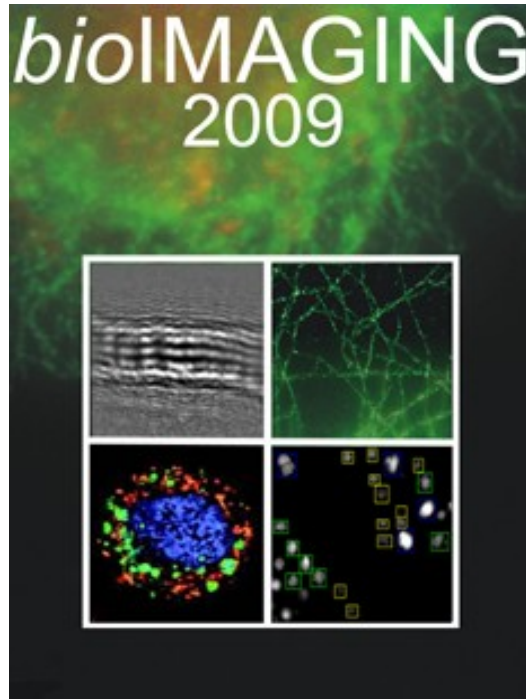


## 4<sup>th</sup> CeBiTec Symposium



August 25<sup>th</sup> to 27<sup>th</sup>, 2009

### Organization:

Center for Interdisciplinary Research (ZiF)  
Prof. Dr. A. Götzhäuser  
Prof. Dr. T. Nattkemper  
Prof. Dr. K. Niehaus  
Prof. Dr. A. Pühler  
Prof. Dr. M. Sauer

### Location:

Center for Interdisciplinary Research (ZiF, Bielefeld University)  
Wellenberg 1  
D - 33615 Bielefeld  
<http://www.uni-bielefeld.de/ZiF/>

<http://www.cebitec.uni-bielefeld.de>

# Program

**Tuesday, August 25<sup>th</sup> 2009**

14:00      *Registration*

## Opening Session

**Chair:**      **Alfred Pühler**

15:00      Welcome address

15:15      **Wolfgang Baumeister** (MPI Martinsried)  
Cryoelectron microscopy: from molecules to systems

16:00      **Stefan Hell** (MPI Göttingen)  
Far-field optical nanoscopy

16:45      *Tea & biscuits*

17:15      **Chris Haws** (Oxford Brookes University, UK)  
Live cell imaging to explore plant secretory pathway dynamics

18:00      **Walter Schubert** (Universität Magdeburg)  
Toponome imaging microscopy MELC/TIS in cell biology and translational medicine

19:30      *Vernissage Carl Strüwe, "Weiß über Grau schwebend", mikrophographies 1926, curator: Gottfried Jäger, Bielefeld University library (level C1)*

20:30      *Conference Dinner for speakers, registered participants and industry attendees (Westend Restaurant, Bielefeld University)*

**Wednesday, August 26<sup>th</sup> 2009**

## Beyond optical microscopy

**Chair:**      **Armin Gölzhäuser**

9:00      **Tim Salditt** (Universität Göttingen)  
Biological imaging with coherent x-rays: lense-less approaches to high resolution

9:40      **Ivan Vartanians** (DESY Hamburg)  
Imaging of biological samples with coherent x-rays

10:20      *Tea & Biscuits*

10:50      **Axel Rosenhahn** (Universität Heidelberg)  
Digital in-line holographic microscopy of biological samples

- 11:30 **Daniel S. Pickard** (National University of Singapore, SG)  
Bioimaging and nanomanipulation with the helium ion microscope
- 12:00 **Larry Scipioni** (Carl Zeiss, USA)  
Imaging studies of biocompatible materials

12:40 *Lunch*

### **High resolution microscopy in biology**

**Chair: Markus Sauer**

14:00 **Virgile Adam** (KU Leuven, B)  
IrisFP: a promising new type of photoactivatable fluorescent biomarker for nanoscopy

14:40 **Christian Eggeling** (MPI Göttingen)  
STED microscopy reveals nanoscale details of membrane dynamics

15:20 *Tea & Biscuits*

15:50 **Jan Vogelsang** (LMU München)  
Make them blink: Photophysics for superresolution

16:30 **Jörg Enderlein** (Universität Göttingen)  
Breaking the diffraction limit with dynamic saturation optical microscopy

17:10 **Sebastian van de Linde** (Universität Bielefeld)  
Super-resolution imaging with small organic fluorophores

17:35 *Tea & Biscuits & Poster session*

### **Presentations by companies**

18:15 **Martin Hoppe** (Leica Microsystems)  
Macro to Nano - Recent Innovations in Confocal Microscopy

18:40 **Michael Schweitzer** (Carl Zeiss)  
Brain mapping: Image & Reconstruct solutions from Carl Zeiss

19:05 **Gerd Emde** (Roche Innovatis)  
Cellavista - Cellular Analysis in Microplates

19:30 **Bernd Müller-Zülow** (LaVision BioTec)  
Modular Multiphoton Microscopy

19:55 **Matthias Rommeswinkel** (Olympus)  
Cytometry meets live cell dynamics: Image acquisition and data analysis with the Olympus research screening system scan<sup>^</sup>R

20:20 **Corinna Poetzsch** (Olympus)  
Confocal imaging - from spinning discs to multi photon systems

20:45 *Dinner at the ZiF*

**Thursday, August 27th 2009**

**From life cell imaging to systems biology**

**Chair: Karsten Niehaus**

- 9:00 **Ernst Stelzer** (EMBL Heidelberg)  
Light sheet based fluorescence microscopy (LSFM, SPIM, DSLM) reduce phototoxic effects by several orders of magnitude
- 9:40 **Thomas Walter** (EMBL Heidelberg)  
Automatic identification and clustering of chromosome phenotypes in the context of high-throughput screening by time-lapse microscopy
- 10:20 *Tea & Biscuits & Poster session*
- 10:50 **Theodorus Gadella** (Swamerdamm Institut, Amsterdam, NL)  
Imaging signalling across the plasmamembrane with genetic encoded fluorescent biosensors
- 11:30 **Jan Regtmeier** (Universität Bielefeld)  
Space- and time-resolved protein dynamics in single bacteria cells observed on a chip
- 11:55 **Nickels Jensen** (Universität Bielefeld)  
High content analysis of living cells to identify and characterise the cytotoxicity of bacterial extracts
- 12:20 **Thorsten Seidel** (Universität Bielefeld)  
Visualization of protein complex formation by *in vivo*/FRET
- 12:45 *Lunch*

**Bioimaging informatics**

**Chair: Tim Nattkemper**

- 14:00 **Jason Swedlow** (University of Dundee, UK)  
The open microscopy environment: informatics and quantitative analysis for biological microscopy
- 14:40 **Luis Pedro Coelho** (University of Pittsburgh, USA)  
Proteome-scale analysis and modeling of subcellular location
- 15:20 *Tea & Biscuits & Poster session*
- 15:50 **Peter Serocka** (Max Planck Partner Institut, Shanghai, RC)  
Visual and statistical analysis tools for multivariate image data
- 16:30 **Sebastian Burgemeister** (Universität Bielefeld)  
Cell detection and viability classification of animal cell cultures in dark field micrographs
- 17:10 **Julia Herold** (Universität Bielefeld)  
Segmentation based exploration of multivariate fluorescence microscopy data from tissue samples
- 17:40 Concluding remarks