

# Scientific Program

IT: invited talk, CT: contributed talk

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## October 11, 2017 (Wednesday)

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14:30 Welcome address

14:40 IT1 ***Wide-Field TIR FCS: Uncovering the secrets of transient membrane binding***

P. Schwille (Max-Planck-Institute of Biochemistry, Martinsried)

15:30 CT1 ***Measurement of local pH in the vicinity of a polyelectrolyte chain by attached pH-dependent fluorescent indicator***

A. Murmiliuk, M. Štěpánek, M. Janata, K. Procházka

(Charles University, Prague, Czech Republic; Institute of Macromolecular Chemistry, Prague, Czech Republic)

15:50 CT2 ***Monitoring counterions around a polyelectrolyte chain: fluorescence quenching experiments, FCS and computer simulations***

J. Kubečka, J. Škvarla, J. Kuldová, F. Uhlík, P. Košovan, M. Štěpánek

(Charles University, Prague, Czech Republic)

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16:10-17:20 Poster session

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17:20 CT3 ***Distribution of diffusion times in fluorescence correlation spectroscopy***

P. Štěpánek, J. Pánek

(Institute of Macromolecular Chemistry, Prague, Czech Republic)

17:40 CT4 ***Polymer nanosystems in biological environment observed by FLCS and FLIM***

J. Pánek, O. Janoušková, E. Jäger, F. Giacomelli, O. Sedláček, M. Hrubý, P. Štěpánek

(Institute of Macromolecular Chemistry, Prague, Czech Republic; Universidade Federal do ABC, Santo André, Brazil)

18:00 CT5 ***Macromolecular HPMA-based nanoparticles with cholesterol for solid-tumor targeting: An investigation by fluorescence lifetime correlation spectroscopy in protein environment***

X. Zhang, B.-J. Niebuur, P. Chytil, T. Etrych, D. I. Svergun, S. K. Filippov, C. M. Papadakis

(Technische Universität München; Institute of Macromolecular Chemistry, Prague, Czech Republic; European Molecular Biology Laboratory, Hamburg)

18:20 CT6 ***Multi-species diffusion studies utilizing scanning FCS and super-resolution microscopy***  
M. Gonzalez Pisfil, M. König, B. Krämer, P. Reisch, F. Koberling,  
M. Sackrow, M. Patting, A. Herrmann, R. Erdmann  
(Picoquant, Berlin, Humboldt-Universität zu Berlin)

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20:00 Workshop Dinner

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## October 12, 2017 (Thursday)

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09:00 IT2 ***How FCS and FCCS give details about artificial organelles as novel solution for protein therapy?***  
C. G. Palivan, T. Einfalt, M. Garni (University of Basel)

09:50 CT7 ***Diffusion of proteins in bicontinuous microemulsions: controlled soft nano-confinement***  
O. Wrede, R. Neubauer, T. Hellweg (Universität Bielefeld)

10:10 CT8 ***Fluorescence cross-correlation spectroscopy for the investigation of liposome based multi-substance delivery systems***  
J. M. Hoffmann, C. E. Pinguet, A. A. Steinschulte, A. Sybachin, K. Rahimi,  
A. Yaroslavov, W. Richtering, F. A. Plamper, D. Wöll  
(RWTH Aachen University; M.V. Lomonosov Moscow State University;  
DWI-Leibniz-Institute for Interactive Materials, Aachen)

10:30 CT9 ***Translational and rotational dynamics of protein solutions at high concentrations***  
M. Ott (Martin-Luther-University Halle)

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10:50-11:20 Coffee break

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11:20 CT10 ***Molecular probe diffusion in thin polymer films well above the glass temperature: effect of interfaces on the mobility. A fluorescence correlation spectroscopy investigation***  
M. Hesami, W. Steffen, H.-J. Butt, G. Floudas, K. Koynov  
(Max-Planck Institute for Polymer Research, Mainz; University of Ioannina,  
Greece)

**11:40 CT11 *Protein adsorption on micro- and nano-crystalline diamond/ $\beta$ -SiC composite gradient films with time correlated single photon counting imaging***

S. I. Druzhinin, S. Handschuh-Wang, T. Wang, D. Wesner, X. Jiang, H. Schönherr (University of Siegen)

**12:00 IT3 *Single-molecule spectroscopy and FCS of intrinsically disordered proteins***

B. Schuler (University of Zurich, Switzerland)

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**12:50-13:00 Closing remarks**

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## List of Posters

***P1 - Modifying the dynamic behavior of charged microemulsion droplets by admixing polyelectrolytes***

Miriam Simon, Laurence Noirez, Ingo Hoffmann, Michael Gradzielski (Technische Universität Berlin; Laboratoire Léon Brillouin (LLB), Saclay, France; Institut Laue-Langevin (ILL), Grenoble, France)

***P2 - Direct monitoring of drug nanocarriers in human blood by near-infrared fluorescence correlation spectroscopy (NIR-FCS)***

Inka Negwer, Andreas Best, Meike Schinnerer, Manfred Schmidt, Volker Mailänder, Mark Helm, Hans-Jürgen Butt, Kaloian Koynov (Max Planck Institute for Polymer Research, Mainz; Johannes Gutenberg University, Mainz)

***P3 - Fluorescence correlation spectroscopy studies of nanocarrier-based drug delivery systems***

Jennifer Schultze, Inka Negwer, Hans-Jürgen Butt, Kaloian Koynov (Max Planck Institute for Polymer Research, Mainz; Johannes Gutenberg University, Mainz)

***P4 - Influence of molecular characteristics on the critical micellar concentration of amphiphilic HPMA-based polymer drug carriers***

Bart-Jan Niebuur, Natalya S. Vishnevetskaya, Eva Koziolová, Ekaterina A. Lomkova, Petr Chytil, Tomas Etrych, Sergey K. Filippov, Christine M. Papadakis (Technische Universität München, Garching; Institute of Macromolecular Chemistry, Czech Academy of Sciences, Prague, Czech Republic)