ICON EUROPE 2016

INTERNATIONAL CONFERENCE ON NANOSCOPY

7 – 10 June 2016, Biozentrum, University of Basel, Switzerland

Local Organizing Committee

Oliver Biehlmaier Imaging Core Facility, Biozentrum, University of Basel, Switzerland
Henning Stahlberg Center for Cellular Imaging and NanoAnalytics, University of Basel, Switzerland
Gregor Drummen Bioimaging and Bionanoscience Program/BNS, Germany
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Suliana Manley Laboratory of Experimental Biophysics, EPFL, Switzerland
Thomas Huser Biomolecular Photonics, University of Bielefeld, Germany
Edoardo Charbon Dept. of Microelectronics, Delft University of Technology, the Netherlands

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University of Basel
BIOZENTRUM The Center for Molecular Life Sciences
BIO&NANO SOLUTIONS

DAY 1 (TUESDAY, 7 JUNE 2016)

12.00–18.00	Registration (Entrance Hall)
	Opening Conference
15.00–15.15	Welcome Address, Organizing Committee
	Session 1 (SIM) – Chair: Erik Manders Univ. of Amsterdam, the Netherlands
15.15–15.45	Lothar Schermelleh Department of Biochemistry, University of Oxford, UK Functional chromatin organisation studied by multimodal & multidimensional super-resolution imaging
15.45–16.15	Rainer Heintzmann Institute of Physical Chemistry, University of Jena, Germany Principles of structured illumination microscopy
16.15–16.30	Gitta Hamel Company Presentation SVI Advances in Huygens STED and light-sheet deconvolution
16.30–17.00	Coffee/Tea Break
17.00–17.30	Poster Blitz (5min Flash Presentations): Hendrik Deschout SOFI complements PALM for super-resolution live cell imaging of focal adhesions Øystein Ivar Helle Integrated optical nanoscopy Marcel Müller fairSIM – open-source SR-SIM reconstruction in ImageJ/FIJI Raquel Ortega Imaging photon camera with high spatiotemporal resolution Toby Bell Single molecule super-resolution imaging of microtubules in cells expressing Rabies virus proteins
17.30–18.00	Edoardo Charbon TU Delft, the Netherlands All-digital, single-photon image sensors for microscopy and biomedical applications
18.00–18.30	Thomas Huser Department of Physics, University of Bielefeld, Germany Extending super-resolution optical microscopy beyond fluorescence
18.30–19.30	Keynote Lecture Markus Sauer Department of Biotechnology and Biophysics, University of Würzburg, Germany Super-resolution imaging by *d*STORM
19.30–21.45	**Poster Session, Welcome Reception**

DAY 2 (WEDNESDAY, 8 JUNE 2016)

08.00–10.00 Registration (Entrance Hall)

Session 2a (PALM/STORM) – Chair: Suliana Manley EPFL, Switzerland

09.00–09.30 Adriaan Houtsmuller Erasmus MC, the Netherlands
DNA double strand break repair and cell migration investigated by structured illumination and single molecule localization assays

09.30–10.00 Jonas Ries EMBL, Germany
Towards structural cell biology with super-resolution microscopy

10.00–10.30 Coffee/Tea Break

Session 2b (PALM/STORM) – Chair: Suliana Manley EPFL, Switzerland

10.30–10.50 Kristoffer Bernhem Applied Physics, KTH Royal Institute of Technology, Sweden
Quantifying transfection artefacts using PALM/STORM and gene editing

10.50–11.10 Alexey Chizhik Institute of Physics, University of Göttingen, Germany
Is there fluorescence after photo-bleaching?

11.10–11.30 Prabuddha Sengupta Janelia Research Campus, Howard Hughes Medical Institute, USA
Cargo mediated regulation of clathrin mediated endocytosis

11.30–12.30 Podium Discussion 1:
PROs & CONs of super-resolution systems (SIM, STED, PALM/STORM)
Are biomedical applications of super-resolution microscopy feasible and when?
Moderator: Peter McCourt University of Tromsø, Norway
Discussants: Lothar Schermelleh University of Oxford, UK, Katrin Willig MPI Göttingen, Germany, Markus Sauer University of Würzburg, Germany

12.30–14.15 Lunch Break sponsored by ZEISS/Arivis, **Poster Session**

14.15–14.30 Uroš Kržič Company Presentation ZEISS
Airyscan goes fast: an innovative use of the unique confocal detector enables high frame-rate imaging with unparalleled image quality

Session 3a (PALM/STORM) – Chair: Jonas Ries EMBL, Germany

14.30–15.10 Poster Blitz (5min Flash Presentations):
Mikhail Alekhin X-ray imaging based on STED nanoscopy
Jacopo Antonello Axial accuracy in single molecule localisation microscopy
Deanna Wolfson Nanoscale dynamics of liver sinusoidal endothelial cells
Helge Ewers Nanoscopic compartmentalization of membrane protein motion at the axon initial segment
Peter McCourt Using structured illumination microscopy to image disruption of liver sinusoidal endothelial cell morphology by oxidized low–density lipoproteins
Max B. Scheible A new type of fluorescence beads for super–resolution microscopy

15.10–15.30 Daniel Gutierrez D-BSSE, ETH Zürich, Switzerland
4D multichannel confocal imaging microscopy of phagocytosis of tumour cells in combination with analytic algorithms allows exploring the mode of action of glycoengineered antibodies

15.30–15.50 James D. Manton
Department of Chemical Engineering and Biotechnology, University of Cambridge, UK
Ellipsoid localisation microscopy infers the size and order of protein layers in *Bacillus* spore coats

15.50–16.10 Isabelle A. Spühler Physics & Biology, University of Fribourg, Switzerland
Super resolution imaging of genetically labelled synapses in *Drosophila* brain tissue

16.10–16.45 Coffee/Tea Break

Session 3b (PALM/STORM) – Chair: Jonas Ries EMBL, Germany

16.45–17.15 Sjoerd Stallinga Department of Imaging Physics, TU Delft, the Netherlands
Computational methods in optical nanoscopy

17.15–17.35 Viola Mönkemöller Department of Physics, University of Bielefeld, Germany
Multimodal nanoscopy reveals unique structural dynamics of liver endothelial cells

17.45–18.45 Keynote Lecture
Eric Betzig Janelia Research Campus, Howard Hughes Medical Institute, USA
Increasing the spatiotemporal information content of super-resolution microscopy

19.15–20.15 Social Event (Basel tour if booked)
Start: entrance Pharmazentrum, End: Market Place (city center)

DAY 3 (THURSDAY, 9 JUNE 2016)

08.00–10.00 Registration (Entrance Hall)

Session 4a (STED/RESOLFT) – Chair: Ilaria Testa KTH, Sweden

09.00–09.30 Joerg Bewersdorf Department of Cell Biology, Yale University, USA
Live-cell microscopy beyond the diffraction limit

09.30–10.00 Katrin Willig MPI Göttingen, Germany
STED microscopy of the living mouse brain

10.00–10.30 Christian Eggeling Weatherall of Molecular Medicine, University of Oxford, UK
Super-resolution optical microscopy in biomedical research: new insights and remaining tasks

10.30–11.00 Coffee/Tea Break

Session 4b (STED/RESOLFT) – Chair: Ilaria Testa KTH, Sweden

11.00–11.20 Silvia Galiani Weatherall of Molecular Medicine, University of Oxford, UK
Super resolution STED microscopy reveals distinct compartmentalization of membrane proteins involved in the peroxisomal import process

11.20–11.40 Olaf Schulz PicoQuant, Germany
ns-Time resolution for multispecies STED-FLIM and artifact-free STED-FCS

11.40–12.00 Philip Tinnefeld BRICS, TU Braunschweig, Germany
Quantifying nanoscopy in bioimaging and in a single-molecule mirage

12.00–13.00 Podium Discussion 2:
Pitfalls in live-cell super-resolution microscopy (and probably in SR in general)
Moderator: Wolfgang Hübner University of Bielefeld, Germany
Discussants: Alexia Ferrand University of Basel, Switzerland, Jonas Ries EMBL, Germany, Christian Eggeling University of Oxford, UK

13.00–14.00 Lunch Break

14.00–14.15 Manuel Kradolfer Company Presentation Nikon
Nikon super-resolution systems

Session 5a (SIM/PAINT) – Chair: Thomas Huser Univ. of Bielefeld, Germany

14.15–14.40 Poster Blitz (5min Flash Presentations):
Dominik Wöll Fluorescent diarylethenes as photoswitches for PALM in polymer systems
Andreas Vargas Jentzsch Imaging nanostructures by photo-activation localization microscopy in organic solvents
Kwasi Kwakwa Low-cost TIRF and STORM microscopy with multimode laser excitation
Amy Davies Optimising fluorophore performance in single molecule localisation microscopy using novel SPAD imagers

14.40–15.00 Sara Abrahamsson The Rockefeller University, USA
Increasing the speed of 3D nanoscopy with multifocus optics

15.00–15.20 Michael Natan Ultivue Inc., USA
High-definition biological imaging using DNA PAINT

15.20–15.50 Peter Graumann SYNMIKRO, University of Marburg, Germany
Understanding protein dynamics within the membrane, cytosol and on the chromosome in a model bacterium, *Bacillus subtilis*

15.50–16.15 Coffee/Tea Break

Session 5b (RESOLFT) – Chair: Thomas Huser Univ. of Bielefeld, Germany

16.15–16.45 Ilaria Testa KTH Royal Institute of Technology, Sweden
RESOLFT nanoscopy: applications for the life science

16.45–17.30 Keynote Lecture
Suliana Manley Laboratory of Exp. Biophysics, EPFL, Switzerland
Expanding horizons with high-throughput super-resolution microscopy

17.30–17.45 Conference Photo

17.45–19.00 **Poster Session**

20.00–23.00 Conference Dinner
Safranzunft, Gerbergasse 11, Basel
www.safran-zunft.ch

DAY 4 (FRIDAY, 10 JUNE 2016)

08.00–10.00	Registration (Entrance Hall)
	Session 6a – Chair: Katrin Willig MPI Göttingen, Germany
09.00–09.30	Ingo Gregor Biophysics, University of Göttingen, Germany Image scanning microscopy and metal induced energy transfer
09.30–10.00	Erik Manders University of Amsterdam, the Netherlands Re-scan confocal microscopy for improved resolution and higher sensitivity; characterization and applications in biology
10.00–10.30	Coffee/Tea Break
10.30–11.30	Podium Discussion 3: New techniques in super-resolution microscopy: Which ones are ready to use or worth a try? Moderator: Rainer Heintzmann University of Jena, Germany Discussants: Prabuddha Sengupta Janelia Campus, USA, Thomas Huser University of Bielefeld, Germany, Suliana Manley EPFL, Switzerland
	Session 6b – Chair: Katrin Willig MPI Göttingen, Germany
11.30–12.00	Martin Booth CNCB, University of Oxford, UK Adaptive optics for nanoscopy of thick specimens
12.00–12.30	Oliver Biehlmaier Imaging Core Facility, Biozentrum, University of Basel, Switzerland SIM, Airyscan, or "just" confocal with deconvolution? Which high resolution technique fits which sample?
	Closing Conference
12.30–13.00	Poster Prize Closing and introduction ICON 2018
13.00	Take away Lunch

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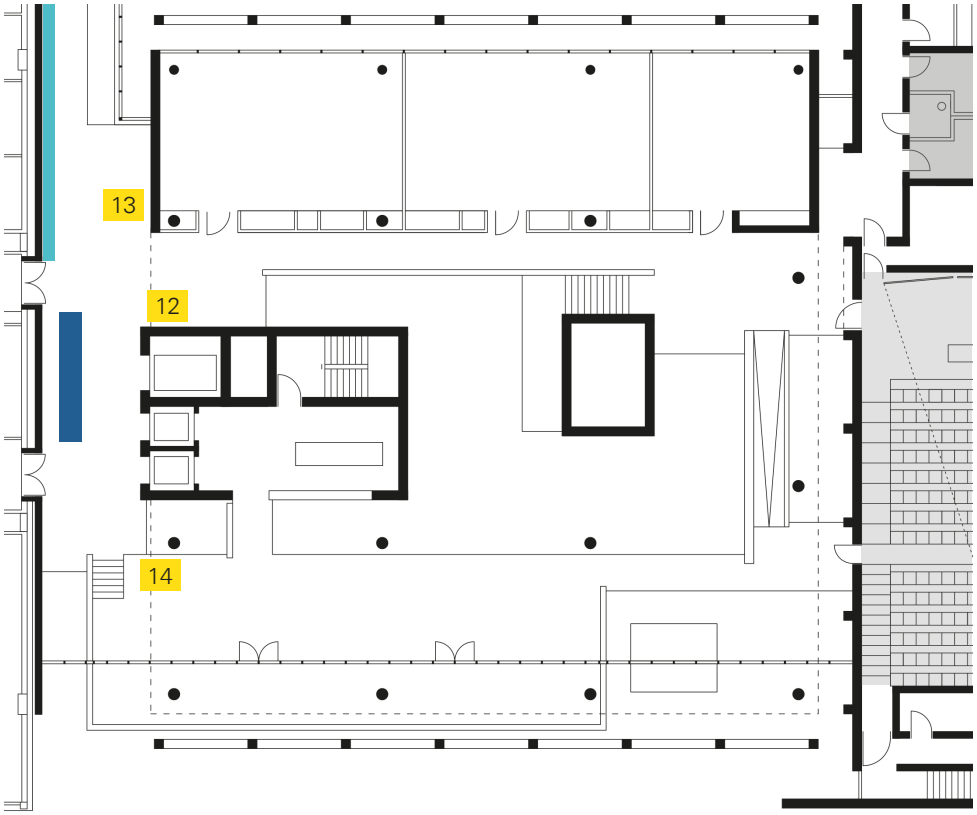

Exhibitors

- 01 ibidi
- 02 Leica
- 03 GE
- 04 PicoQuant
- 05 Toptica Photonics
- 06 Mad City Labs
- 07 Chroma Technology
- 08 ChromoTek
- 09 PCO
- 10 Onefive
- 11 Huygens SVI
- 12 NKT Potonics GmbH
- 13 Goryo Chemical
- 14 Zeiss & arivis AG (temporary)

- Reception
- Catering
- Posterboards
- Restroom
- Lecture Hall 1

LOCAL ORGANIZING COMMITTEE

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