# **Imaging Cell Dynamics Meeting**

Pestana Palace, Lisbon, Portugal 14 – 17 May 2023

# Programme

# Sunday 14 May 2023

- 12:00 Registration opens
- 12:30 13:50 Lunch
- 14:00 14:15 Seema Grewal/Michael Way Journal of Cell Science, UK Welcome
- **14:15 14:35** Jennifer Lippincott-Schwartz HHMI Janelia Research Campus, USA Mapping the structural and diffusional landscape of organelle contact sites from the microscale to the nanoscale
- 14:45 14:55 Lydia Danglot Inserm Institut de psychiatrie et neuroscience de Paris, France Imaging organelles and cellular architecture using new fluorescent probes for live STED and SMLM imaging
- **15:00 15:10 Pablo Saez** University Medical Center Hamburg- Eppendorf, Germany Differential regulation of organelle dynamics and crosstalk during cell migration
- 15:15 15:35 EMBO Young Investigator Lecture: Wanda Kukulski University of Bern, Switzerland The architecture of organolle contact sites

The architecture of organelle contact sites

### 15:45 – 16:25 Coffee break

- **16:30 16:50 Suliana Manley** EPFL, Switzerland Organelle structure and dynamics: Biophysical mysteries and insights
- 17:00 17:10 Fernando Valbuena The University of Chicago, USA Kinetic analysis of cargo export from the mammalian Golgi reveals distinct traffic mechanisms
- 17:15 17:35 Francesca Bottanelli Freie Universität Berlin, Germany Investigating cellular logistics with live-cell STED super-resolution microscopy
- **17:45 17:55 Helen Zenner** FocalPlane, The Company of Biologists, UK FocalPlane, a community site where biology and microscopy meet





- 18:00 19:00 Free time
- 19:00 20:00 Speed networking event and pre-dinner drinks
- 20:00 21:30 **Dinner**

# Monday 15 May 2023

- 07:00-08:20 **Breakfast**
- 08:30-08:55 Careers at a Glance

#### **09:00 – 09:20 Ricardo Henriques** Instituto Gulbenkian de Ciência, Portugal Open technologies to image cellular dynamics through super-resolution and machine learning

- 09:30 09:40 Iris Unterweger University of Copenhagen, Denmark Using FRaeppli, a next-generation multispectral cell labelling system, to analyze heterogenous hepatic progenitor contribution to cell lineages and postembryonic dynamic organ growth
- 09:45 10:05 Hari Shroff HHMI Janelia Research Campus, USA Multiscale biological imaging at high spatiotemporal resolution

# 10:15 – 10:25 Sponsored talk Sumin Lee Tomocube Inc, South Korea

Holotomography, the label-free technology for 3D live cell imaging

#### 10:25 – 11:10 Coffee break, posters and exhibition

- **11:15 11:35 Erdinc Sezgin** Karolinska Institutet, Sweden Visualizing the biophysical properties of cells in health and disease
- **11:45 11:55 Guillaume Jacquemet** Åbo Akademi University, Finland Studying cancer cell metastases in the era of deep learning for microscopy
- 12:00 12:10 Michelle Digman University of California Irvine, USA Metabolic profiling and tracking phenotypic changes in mitochondria in cancer cells with Mitometer and the phasor approach to FLIM
- **12:15 12:35 Gaudenz Danuser** University of Texas Southwestern, USA Perturbation-free causal inference in molecular systems

#### 12:45 – 13:50 Lunch

- **14:00 14:20** Yannick Schwab European Molecular Biology Laboratory, Heidelberg, Germany Cellular EM exploration of model and non-model organisms using volume multimodal correlations
- 14:30 14:50 Dumisile Lumkwana The Francis Crick Institute, UK VP-CLEM-KIT: Building a low-cost, user-friendly pipeline for high resolution volume CLEM



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- **15:00 15:10 Niall Geoghegan** Walter and Eliza Hall Institute of Medical Research, Australia Investigating remodelling of the erythrocyte membrane-cytoskeleton during malaria invasion of red blood cells in 4-Dimensions with lattice light sheet microscopy
- 15:15 15:25 Till Stephan University Medical Center Göttingen & Max Planck Institute for Multidisciplinary Sciences, Germany
  Visualizing the structure and dynamics of mitochondria at the nanoscale
- 15:30 15:40 Group photo
- 15:45 16:10 Coffee break, posters and exhibition
- **16:15 16:35 Michael Way** The Francis Crick Institute, UK Uncovering new insights into vaccinia virus assembly and egress with cryo-ET
- **16:45 16:55 Nora Mellouk** Institut Pasteur, France Unconventional targeting of Rab GTPases by an intracellular pathogen revealed by advanced microscopy
- 17:00 17:10 Rahul Kumar McGill University, Canada DENND6A couples Arl8b and Rab34/RILP/dynein complex to regulate endolysosomal positioning and autophagy
- 17:15 17:25 César Bernat Silvestre University of Geneva, Switzerland Distinct dynamics and functions of CHMP5 (Vps60) during ESCRT-III activity in mammalian cells
- **17:30 17:40 Jason Zhang** University of Washington, USA Computationally designed sensors for endogenous Ras activity reveal signaling effectors within oncogenic condensates
- 17:45 18:10 Poster flash talks
- 18:15 19:40 Poster session 1, exhibition and pre-dinner drinks
- 19:45 21:15 **Dinner**

# Tuesday 16 May 2023

- 07:00-08:20 Breakfast
- **08:30 08:50 Melike Lakadamyali** University of Pennsylvania, USA Visualizing the inner life of cells with super-resolution microscopy
- 09:00 09:10 Ana Costa University of Porto, Portugal Unveiling actin filament nucleation and polymerization in axonal actin rings using nanoscopy
- **09:15 09:35 Christophe Leterrier** CNRS-Aix Marseille University, France The functional nano-architecture of axonal actin



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## 09:45 – 09:55 Sponsored talk

**Bruno Combettes** Andor Technology, An Oxford Instruments Company, UK Dragonfly 600 – Crossing scales from nanometer to centimeter

- 09:55 10:40 Coffee break, posters and exhibition
- **10:45 11:05 Yvette Wong** Northwestern University, USA Dynamics of mitochondrial and lysosomal crosstalk at inter-organelle contact sites in health and neurodegeneration
- **11:15 11:25 Alex Fellows** MRC Laboratory of Molecular Biology, UK Visualising endogenous dynein and its regulators reveal neuronal trafficking mechanisms
- **11:30 11:50 Erika Holzbaur** University of Pennsylvania, USA Organelle quality control in neurons
- 12:00 12:10 Sponsored talk Steve Coleman VisiTech International, UK VT-iSIM: live-cell, high-speed, super-resolution imaging
- 12:10-13:30 Lunch
- 13:30 16:00 Free time
- 16:00 16:25 Coffee break, posters and exhibition
- **16:30 16:50 Daria Siekhaus** Institute of Science and Technology Austria, Austria The dynamic interplay between macrophages and their surroundings enabling tissue infiltration
- **17:00 17:10 Eva de la Serna** Stanford University, USA High resolution 3D imaging of live and fixed CAR T-cells to map spatial organization of signaling proteins and the cytoskeleton
- **17:15 17:25 Amna Music** University of Turku, Finland Lysosomes in early B cell activation
- **17:30 17:50 Tal Arnon** University of Oxford, UK Adaptive immunity and immune niches
- 18:00 18:25 Poster flash talks
- 18:30 19:55 **Poster session 2, exhibition and pre-dinner drinks**
- 20:00 Dinner

# Wednesday 17 May 2023

- 07:00-08:20 Breakfast
- **08:30 08:50 Meng Meng Fu** University of California Berkeley, USA Imaging the oligodendrocyte: From molecules to animals



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- 09:00 09:10 Kamaldeep Singh Tata Institute of Fundamental Research, India Insulin signaling via InR-Vps34/PI3P-Klp98a axis regulates the anterograde axonal transport and synaptic homeostasis of Rab4-associated vesicles in Drosophila CNS
- **09:15 09:25 Edward Avezov** University of Cambridge, UK Endoplasmic Reticulum morphological regulation by NOGO/RTN4 determines axonal plasticity by speed-limiting luminal transport
- **09:30 09:40 Tierney Baum** Vanderbilt University, USA Patient mutations in mitochondrial fission gene (DRP1) perturb synaptic maturation of cortical neurons
- 09:45 10:05 EMBO Young Investigator Lecture: Verena Ruprecht Centre for Genomic Regulation, Spain Mechanical control of cell and tissue morphodynamics and plasticity
- 10:15 10:55 **Coffee break**
- **11:00 11:10 Christina Daly** St Jude Children's Research Hospital, USA Dissecting contributions of dispatched, BOC, and CDON Proteins to Sonic Hedgehog cytoneme formation using high resolution microscopy
- **11:15 11:25 Sumin Kim** University of Michigan, USA TorsinA is essential for the timing and localization of neuronal nuclear pore biogenesis
- **11:30 11:50 Caren Norden** Instituto Gulbenkian de Ciência, Portugal Retinal neurogenesis and lamination: What to become, where to become and how to go from there...
- 12:00 12:15 Closing remarks
- 12:15 13:30 Lunch and depart



