover, Germany)
Diffusion in Lithium Ion Conductors – From Fundamentals to Applications

15:40 Nicholaas Stolwijk (Universität Münster, Germany)
Ionic Transport and Pair Formation in Polymer Electrolytes

16:15 Friedrich Kremer (Universität Leipzig, Germany)
Glassy Dynamics of Polymers in Geometrical Confinement: From Nanometric Layers to Single Condensed Isolated Coils

16:35 Closing Remarks
Organizing Committee

17:30 Dinner (Bayerischer Bahnhof)