

# SMLMS2024 PROGRAM

## DAY 1: 28TH AUGUST

Time	Event	Speaker / Chair	Talk Title / Session
08:30-09:00	Registration & Light Refreshments		
09:00-09:30	Opening Ceremony	Ricardo Henriques Pedro Pereira	
	Session 1	Christophe Leterrier (chair)	New Methods and Developments in Super-Resolution Microscopy
09:30-10:00	Invited Talk	Ignacio Izeddin	Eve-SMLM: Enhanced Single-Molecule Localization Microscopy with Event-Based Vision Sensors
10:00-10:30	Invited Talk	Sabrina Simoncelli	Expanding the capabilities of SMLM with spinning disk confocal optical photon reassignment
10:30-10:50	Selected Talk	Francisco Matos	TimeLoc: Exploring Single Molecule Localization with Time-Varying Structured Excitation for Camera-Free Wide Field Imaging
10:50-11:10	Selected Talk	Alon Saguy	Three new methods in super-resolution microscopy
11:10-11:30	Coffee Break		Note: even posters mounting
	Session 2	Rita Strack (chair)	Probes and Labels for Super-Resolution Imaging
11:30-12:00	Invited Talk	Ulrike Endesfelder	Deciphering Stoichiometry and Interactions of Cytosolic Microbial Complexes
12:00-12:20	Selected Talk	Felipe Opazo	NanoPlex: a universal strategy for fluorescence microscopy multiplexing using nanobodies with erasable signals
12:20-12:40	Selected Talk	Marrit Tholen	Decoding Cell's Glycotype with Multiplexed Lectin-PAINT Super-Resolution Microscopy
12:40-13:10	Invited Talk	Silvia Pujals	Single molecule localization microscopy to improve nanomedicine's efficiency
13:10-15:20	Lunch Break & Poster Session		
(13:30-14:30)	Zeiss Technology Lunch & Learn		
	Session 3	Ulrike Endesfelder (chair)	Biological Applications of Super-Resolution Microscopy I

15:20-15:50	Invited Talk	Giulia Bertolin	Exploring mitochondrial cristae as functional hubs of the cell cycle kinase AURKA
15:50-16:20	Invited Talk	Christophe Spahn	Of single molecules and antibiotics: A molecular view on bacterial chromosome organization
16:20-16:40	Selected Talk	Jumana AlHaj Abed	Uncovering homologous chromosome communication using super-resolution chromosome walks and integrative modeling
16:40-17:00	Coffee Break		
	Session 4	Sabrina Simoncelli (chair)	Biological Applications of Super-Resolution Microscopy II
17:00-17:30	Invited Talk	Mariana Pinho	Dynamics of the peptidoglycan synthesis machinery during <i>Staphylococcus aureus</i> cell division
17:30-17:50	Selected Talk	Anna Meletiou	3D MINFLUX microscopy reveals RyR2 subunit distributions in HEK293 cells and mouse cardiomyocytes with high precision
17:50-18:10	Selected Talk	Claudia Catapano	Monitoring ligand-dependent membrane receptor activation in living cells for up to 30 min with single-particle tracking
	Keynote Session	Ricardo Henriques (chair)	
18:10-19:10	Keynote Speaker	W.E. Moerner	A Brief Survey of Single-Molecule Optical Microscopy in My Laboratory: From Spectroscopy in Solids, to Super-Resolution Nanoscopy in Cells, to Photodynamics of Individual Complex Emitters
...	Special Guest	Steven Lee	Single-molecule techniques for direct detection of single protein aggregates in the human brain
...	Special Guest	Allison Squires	Applications of the ABEL trap to study energy transfer in natural and engineered biomolecular complexes
...	Special Guest	Randall Goldsmith	Label-free Detection and Hydrodynamic Profiling of Single Solution-Phase Molecules using Optical Microcavities
19:10-20:30	Light Dinner		Note: even posters unmounting

## DAY 2: 29TH AUGUST

Time	Event	Speaker / Chair	Talk Title / Session
08:30-09:00	Registration & Light Refreshments		
	Keynote Session	Pedro M. Pereira (chair)	
09:00-10:00	Keynote Speaker	Jonas Ries	Superresolution Microscopy for Dynamic Structural Cell Biology
	Session 5	Francisco Balzarotti (chair)	Advances in 3D SMLM Techniques
10:00-10:30	Invited Talk	Sandrine Lévêque-Fort	Enhancing Single-Molecule Fluorescence Microscopy with Flux Demixing and Temporal Modulation
10:30-10:50	Selected Talk	Roman Tsukanov	Three-dimensional multi-target super-resolution microscopy of cells using Metal-Induced Energy Transfer and DNA-PAINT
10:50-11:10	Selected Talk	Louise Régnier	Polarization multifocus microscopy for single-molecule localization and orientation determination
11:10-11:30	Coffee Break		Note: odd posters mounting
	Session 6	Sandrine Lévêque-Fort (chair)	Dynamics, Single Molecule Tracking and MINFLUX
11:30-12:00	Invited Talk	Francisco Balzarotti	Simulation, estimation and visualization of Single- and Multi-Emitter MINFLUX localization
12:00-12:20	Selected Talk	Eli Slenders	SPAD array detector allows a large localization range in MINFLUX
12:20-12:40	Selected Talk	Hanie Esmaeeli	Extending MINFLUX into the Near Infrared
12:40-13:10	Invited Talk	Debora Olivier	Facilitating your super-resolution workflows across all scales within the Zeiss ecosystem
13:10-15:20	Lunch Break & Poster Session		
(13:10-14:10)	Zeiss Technology Lunch & Learn		
(14:10-15:10)	Technology Showcase	Ulrike Endesfelder Ignacio Izeddin	<u>SMLM with event-based vision sensors (Eve-SMLM)</u>
	Session 7	Dylan Owen (chair)	Future Directions in Super-Resolution Microscopy I

15:20-15:50	Invited Talk	Rita Strack	Nature Methods on the past, present, and future of super-resolution microscopy
15:50-17:00	Round Table Discussion	Rita Strack Jonas Ries Melike Lakadamyali Christophe Leterrier Debora Olivier	Future Directions in Super-Resolution Microscopy
17:00-00:00	Conference Dinner		Including Bus Tour & Poster Awards

## DAY 3: 30TH AUGUST

Time	Event	Speaker / Chair	Talk Title / Session
08:30-09:00	Light Refreshments		
	Keynote Session	Hannah Heil (chair)	
09:00-10:00	Keynote Speaker	Melike Lakadamyali	Illuminating biology with super-resolution
	Session 8	Christophe Spahn (chair)	Image Analysis and Artificial Intelligence in Super-Resolution Microscopy
10:00-10:30	Invited Talk	Dylan Owen	Nano-org, a functional resource for single-molecule localisation microscopy data
10:30-10:50	Selected Talk	Diana Mindroc	Towards enhanced particle averaging in single-molecule localization microscopy data using geometric deep learning
10:50-11:10	Selected Talk	Bruno Saraiva	NanoPyx: super-fast bioimage analysis powered by adaptive machine learning
11:10-11:30	Coffee Break		Note: odd posters unmounting
11:30-11:50	Selected Talk	Steve Pressé	A framework for superresolved tracking
	Session 9	Dylan Owen (chair)	Future Directions in Super-Resolution Microscopy II
11:50-12:10	Selected Talk	Mario Del Rosario	PhotoFiTT: A Framework for Assessing Phototoxicity in Live-Cell Microscopy Experiments
12:10-12:30	Selected Talk	Luciano A. Masullo	Quantitative direct imaging of molecular oligomerization in whole cells at Ångström precision with RESI
12:30-13:00	Invited Talk	Christophe Leterrier	Zooming in on axonal endocytosis
13:00-13:30	Closing Ceremony	Ricardo Henriques Pedro Pereira	