



Seeing is Believing - Imaging the Molecular Processes of Life

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2019 Symposia

- [Synthetic Morphogenesis](#)
- [Human Past](#)
- [Probing Neural Dynamics](#)
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- [Mechanical Forces in Development](#)
- [Microbiology](#)
- [Multiomics](#)
- [Systems Genetics](#)
- [Seeing is Believing](#)
 - [Speakers and Organisers](#)
 - [Industry Workshops](#)
 - [Programme](#)
 - [Registration and Abstract Submission](#)

- [Childcare](#)
- [Accommodation and Shuttles](#)
- [Sponsors](#)
- [Financial Assistance](#)
- [Contact](#)
- [Non-Coding Genome](#)
- [Metabolism Meets Epigenetics](#)

Location & dates

EMBL Heidelberg, Germany 9 - 12 Oct 2019

Deadlines

Registration closed Abstract submission closed



Programme

Got something to say? Tweet it! [#EESImaging](#)

Day 1 - Wednesday 9 October 2019

| Time | Speaker |
|--------------------|---|
| 10:00-10:45 | Registration for Industry Workshops and Symposium |
| 10:45-11:45 | Concurrent Industry Workshops (Registration for Symposium continues) |
| 11:45-12:15 | Registration for Symposium |

| Time | Speaker |
|--------------------|---|
| 12:15-12:30 | Opening remarks |
| 12:30-16:45 | Session 1: Imaging across scales Chair: Lucy Collinson, The Francis Crick Institute |
| 12:30-13:00 | Imaging cell invaders with correlative light, electron and ion microscopy Lucy Collinson, The Francis Crick Institute, UK |
| 13:00-13:15 | Sub-Cellular Biology Throughout Intact Tissues with Axially Scanned Light-Sheet Microscopy Kevin Dean, UT Southwestern Medical Center, USA |
| 13:15-13:30 | Nanoscale 3D neuronal imaging of millimeter sized tissues with isotropic resolution Alexandra Pacureanu, The European Synchrotron & UCL, UK |
| 13:30-13:45 | Tailoring grids by micropatterning for in-cell cryo-electron tomography studies Mauricio Toro-Nahuelpan, EMBL Heidelberg, Germany |
| 13:45-14:15 | 3D Imaging by FIBSEM for Cell Biology with Correlation to Cryo Fluorescence Microscopy Harald Hess, HHMI-Janelia Research Campus, USA |
| 14:15-15:00 | Coffee break |
| 15:00-15:30 | Bioimaging information Lars Hufnagel, EMBL Heidelberg, Germany |
| 15:30-15:45 | Single-objective light-sheet microscopy with 200nm scale resolution Reto Fiolka, UT Southwestern Medical Center, USA |

| Time | Speaker |
|-------------------------|---|
| 15:45- 16:00 | Endosomal patterning of transcripts as a mechanism of local translation and signal processing Doris Popovic, University of Zurich, Switzerland |
| 16:00- 16:15 | Superresolution imaging in the kidney across scales Hans Blom, Royal Institute of Technology, Sweden |
| 16:15- 16:45 | Visualizing the Immune System: Combining Dynamic Intravital Observation with Multiplex 2D and 3D Static Tissue Imaging to Understand Host Defense and Disease Ronald N. Germain, National Institute of Allergy and Infectious Diseases, USA |
| 16:45- 17:10 | 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 |
| 17:10- 19:10 | Poster Session 1 (odd numbers) |
| 19:10- 21:00 | Dinner in the EMBL Canteen |
| 21:00- 22:30 | Welcome reception in the ATC Foyer |

Day 2 - Thursday 10 October 2019

| Time | Speaker |
|-------------------------|---|
| 09:00- 12:30 | Session 2: Image analysis Chair: Anna Kreshuk, EMBL Heidelberg |
| 09:00- 09:30 | Data fusion in localisation microscopy: Combining information from many particles Bernd Rieger, TU Delft, The Netherlands |

| Time | Speaker |
|-----------------|--|
| 09:30- 09:45 | High Resolution Imaging of Multicellular Microbial Development using Lattice-Light Sheet Microscopy Andreas Gahlmann, University of Virginia, USA |
| 09:45- 10:00 | Probabilistic Noise2Void: Unsupervised Content-Aware Denoising Alexander Krull, MPI-CBG/PKS Dresden, Germany |
| 10:00- 10:30 | Coffee break |
| 10:30- 11:00 | Automating image analysis with machine learning Anna Kreshuk, EMBL Heidelberg, Germany |
| 11:00- 11:30 | Causal Inference from Live Cell Images Gaudenz Danuser, UT Southwestern Medical Center, USA |
| 11:30- 11:45 | Whole-organism 3-D mapping of gene expression to ultrastructural tissue and cell morphology Christian Tischer, EMBL Heidelberg, Germany |
| 11:45- 12:00 | Cellular Organelle Segmentation in Electron Microscopy Aubrey Weigel, HHMI - Janelia, USA |
| 12:00- 12:30 | Real-time 3D visualization and processing of large volumetric microscopy data Ivo F. Sbalzarini, MPI of Molecular Cell Biology and Genetics, Germany |

| Time | Speaker |
|--------------------|--|
| 12:30-14:30 | Lunch in the ATC Foyer & Meet the speakers of Day 1 and Day 2 in the Courtyard Seminar Room and Foyer (13:00 - 13:30) Concurrent Lunchtime Workshops from Leica Microsystems and Thermo Fisher Scientific (13:00 - 13:45) |
| 14:30-19:00 | Session 3: New biology discovered by imaging Chair: Satyajit Mayor, National Centre for Biological Sciences |
| 14:30-14:37 | Euro-BioImaging: Europe's Research Infrastructure for Imaging Technologies Antje Keppler, EMBL Heidelberg, Germany |
| 14:37-14:45 | The Image Data Resource: A scalable resource for FAIR biological imaging data Sebastien Besson, University of Dundee, UK |
| 14:45-15:15 | Centrioles in development and evolution: tiny organelles, multiple and critical functions Mónica Bettencourt-Dias, IGC - Instituto Gulbenkian de Ciência, Portugal |
| 15:15-15:30 | A role for liquid-liquid phase separation in ESCRT-mediated nuclear envelope reformation Alexander von Appen, University of California, San Francisco, USA |
| 15:30-16:00 | Imaging fluorescent nanoparticles reveals how cells establish nucleo-cytoplasmic compartmentalization after mitosis Daniel W. Gerlich, IMBA - Vienna BioCenter, Austria |

| Time | Speaker |
|-------------------------|---|
| 16:00- 16:30 | Expanding our understanding of neuronal transport Lukas C. Kapitein, Utrecht University, The Netherlands |
| 16:30- 17:00 | Coffee break |
| 17:00- 17:30 | Imaging the skin of a living cell reveals a mechanoresponsive actin-membrane composite Satyajit Mayor, National Centre for Biological Sciences, India |
| 17:30- 17:45 | Unrevealing the molecular architecture of the centriole using a combination of Cryo-Tomography and Ultrastructure Expansion microscopy Paul Guichard, University of Geneva, Switzerland |
| 17:45- 18:00 | Modular actin nano-architecture enables podosome protrusion and mechanosensing Alessandra Cambi, Radboud University Medical Center, The Netherlands |
| 18:00- 18:30 | MINFLUX Nanoscopy and related matters Stefan W. Hell, MPI for Biophysical Chemistry, Germany |
| 18:30- 19:00 | Eukaryotic organelles: deciphering their interdependency, structure and dynamics with new imaging technologies Jennifer Lippincott-Schwartz, HHMI - Janelia Research Campus, USA |
| 19:00- 19:15 | Apéritif in the ATC Foyer |
| 19:15- 21:00 | Dinner in the EMBL Canteen |
| 21:00- 22:30 | After Dinner Drinks in the ATC Rooftop Lounge |

Day 3 - Friday 11 October 2019

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

| Time | Speaker |
|-------------------------|---|
| 11:45- 12:00 | Super-Resolution Across Multiple Scales by Compressive Imaging Ola Sabet, University of Zurich, Switzerland |
| 12:00- 14:00 | Lunch in the ATC Foyer and 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 |
| 14:00- 14:30 | A general strategy to develop cell permeable and fluorogenic probes for multi-colour nanoscopy Kai Johnsson, MPI for Medical Research, Germany |
| 14:30- 14:45 | GenEPi: Piezo1-based fluorescent reporter for visualizing mechanical stimuli with high spatiotemporal resolution Periklis Pantazis, Imperial College London, UK |
| 14:45- 15:00 | Manipulation of optical refractive index of mammalian cells in vivo with genetically encoded cephalopod reflectin proteins Gerald Pao, Salk Institute, USA |
| 15:00- 15:30 | Rapid cancer imaging by rationally designed fluorescence probes Mako Kamiya, The University of Tokyo, Japan |
| 15:30- 16:00 | Coffee break |

| Time | Speaker |
|-------------------------|---|
| 16:00- 16:30 | Illuminating the Biochemical Activity Architecture of the Cell Jin Zhang, University of California, San Diego, USA |
| 16:30- 17:00 | Genetically encoded luminescent tools for life sciences 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) |
| 19:15 | Bus departures to Heidelberg Castle (only for castle dinner ticket holders) |
| 19:30 | Bus departures downtown (for free evening) |
| 19:45- 01:00 | Conference Dinner and Party in Heidelberg Castle (first come, first served - separate registration necessary) |

Day 4 - Saturday 12 October 2019

| Time | Speaker |
|-------------------------|--|
| 09:00- 12:45 | Session 6: New biology super-resolved Chair: Melike Lakadamyali, University of Pennsylvania |
| 09:00- 09:30 | Super-resolution imaging of chromatin structure and dynamics Melike Lakadamyali, University of Pennsylvania, USA |
| 09:30- 09:45 | Adaptive actin networks ensure robust endocytosis Charlotte Kaplan, University of California, Berkeley, USA |

| Time | Speaker |
|-------------------------|--|
| 09:45- 10:00 | Cristae undergo continuous cycles of fusion and fission in a MICOS-dependent manner Arun Kumar Kondadi, Heinrich Heine University, Germany |
| 10:00- 10:30 | Nuclear Pores as Versatile Reference Standards for Quantitative Microscopy Jonas Ries, EMBL Heidelberg, Germany |
| 10:30- 11:00 | Coffee break |
| 11:00- 11:15 | High speed single molecule dynamics in the endoplasmic reticulum Christopher Obara, HHMI - Janelia, USA |
| 11:15- 11:30 | Advanced super-resolution imaging of chromatin 'blobs' Lothar Schermelleh, University of Oxford, UK |
| 11:30- 11:45 | Multi-color single-molecule imaging uncovers extensive heterogeneity in mRNA decoding Sanne Boersma, Hubrecht Institute, The Netherlands |
| 11:45- 12:15 | Illuminating biology at the nanoscale and genome scale by imaging Xiaowei Zhuang, Harvard University, USA |
| 12:15- 12:45 | Towards resolving structural dynamics of large macromolecular machines in cells by super-resolution microscopy Jan Ellenberg, EMBL Heidelberg, Germany |
| 12:45- 13:00 | Closing remarks and poster prize |
| 13:00- 13:30 | Packed lunch |

Time

Speaker

13:30

**Bus departures downtown
and to Frankfurt Airport (airport shuttle tickets for sale at
registration desk)**