

---

**Wednesday 09 October 2019**


---

10:00 - 10:45	<b>Registration for Industry Workshops and Symposium</b> ATC Registration Desk	
10:45 - 11:45	<b>Concurrent Industry Workshops (Registration for Symposium continues)</b> ATC Registration Desk	
11:45 - 12:15	<b>Registration for Symposium</b> ATC Registration Desk	
12:15 - 12:30	<b>Opening remarks</b> ATC Auditorium	
12:30 - 16:45	<b>Session 1: Imaging across scales</b> Chair: Lucy Collinson, The Francis Crick Institute ATC Auditorium	
12:30 - 13:00	<b>Imaging cell invaders with correlative light, electron and ion microscopy</b> Lucy Collinson <i>The Francis Crick Institute, United Kingdom</i>	1
13:00 - 13:15	<b>Sub-Cellular Biology Throughout Intact Tissues with Axially Scanned Light-Sheet Microscopy</b> Kevin Dean <i>UT Southwestern Medical Center, United States of America</i>	2
13:15 - 13:30	<b>Nanoscale 3D neuronal imaging of millimeter sized tissues with isotropic resolution</b> Alexandra Pacureanu <i>University College London, United Kingdom &amp; The European Synchrotron, France</i>	3
13:30 - 13:45	<b>Tailoring grids by micropatterning for in-cell cryo-electron tomography studies</b> Mauricio Toro-Nahuelpan <i>EMBL Heidelberg, Germany</i>	4

13:45 - 14:15	<b>3D Imaging by FIBSEM for Cell Biology with Correlation to Cryo Fluorescence Microscopy</b> Harald Hess <i>HHMI - Janelia Research Campus, United States of America</i>	5
14:15 - 15:00	<b>Coffee break</b> ATC Auditorium Foyer	
15:00 - 15:30	<b>Bioimaging information</b> Lars Hufnagel <i>EMBL Heidelberg, Germany</i>	6
15:30 - 15:45	<b>Single-objective light-sheet microscopy with 200nm scale resolution.</b> Reto Fiolka <i>UT Southwestern Medical Center, United States of America</i>	7
15:45 - 16:00	<b>Endosomal patterning of transcripts as a mechanism of local translation and signal processing</b> Doris Popovic <i>University of Zurich, Switzerland</i>	8
16:00 - 16:15	<b>Superresolution imaging in the kidney across scales</b> Hans Blom <i>Royal Institute of Technology, Sweden</i>	9
16:15 - 16:45	<b>Visualizing the Immune System: Combining Dynamic Intravital Observation with Multiplex 2D and 3D Static Tissue Imaging to Understand Host Defense and Disease</b> Ronald N. Germain <i>National Institute of Allergy and Infectious Diseases, United States of America</i>	10
16:45 - 17:10	<b>Flash talks (1 slide/2 min each): #180 Baharak Mahyad, #59 Liliana Barbieri, #175 Miguel Lopes, #282 Martin Weigert, #246 Leslie Solorzano, #287 Paul Wiseman, #281 Peiyu Wang, #91 Gautam Dey, #226 Kelly Rogers, #134 Elizabeth Haynes</b>	
17:10 - 19:10	<b>Poster session 1 (odd numbers)</b> ATC Helix A & B	

19:10 - 21:00 **Dinner**  
EMBL Canteen

21:00 - 22:30 **Welcome reception with live Jazz**  
ATC Auditorium Foyer

---

Thursday 10 October 2019

---

09:00 - 12:30	<b>Session 2: Image analysis</b> Chair: Anna Kreshuk, EMBL Heidelberg ATC Auditorium	
09:00 - 09:30	<b>Data fusion in localisation microscopy: Combining information from many particles</b> Bernd Rieger <i>TU Delft, The Netherlands</i>	11
09:30 - 09:45	<b>High Resolution Imaging of Multicellular Microbial Development using Lattice-Light Sheet Microscopy</b> Andreas Gahlmann <i>University of Virginia, United States of America</i>	12
09:45 - 10:00	<b>Probabilistic Noise2Void: Unsupervised Content-Aware Denoising</b> Alexander Krull <i>Max Planck Institute of Molecular Cell Biology and Genetics/PKS, Germany</i>	13
10:00 - 10:30	<b>Coffee break</b> ATC Auditorium Foyer	
10:30 - 11:00	<b>Automating image analysis with machine learning</b> Anna Kreshuk <i>EMBL Heidelberg, Germany</i>	14
11:00 - 11:30	<b>Causal Inference from Live Cell Images</b> Gaudenz Danuser <i>UT Southwestern Medical Center, United States of America</i>	15
11:30 - 11:45	<b>Whole-organism 3-D mapping of gene expression to ultrastructural tissue and cell morphology</b> Christian Tischler <i>EMBL Heidelberg, Germany</i>	16

- |               |   |    |
|---------------|---|----|
| 11:45 - 12:00 | <p><b>Cellular Organelle Segmentation in Electron Microscopy</b></p> <p>Aubrey Weigel<br/> <i>HHMI – Janelia Research Campus , United States of America</i></p>   | 17 |
| 12:00 - 12:30 | <p><b>Real-time 3D visualization and processing of large volumetric microscopy data</b></p> <p>Ivo Sbalzarini<br/> <i>Max Planck Institute of Molecular Cell Biology and Genetics, Germany</i></p>              | 18 |
| 12:30 - 14:30 | <p><b>Lunch in the ATC Auditorium Foyer &amp; Meet the speakers of Day 1 and Day 2 in the Courtyard Seminar Room and Foyer (13:00 - 13:30)</b></p>  |    |
| 14:30 - 19:00 | <p><b>Session 3: New biology discovered by imaging</b><br/> <b>Chair: Satyajit Mayor, National Centre for Biological Sciences</b><br/>         ATC Auditorium</p>   |    |
| 14:30 - 14:37 | <p><b>Euro-Biolmaging: Europe’s Research Infrastructure for Imaging Technologies</b></p> <p>Antje Keppler<br/> <i>EMBL Heidelberg, Germany</i></p>  | 19 |
| 14:37 - 14:45 | <p><b>The Image Data Resource: A scalable resource for FAIR biological imaging data</b></p> <p>Sebastien Besson<br/> <i>University of Dundee, United Kingdom</i></p>  | 20 |
| 14:45 - 15:15 | <p><b>Centrioles in development and evolution: Tiny organelles, multiple and critical functions</b></p> <p>Mónica Bettencourt-Dias<br/> <i>Instituto Gulbenkian de Ciencia, Portugal</i></p>                    | 21 |
| 15:15 - 15:30 | <p><b>A role for liquid-liquid phase separation in ESCRT-mediated nuclear envelope reformation</b></p> <p>Alexander von Appen<br/> <i>University of California, San Francisco, United States of America</i></p> | 22 |

15:30 - 16:00	<b>Imaging fluorescent nanoparticles reveals how cells establish nucleo-cytoplasmic compartmentalization after mitosis</b> Daniel W. Gerlich <i>IMBA - Vienna BioCenter, Austria</i>	23
16:00 - 16:30	<b>Expanding our understanding of neuronal transport</b> Lukas C. Kapitein <i>Utrecht University, The Netherlands</i>	24
16:30 - 17:00	<b>Coffee break</b> ATC Auditorium Foyer	
17:00 - 17:30	<b>Imaging the skin of a living cell reveals a mechanoresponsive actin-membrane composite</b> Satyajit Mayor <i>National Centre for Biological Sciences, India</i>	25
17:30 - 17:45	<b>Unrevealing the molecular architecture of the centriole using a combination of Cryo-Tomography and Ultrastructure Expansion microscopy</b> Paul Guichard <i>University of Geneva, Switzerland</i>	26
17:45 - 18:00	<b>Modular actin nano-architecture enables podosome protrusion and mechanosensing</b> Alessandra Cambi <i>Radboud University Medical Center, The Netherlands</i>	27
18:00 - 18:30	<b>MINFLUX nanoscopy and related matters</b> Stefan W. Hell <i>Max Planck Institute for Biophysical Chemistry, Germany</i>	28
18:30 - 19:00	<b>Eukaryotic organelles: Deciphering their interdependency, structure and dynamics with new imaging technologies</b> Jennifer Lippincott-Schwartz <i>HHMI - Janelia Research Campus, United States of America</i>	29

- 19:00 - 19:15 **Apéritif**  
ATC Auditorium Foyer
- 19:15 - 21:00 **Dinner**  
EMBL Canteen
- 21:00 - 22:30 **After-dinner drinks**  
ATC Rooftop Lounge

---

## Friday 11 October 2019

---

09:00 - 12:00	<b>Session 4: New developments in super-resolution microscopy</b> Chair: Joerg Bewersdorf, Yale University School of Medicine ATC Auditorium	
09:00 - 09:30	<b>Selected Recent Advances in 3D Super-Resolution and Cryo-CLEM in Cells</b> W. E. Moerner <i>Stanford University, United States of America</i>	30
09:30 - 09:45	<b>Super-resolution structured illumination live-cell imaging with deep learning algorithm</b> Dong Li <i>Institute of Biophysics, Chinese Academy of Sciences, China</i>	31
09:45 - 10:00	<b>Expansion Structured Illumination Microscopy (ExSIM) as potential approach for precise localization of mitochondrial proteins</b> Cristiane Benincá <i>MRC - MBU - University of Cambridge, United Kingdom</i>	32
10:00 - 10:30	<b>Coffee break</b> ATC Auditorium Foyer	
10:30 - 11:00	<b>Superresolution fluorescence microscopy reveals mitochondrial organization and dynamics</b> Suliana Manley <i>École Polytechnique Fédérale de Lausanne, Switzerland</i>	33
11:00 - 11:30	<b>Sub-50 nm Super-resolution Microscopy for Cell Biological Research</b> Joerg Bewersdorf <i>Yale University School of Medicine, United States of America</i>	34
11:30 - 11:45	<b>Click-expansion microscopy for nanoscale imaging of non-protein biomolecules</b> De-en Sun <i>Peking University, China</i>	35



- 11:45 - 12:00 **Super-Resolution Across Multiple Scales  
by Compressive Imaging** 36  
Ola Sabet  
*University of Zurich, Switzerland*
- 12:00 - 14:00 **Lunch in the ATC Auditorium Foyer &  
Meet the speakers of Day 3 and Day 4  
in the Courtyard Seminar Room (12:30 - 13:00)**
- 14:00 - 17:00 **Session 5: Probes and biosensors**  
Chair: Kai Johnsson, Max Planck Institute for Medical Research  
ATC Auditorium
- 14:00 - 14:30 **A general strategy to develop cell permeable and  
fluorogenic probes for multi-colour nanoscopy** 37  
Kai Johnsson  
*Max-Planck Institute for Medical Research, Germany*
- 14:30 - 14:45 **GenEPi: Piezo1-based fluorescent reporter for visualizing  
mechanical stimuli with high spatiotemporal resolution** 38  
Periklis Pantazis  
*Imperial College London, United Kingdom*
- 14:45 - 15:00 **Manipulation of optical refractive index of mammalian cells  
in vivo with genetically encoded cephalopod reflectin  
proteins** 39  
Gerald Pao  
*Salk Institute, United States of America*
- 15:00 - 15:30 **Rapid cancer imaging by rationally designed fluorescence  
probes** 40  
Mako Kamiya  
*The University of Tokyo, Japan*
- 15:30 - 16:00 **Coffee break**  
ATC Auditorium Foyer

- 16:00 - 16:30 **Illuminating the Biochemical Activity Architecture of the Cell** 41  
Jin Zhang  
*University of California, San Diego, United States of America*
- 16:30 - 17:00 **Genetically encoded luminescent tools for life sciences** 42  
Atsushi Miyawaki  
*RIKEN Center for Brain Science, Japan*
- 17:00 - 17:25 **Flash talks (1 slide/2 min each): #78 David Clarke, #104 Neftali Flores-Rodriguez, #127 Lusheng Gu, #61 Andrew Barentine, #153 Friedemann Kiefer, #101 Kyong Tkhe Fam, #144 Ayako Imanishi, #109 Michelle Frei, #243 Bill Söderström, #249 Christoph Spahn**
- 17:25 - 19:10 **Poster Session 2 (even numbers)**  
ATC Helix A & B
- 19:15 **Bus departures to Heidelberg Castle (only for castle dinner ticket holders)**  
ATC Bus stop
- 19:30 **Bus departures downtown (for free evening)**  
ATC Bus stop
- 19:45 - 01:00 **Conference Dinner & Party in Heidelberg Castle (first come, first served - separate registration necessary)**

---

**Saturday 12 October 2019**


---

09:00 - 12:45	<b>Session 6: New biology super-resolved</b> Chair: Melike Lakadamyali, University of Pennsylvania ATC Auditorium	
09:00 - 09:30	<b>Super-resolution imaging of chromatin structure and dynamics</b> Melike Lakadamyali <i>Perelman School of Medicine at the University of Pennsylvania, United States of America</i>	43
09:30 - 09:45	<b>Adaptive actin networks ensure robust endocytosis</b> Charlotte Kaplan <i>University of California, Berkeley, United States of America</i>	44
09:45 - 10:00	<b>Cristae undergo continuous cycles of fusion and fission in a MICOS-dependent manner</b> Arun Kumar Kondadi <i>Heinrich Heine University, Germany</i>	45
10:00 - 10:30	<b>Nuclear Pores as Versatile Reference Standards for Quantitative Microscopy</b> Jonas Ries <i>EMBL Heidelberg, Germany</i>	46
10:30 - 11:00	<b>Coffee break</b> ATC Auditorium Foyer	
11:00 - 11:15	<b>High speed single molecule dynamics in the endoplasmic reticulum</b> Christopher Obara <i>HHMI – Janelia Research Campus, United States of America</i>	47
11:15 - 11:30	<b>Advanced super-resolution imaging of chromatin 'blobs'</b> Lothar Schermelleh <i>University of Oxford, United Kingdom</i>	48

11:30 - 11:45	<b>Multi-color single-molecule imaging uncovers extensive heterogeneity in mRNA decoding</b> Sanne Boersma <i>Hubrecht Institute, The Netherlands</i>	49
11:45 - 12:15	<b>Illuminating biology at the nanoscale and genome scale by imaging</b> Xiaowei Zhuang <i>HHMI/Harvard University, United States of America</i>	50
12:15 - 12:45	<b>Towards resolving structural dynamics of large macromolecular machines in cells by super-resolution</b> Jan Ellenberg <i>EMBL Heidelberg, Germany</i>	51
12:45 - 13:00	<b>Closing remarks and poster prize</b> ATC Auditorium	
13:00 - 13:30	<b>Packed lunch</b> ATC Auditorium Foyer	
13:30	<b>Bus departures downtown and to Frankfurt Airport (airport shuttle tickets for sale at registration desk)</b> ATC Bus stop	