Program

Wednesday, September 5, 2012

11:45 – 12:45 **Registration and collection of workshop material**

12:45 – 12:55 *Rainer Erdmann, Berlin, Germany*
Opening Remarks

Session: Nanoscopy and Superresolution Microscopy Chair: Rainer Erdmann

12:55 – 13:25 *Mike Heilemann, Frankfurt, Germany* ***(Invited Paper)***
Quantitative Single Molecule Biology with Photoswitchable Fluorophores

13:25 – 13:45 *Peter Dedecker, Heverlee, Belgium*
Accessible superresolution imaging of living systems using pcSOFI

13:45 – 14:05 *Carsten Forthmann, Braunschweig, Germany (Student Award)*
DNA origami based fluorescence standards

14:05 – 14:25 *Robert Kasper, San Francisco, USA*
Probing the nuclear pore complex architecture by super-resolution microscopy

14:25 – 15:00 COFFEE BREAK

Session: Nanoscopy and Superresolution Microscopy Chair: Mike Heilemann

15:00 – 15:30 *Sohail Ahmed, Singapore* ***(Invited Paper)***
DNA Dependent Oct4 and Sox2 Complex Formation and Dynamics in Living Cells

15:30 – 15:50 *Stefan Geissbuehler, Lausanne, Switzerland (Student Award)*
Balanced Super-resolution Optical Fluctuation Imaging

15:50 – 16:10 *Satoshi Habuchi, Thuwal, Saudi Arabia*
Single-molecule view of exciton dynamics in nanomaterials

16:10 – 16:30 *Olaf Schulz, Göttingen, Germany*
Synchronized Confocal Fluorescence Microscopy and AFM: Optical and Topography Imaging with Nanometer Resolution

16:30 – 16:50 *Anja Huss, Göttingen, Germany (Student Award)*
SOFI of GABA-B neurotransmitter receptors in hippocampal neurons elucidates intracellular receptor trafficking and assembly

16:50 – 19:00 POSTER SESSION I

19:15 RECEPTION

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Thursday, September 6, 2012

Session: Material Sciences Chair: Sohail Ahmed

09:00 – 09:30 *Tetsuro Majima, Osaka, Japan* ***(Invited Paper)***
Single Molecule Imaging of TiO2 Photocatalytic Reactions

09:30 – 09:50 *Abderrazzak Douhal, Toledo, Spain*
Interrogating One Molecule Interacting with Silica-based Nanomaterials

09:50 – 10:10 *Phil Holzmeister, Braunschweig, Germany (Student Award)*
Fluorescence Enhancement by DNA-Directed Self-Assembled Nanoantennas

10:10 – 10:30 *Prasun Mandal, Paris, France*
Chemical Reactions on a Biological Template: One Molecule at a Time

10:30 – 11:05 COFFEE BREAK

Session: Methods and Techniques Chair: Tetsuro Majima

11:05 – 11:35 *Ulrich Nienhaus, Karlsruhe, Germany* ***(Invited Paper)***
Quantitative Fluorescence Microscopy of Nanoparticles Interacting with Proteins and Cells

11:35 – 11:55 *Anne Plochowietz, Oxford, UK (Student Award)*
Long-lived in vivo single-molecule fluorescence using electroporated biomolecules

11:55 – 12:15 *Kerstin Blank, Nijmegen, Netherlands*
Single Molecule Enzymology of α-Chymotrypsin

12:15 – 12:35 *Seamus Holden, Lausanne, Switzerland*
“Where am I?” - Using external phase contrast microscopy to establish an internal coordinate system for super-resolution microbiology

12:35 – 12:50 GROUP PICTURE

12:50 – 13:50 LUNCH

Session: Methods and Techniques Chair: Everett Lipman

13:50 – 14:20 *Edward Lemke, Heidelberg, Germany* ***(Invited Paper)***
Tools to decipher protein plasticity at the single molecule level

14:20 – 14:40 *Hans-Heiner Gorris, Regensburg, Germany*
Analyzing single enzyme molecules and single lipid vesicles in femtoliter arrays

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14:40 – 15:00 *Regina Jäger, Tübingen, Germany*
Imaging of photoinduced tautomerism in single molecules

15:00 – 15:35 COFFEE BREAK

Session: Methods and Techniques Chair: Edward Lemke

15:35 – 15:55 *Benedikt Krämer, Berlin, Germany*
Expanding the excitation range of confocal microscopy from UV to IR

15:55 – 16:15 *Bengt Erich Wunderlich, Zürich, Switzerland (Student Award)*
Microfluidic Mixing and Sorting for Single Molecule Detection

16:15 – 16:35 *Rachid Rezgui, Palaiseau, France*
Oriented NucS ssDNA Interaction Mechanism Kinetics Revealed by Single-Molecule Imaging

16:35 – 18:35 POSTER SESSION II

20:00 DINNER

Friday, September 7, 2012

Session: FRET Chair: Kankan Bhattachryya

09:00 – 09:30 *Everett Lipman, Santa Barbara, USA* ***(Invited Paper)***
Monitoring Biological Information Processing with Molecular Instrumentation

09:30 – 09:50 *Sarah Adio, Göttingen, Germany*
Translocation of single tRNAs through the ribosome followed by FRET

09:50 – 10:10 *Roman Tsukanov, Beer Sheva, Israel (Student Award)*
DNA Origami as a Template for Structural Dynamics Investigation of Biomolecules; DNA Hairpin Dynamics

10:10 – 10:30 *Matteo Gabba, Jülich, Germany (Student Award)*
Inter-Domain Dynamics of Phosphoglycerate Kinase from Yeast Studied by Single-Molecule FRET

10:30 – 11:05 COFFEE BREAK

Session: FRET and FCS Chair: Felix Koberling

11:05 – 11:25 *Veronika Mueller, Göttingen, Germany (Student Award)*
Scanning STED-FCS explores spatial heterogeneities in nanoscale membrane dynamics

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11:25 – 11:45 *Mathew Horrocks, Cambridge, UK (Student Award)*
Investigating the factors affecting the aggregation of α-Synuclein using single molecule fluorescence and fast flow microfluidics

11:45 – 12:05 *Dina Grohmann, Braunschweig, Germany*
Quantification of transcription factor action using single-molecule FRET

12:05 – 12:25 *Sigrid Milles, Heidelberg, Germany (Student Award)*
Nup153 in nuclear transport - plasticity of a highly flexible nucleoporin

12:25 – 12:45 *Mira Prior, Göttingen, Germany (Student Award)*
Single-molecule fluorescence spectroscopy of the structure and dynamics of the spliceosomal complex

12:45 – 13:55 LUNCH

Session: FRET and FCS Chair: Ulrich Nienhaus

13:55 – 14:25 *Kankan Bhattacharyya, Kolkata, India* ***(Invited Paper)***
Study of Protein, Vesicles and Ionic Liquids Using FCS

14:25 – 14:45 *Frank Schleifenbaum, Tübingen, Germany*
A FRET-based molecular-mechanical sensor to measure nanoscopic flow with high sensitivity

14:45 – 15:05 *Jelle Hendrix, München, Germany*
Fluorescence Fluctuation Imaging with Pulsed Interleaved Excitation: Application to the early steps of HIV assembly

15:05 – 15:25 *Stephane Broillet, Lausanne, Switzerland*
Optical Coherence Correlation Spectroscopy (OCCS)

15.25 – 15:45 *Ryan Rich, Fort Worth, USA*
Detection of hyaluronidase activity using fluorescein labeled hyaluronic acid and fluorescence correlation spectroscopy

15:45 – 15:55 *Rainer Erdmann, Berlin, Germany*
Presentation of “Student Award”

15:55 – 16:05 *Ulrich Nienhaus, Karlsruhe, Germany*
Concluding Remarks

16:05 End of Workshop