

9th Carl Zeiss Sponsored Workshop on Fluorescence Correlation Spectroscopy and Related Methods

December 4-6 2006 in Stockholm

Monday, December 4

- 8.45-13.30 **Registration**
- 9.15-12.00 **Tutorial lectures** (in lecture hall FB52)
- 9.15-10.00 Jerker Widengren (Stockholm, Sweden)
Fundamentals of Fluorescence and FCS
- 10.00-10.30 **Break**
- 10.30-11.15 Theo Lasser (Lausanne, Switzerland)
Optical Aspects and Detectors in FCS and Related Methods
- 11.15-12.00 Claus Seidel (Düsseldorf, Germany)
Introduction to Single Molecule Spectroscopy
- 13.20-15.30 **Workshop session I** Chair: Jerker Widengren (Stockholm, Sweden)
(all workshop sessions are in FR4, Oscar Klein lecture hall)
- 13.20-13.30 Jerker Widengren (Stockholm, Sweden)
Introduction
- 13.30-14.10 Masataka Kinjo (Sapporo, Japan)
*Analysis of Protein Dynamics in the Cell Nucleus with
Fluorescence Correlation Spectroscopy*
- 14.10-14.50 Yves Engelborghs (Leuven, Belgium)
*Dynamics and Interactions of Proteins in Living Cells Measured by
Fluorescence Correlation Spectroscopy*
- 14.50-15.30 Antonie Visser (Wageningen, Holland)
Studies of Protein Dynamics with Fluorescence Correlation Spectroscopy
- 15.30-15.50 **Break**

- 15.50-17.10 **Workshop session II** Chair: Claus Seidel (Düsseldorf, Germany)
- 15.50-16.30 Johan Hofkens (Leuven, Belgium)
Single Molecule Enzymatics
- 16.30-17.10 Joerg Enderlein (Jülich, Germany)
Monitoring of Small Conformational Changes by High-Precision Measurements of Hydrodynamic Radius with 2-focus Fluorescence Correlation Spectroscopy (2fFCS)
- 17.10-17.40 **Break**
- 17.40-19.00 **Workshop session III** Chair: Per Thyberg (Stockholm, Sweden)
- 17.40-18.20 Hervé Rigneault (Carl Zeiss' invited speaker, Marseille, France)
FCS Diffusion Laws Explore the Submicron Organization of Live Cell Membranes
- 18.20-18.40 Christian Eggeling (Göttingen, Germany)
Increasing the Signal in Fluorescence Microscopy Through Dark-State Relaxation
- 18.40-19.00 Eva Birkmann (Düsseldorf, Germany)
Surface-FIDA
- 19.00-19.20 Håkan Karlsson (Stockholm, Sweden)
Novel Solid State Laser Technology for Confocal Microscopy and FCS

Tuesday, December 5

- 9.00-10.20 **Workshop session IV** Chair: Theo Lasser (Lausanne, Switzerland)
- 9.00-9.40 Michel Orrit (Leiden, Holland)
Probing Local Elasticity and Visco-Elasticity with Single Nano-Objects
- 9.40-10.20 Claus Seidel (Düsseldorf, Germany)
Biomolecular Function Studied by full Correlation and Multiparameter Fluorescence Spectroscopy
- 10.20-10.40 **Break**

- 10.40-12.00 **Workshop session V** Chair: Per Thyberg (Stockholm, Sweden)
- 10.40-11.20 Jean-Manuel Segura (Lausanne, Switzerland)
Investigating Cell Signalling down to the Single-Molecule Level
- 11.20-11.40 Rainer Erdmann (Berlin, Germany)
*Time-Resolved Confocal Fluorescence Microscopy:
Novel Technical Features and Applications for FLIM, FRET and FCS*
- 11.40-12.00 Tor Sandén (Stockholm, Sweden)
*Triplet State Kinetics Determined from the Time-Averaged Fluorescence
by Modulated Excitation*
- 12.00-13.30 **Lunch Break**
- 13.30-15.20 **Workshop session VI** Chair: Hans Blom (Stockholm, Sweden)
- 13.30-14.10 Markus Sauer (Bielefeld, Germany)
Probing Fast Conformational Dynamics of Biomolecules at the Single-Molecule Level
- 14.10-14.50 Elke Haustein (Dresden, Germany)
Single-Molecule Fluorescence Studies to Highlight Protein Function
- 14.50-15.20 Rudolf Rigler (Stockholm, Sweden)
Single Molecule Imaging and Dynamics in Single Cells
- 15.20-15.40 **Break**
- 15.40-17.00 **Workshop session VII** Chair: Pekka Hänninen (Turku, Finland)
- 15.40-16.20 Antoine Delon (Grenoble, France)
*Transport, Compartmentation and Photobleaching :
from Physical models to living cells*
- 16.20-17.00 Theo Lasser (Lausanne, Switzerland)
*Single Molecule Detection at Surfaces: Dual-color Fluorescence Fluctuation
Spectroscopy with Total Internal Reflection Excitation*
- 17.00-18.50 **Poster session**
- 18.50-19.15 **Bus Transport to the Vasa Museum**
- 19.15-23.00 **Guided Tour and Workshop Dinner at the Vasa Museum**

Wednesday, December 6

- 9.00-10.20 **Workshop session VIII** Chair: Karl-Heinz Drexhage (Siegen, Germany)
- 9.00-9.40 Oleg Krichevsky (Beer-Sheva, Israel)
Conformational Dynamics of DNA and Actin Polymers
- 9.40-10.20 Pekka Hänninen (Turku, Finland)
Ultrasensitive Detection of Biomolecular Interactions by Two-Photon Excitation of Fluorescence - from Research to Routine Diagnostics
- 10.20-10.40 **Break**
- 10.40-12.00 **Workshop session IX** Chair: Stefan Hell (Göttingen, Germany)
- 10.40-11.20 Karl-Heinz Drexhage (Siegen, Germany)
Structure of Fluorescent Molecules
- 11.20-11.40 Jérôme Wenger (Marseille, France)
All the Things you can do Combining Fluorescence Correlation Spectroscopy with Nanometric Apertures
- 11.40-12.00 Marina Hugot-Beaufils (Basel, Switzerland)
Genom-Wide Detection of DNA Binding Sites of Antennapedia Homeodomain using Fluorescence Correlation Spectroscopy
- 12.00-13.30 **Lunch Break**
- 13.30-14.30 **Workshop session X** Chair: Jerker Widengren (Stockholm, Sweden)
- 13.30-14.20 Stefan Hell (Göttingen, Germany)
*Fluorescence Nanoscopy:
Macromolecular Scale Resolution with Visible Focused Light*
- 14.20-14.30 **Concluding Discussions**