# Workshop EU FP 7: Molecular Imaging of Cellular Nanostructure

## March 29 - 30, 2007

### Kirchhoff-Institute of Physics, University Heidelberg

# Program

#### Thursday, 29th

13 h Opening Prof. Cremer

#### Nanoscopy I

13.15 h	High Resolution Microscopy: Structured Illumination and Pointillism Rainer Heintzmann, London		
14 h	Single molecule and fluorescence correlation spectroscopy for studying chromatin dynamics		
	Jörg Langowski, Heidelberg		
14.30 h	Light-sheet based fluorescence microscopy (SPIM) supports a modern approach to a three-dimensional cell-biology		
	Ernst H. K. Stelzer, Heidelberg		
15 h	Coffee Break/Posters		
Tools for Nanoimaging (e.g. Molecular Labelling)			
15.30 h	The microRNA, miR-206, is present in both the nucleolus and the cytoplasm of		
	Joan Politz, Worces		
16.15h	Fine organization of rDNA in mammalian chromosomes as observed by FISH Olga Zatsepina, Moskau		
16.45h	Spatially resolved imaging of enzyme-substrate complexes Carsten Schultz, Heidelberg		
17.15 h	Molecular mechanism of reversibly switchable fluorescent proteins Stefan Jakobs, Göttingen		

17.45 h	Real-Time Microscopy of mRNA Splicing	M. Carmo-Fonseca, Lisboa

19 h Dinner

# Friday, 30th

## Nanoscopy II

9 h	Nanoscale Imaging of Protein Distributions in Living Cells by Fluorescence Photo-Activation Localization Microscopy (FPALM)		
	Sam Hess, Orono/ME		
9.45 h	Practical Aspects of 4Pi Microscopy Johann Engelhardt, Heidelberg		
10.15 h	SMI Nanostructure Analysis of Gene Domains and Protein Complexes Udo Birk, London/Heidelberg		
10.40 h	4 Pi microscopy – how to make the most of imperfect data David Baddeley, Heidelberg		
11.05	Coffee break/Posters		
In Vivo Imaging Technologies			
11.35 h	Coherent Phase Microscopy: Real-time diagnosis of the live cell functional states		
	Vladimir Tychinsky, Moskau		
12 h	The role of cytoskeletal networks in plasmid DNA intracellular trafficking toward the cell nucleus and intranuclear movement of plasmid DNA Vladan Ondrej, Brno		
12.25 h	Observation of Microheterogeneities on Nanometer Scale in Cellular Membrane via Z-scan Fluorescence Correlation Spectroscopy Jana Humpolickova, Praha		
12.50 h	Lunch (Restaurant Fritz/DKFZ Cafeteria)		
14.00 h	Non-invasive detection of cell fate decisions at the single cell level Timm Schröder, München		
14.25 h	Nanoimaging of the PML nuclear protein complex in living cells Peter Hemmerich, Jena		

14.50 h Imaging, modelling and manipulating regulatory networks in living cells Bernard Vandenbunder, Lille

15.15 Coffee Break

#### 15.30 h -18 h

#### **Discussion forum: Funding opportunities (EU-FP7)**

(please confirm your participation for this part)

Opening remarks: Prof. Cremer, Heidelberg/Prof. Gadella; Amsterdam

Round tables: Nanoscopy, Molecular Labelling, In vivo technology

General discussion