

# Summer School Advanced Optical Microscopy

Berlin | October 4-5, 2018

## International Symposium and Live Technology Presentations

- **International Symposium on Recent Advances and Trends in Optical Microscopy**
- **Microscope Live Demos and Hands-on Sessions**
- **Poster Awards**

### Devices available for live demos and hands-on sessions:

Abberior STEDYCON  
Leica Light Sheet  
Leica SP8 confocal  
Olympus Spinning Disc IXplore SpinSR10  
Zeiss LSM880 with airy scan  
Zeiss Lightsheet Z.1

### Program Committee (Freie Universität Berlin):

Helge Ewers (Membrane Biochemistry)  
Rainer Haag (Organic and Macromolecular Chemistry)  
Robin Hiesinger (Neurobiology)  
Stephan Sigrist (Genetics)

### Venue:

Freie Universität Berlin  
Institute of Chemistry and Biochemistry  
Core Facility BioSupraMol | Optical Microscopy Unit  
Takustr. 6 | 14195 Berlin

[www.biosupramol.de](http://www.biosupramol.de)

Organization: Katharina Achazi (k.achazi@fu-berlin.de)  
Registration: Katharina Tebel (k.tebel@fu-berlin.de)

### Thursday October 04, 2018

08:00 Registration (Foyer, Takustr. 6, Freie Universität Berlin)  
08:30-08:40 Welcome and opening remarks (Rainer Haag)  
**1st session: Time-lapse microscopy (chair: Stephan Sigrist)**  
08:40-09:15 Caren Norden (MPI of Molecular Cell Biology and Genetics, Dresden), *Making the retina: In vivo imaging of how cells get to the right place at the right time*  
09:15-09:50 Robin Hiesinger (Neurobiology, Freie Universität Berlin), *Brain wiring on the fly*  
09:50-10:10 Coffee break  
**2nd session: Super resolution microscopy (chair: Helge Ewers)**  
10:10-10:45 Alf Honigmann (MPI of Molecular Cell Biology and Genetics, Dresden), *STED microscopy and its combination with FCS*  
10:45-11:20 Jan Schmoranz (Core Facility AMBIO, Charité – Universitätsmedizin Berlin), *Super-resolution (SIM, STORM) in cell and neurobiology*  
11:20-11:55 Stephan Sigrist (Genetics, Freie Universität Berlin), *Nanometer scale protein architectures in the control of synapse plasticity and diversity - A tale from the "meso-world"*  
11:55-13:10 Lunch buffet and poster-session  
**3rd session: Technology trends in optical microscopy**  
13:10-13:45 Andreas Lutter (Carl Zeiss Microscopy GmbH, Jena), *New considerations in confocal imaging*  
13:45-14:20 Karl-Heinz Koertje (Leica Microsystems GmbH, Wetzlar), *New developments in multiphoton and FLIM imaging techniques: Leica TCS SP8 DIVE and FALCON*  
14:20-14:55 Ines Höfer (Olympus Deutschland GmbH, Hamburg), *Happy cells make happy scientists - Confocal superresolution for Live Cell Samples with the new Olympus Spin SR*  
14:55-15:30 Matthias Reuss (Abberior Instruments GmbH, Heidelberg), *STED nanoscopy and beyond: Breaking more barriers*  
15:30-15:45 Coffee break  
15:45-18:45 Live demos by external application specialists (Abberior, Leica, Olympus, Zeiss)  
19:00 Speakers dinner

### Friday October 05, 2018

**4th session: Single molecule microscopy (chair: Robin Hiesinger)**  
08:30-09:05 Marko Lampe (Advanced Light Microscopy Facility, EMBL Heidelberg), *Single molecule localization microscopy: Principles and integration into an imaging core facility*  
09:05-09:40 Helge Ewers (Membrane Biochemistry, Freie Universität Berlin), *Expansion STED Microscopy*  
09:40-10:30 Coffee break and poster-session  
10:30-11:05 Stephan Block (Bionanointerfaces, Freie Universität Berlin), *Probing complex interactions using optofluidic approaches*  
11:05-11:40 Johannes Hohlbein (Biophysics, Wageningen University, Wageningen, NL), *From monitoring DNA polymerases in vitro to target search of CRISPR-Cas in vivo*  
11:40-12:00 Poster awards and closing remarks (Rainer Haag)  
13:00-18:00 Hands-on sessions and live demos by local and external application specialists (Core Facility BioSupraMol, Abberior, Leica, Olympus, Zeiss)