



CZECH-BIOIMAGING CONFERENCE

**Imaging Principles of Life 2025:
Celebrating 10th Anniversary of
Czech-BioImaging**

**FINAL
PROGRAM**

Wednesday, 17 September

From 14:00	<i>Arrivals and Registration</i>
16:00	Conference opening by Pavel Hozák, Director of Czech-Biolmaging
16:05-17:20	User Session: Past, Present and Future of Czech-Biolmaging
16:05-16:20	Introduction: The Journey of Czech-Biolmaging Pavel Hozák, Director of Czech-Biolmaging
16:20-16:30	Euro-Biolmaging: Current Opportunities for Users Aleš Benda, Strategic representative of the Prague Node
16:30-17:10	What's new at our Core Facilities – Technologies & Expertise
16:30-16:40	<ul style="list-style-type: none"> Light Microscopy Core Facilities Milan Ešner, Head of the MUNI CELLIM CEITEC Core Facility
16:40-16:50	<ul style="list-style-type: none"> Electron Microscopy Core Facilities Marie Vancová, Vice-Chair for Electron Microscopy
16:50-17:00	<ul style="list-style-type: none"> Medical Imaging Core Facilities Michal Mikl, Vice-Chair for Medical Imaging
17:00-17:10	<ul style="list-style-type: none"> Our Image Data Analysis & Management Services Michal Kozubek, Vice-Chair for Light Microscopy & Data Management
17:10-17:20	User Q&A
17:20-17:55 INVITED	Imaging aging in the African turquoise killifish over the lifespan Christian Schöfer, Medical University of Vienna, Austria
17:55-18:25 INVITED	Neurodevelopmental Origins of Neuropsychiatric Disorders: The Role of VPS10p-D Receptors Alena Salašová, Aarhus University, Denmark
19:00-22:00	Welcome Reception with Wine Tasting

Thursday, 18 September

09:00-10:30	SESSION I	Chaired by: Štěpán Kortus & Milan Ešner
09:00-09:15	Revealing Hard Tissue Adaptation and Remodeling Dynamics with BEE-ST: Novel Spatiotemporal Imaging Approach Klára Cigošová, Masaryk University, Brno	
09:15-09:30	Multimodal 2p/label-free/MR imaging for the study of mouse glioblastoma Ondřej Vaňátko, Institute of Experimental Medicine of the Czech Academy of Sciences, Prague	
09:30-10:00 INVITED	Intravital microscopy - from deep 3P microscopy to whole brain MRI and light-sheet imaging Hans-Ulrich Fried, German Center for Neurodegenerative Diseases, Germany	
10:00-10:15	Industry presentation: Advanced 2D and 3D imaging by Molecular Devices: pushing the boundaries of cellular research Sylvia de Bruin, I.T.A.- Intertact s.r.o.	
10:15-10:30	Deciphering the role of telomere-repeat binding (TRB) proteins during sexual reproduction in Arabidopsis thaliana Tereza Přerovská, Masaryk University, Brno	
10:30-11:00	Coffee break	
11:00-12:30	SESSION II	Chaired by: Kamila Hrubanová & Daniel Zicha

11:00-11:15	Imaging of Alginate-encapsulated <i>Azotobacter vinelandii</i> Cells: Insights into Hydrogel–Cell Interactions Using LV-STEM Kateřina Mrázová, Institute of Scientific Instruments of the Czech Academy of Sciences, Brno
11:15-11:30	Nanoparticle–Cell Communication via in-situ Generation of Biochemical Signals Xiaohui Ju, Mendel University in Brno
11:30-12:00 INVITED	Raman spectroscopy in the life sciences Ota Samek, Institute of Scientific Instruments of the Czech Academy of Sciences, Brno
12:00-12:15	Industry presentation: Protein Detection Using Opal™ Reagents: Precise Cell Phenotyping with Spatial Context Kateřina Lónová, Altium International s.r.o.
12:15-12:30	Raman tweezers for the analysis of secondary microplastics generated by degradation of surgical masks in water Martin Kizovský, Institute of Scientific Instruments of the Czech Academy of Sciences, Brno
12:30-13:30	Lunch
13:30-15:00	SESSION III Chaired by: Michal Mikl & Aleš Benda
13:30-13:45	Imaging Liver: From Regeneration to Pathology Berwini Endaya, Institute of Biotechnology of the Czech Academy of Sciences, Vestec
13:45-14:00	Industry presentation: From Zero to Hero: The Journey of Infrared Imaging David Matoušek, Optik Instruments s.r.o.
14:00-14:15	Biomarkers of Urban Stress: Insights From a Multimodal Neuroimaging Study Tadeáš Dvořák, Masaryk University, Brno
14:15-14:30	Industry presentation: JEOL JEM 120i a game changer TEM Laurent Vasse, JEOL Europe SAS
14:30-14:45	MRI based features of glymphatic system in Parkinson's disease Martin Gajdoš, St. Anne's University Hospital Brno
14:45-15:00	Studies on the BK Polyomavirus Life Cycle and Virus-Induced Membrane Remodelling in Human Microvascular Endothelial Cells Kateřina Bruščíková, Charles University, Prague
15:00-15:10	Group photo
15:10-16:30	POSTER SESSION & Coffee break
16:30-18:15	SESSION IV Chaired by: Kateřina Malínská & Ondrej Horváth
16:30-16:45	Quantitative analysis of root growth at cellular resolution in <i>Arabidopsis thaliana</i> Jana Faturová, CEITEC, Brno
16:45-17:00	Industry presentation: Hot Cells & Cool Tech: Adventures on the Ibidi Stage by Celena X Jiří Vašák, KRD - obchodní společnost s.r.o.
17:00-17:15	Live-Cell Mapping of Membrane Tension Reveals Spatial Heterogeneity in Circulating Tumor Cells Piush Bisht, Institute of Molecular Genetics of the Czech Academy of Sciences, Prague
17:15-17:30	Industry presentation: Advancing Multimodal Vibrational Spectroscopy: Uniting Submicron IR, Raman, and Fluorescence Microscopy for Life Science Applications Carolín Borbeck, Měřicí technika Morava s.r.o.
17:30-17:45	Super-resolution microscopy of plant peroxisomes Kateřina Schwarzerová, Charles University, Prague
17:45-18:00	A microscopy-based approach for the assessment of pancreatic islets Sarah Suergiu, IKEM, Prague

18:00-18:15 INVITED	From Invisible to Indispensable: Unlocking the Power of Marketing and Communication in Imaging Core Facilities Baubak Bajoghli, Director of the Austrian BioImaging/CMI
19:00-20:00 20:00-23:00	Gala Dinner Music by DeeSaxx & Dancing

Friday, 19 September

09:00-10:30	SESSION V	Chaired by: Marie Vancová & Radovan Jiřík
09:00-09:15	Regional cerebral blood flow alterations assessed by ASL MRI following an acute pharmacological challenge Jana Rudá-Kučerová, Masaryk University, Brno	
09:15-09:30	Microscopic characterization of the tick gut in Ixodes ricinus nymphs Veronika Urbanová, Biology Centre of the Czech Academy of Sciences, České Budějovice	
09:30-10:00 INVITED	Advancing Cryo-Volume EM for Multiscale Biological Research Jiří Nováček, CEITEC Masaryk University, Brno	
10:00-10:15	Industry presentation: Arctis WebUI – a novel software concept for automating cryo-lamellae production Radovan Spurný, Thermo Fisher Scientific	
10:15-10:30	Targeted volume imaging reveals early vascular interactions of Lyme disease pathogen in skin Martin Strnad, Biology Centre of the Czech Academy of Sciences, České Budějovice	
10:30-11:00	Coffee break	
11:00-12:30	SESSION VI	Chaired by: Michal Kozubek & Michaela Blažíková
11:00-11:15	Cell Invasion Analysis using 3D Tumor Models and 2D Image Data Jarmila Navrátilová, Masaryk University, Brno	
11:15-11:30	Symbiosis of a physician and a bioengineer - finding ways Michal Standara, Masaryk Memorial Cancer Institute, Brno	
11:30-12:00 INVITED	Beyond the Lens: The Evolution and Impact of Microscopy Core Facilities Paula Sampaio, i3S, University of Porto, Portugal	[ONLINE]
12:00-12:15	Industry presentation: Lightfield 4D - Instant Volumetric High-Speed Imaging of Living Organisms as a part of Top-Class Multimodal Imaging Combined in One Confocal System Pavel Krist, Carl Zeiss spol. s.r.o.	
12:15-12:30	Golgi-localized PI 4-kinases promote microvilli biogenesis and help maintain epithelial tissue architecture Zuzana Burdíková, Charles University, Prague	
12:30-13:30	Lunch	
13:30-15:15	SESSION VII	Chaired by: Vlada Filimonenko & Daniel Hadraba
13:30-13:45	Septin 12 as a Link Between Chromatin Packaging and Cytoskeleton in Sperm Michaela Frolíková, Charles University, Prague	
13:45-14:00	Breaking the barrier: Euglena gracilis expansion microscopy enables visualisation of organelles and detailed cytoskeletal structures Anežka Konupková, Charles University, Prague	
14:00-14:15	Industry presentation: Integrating Holotomography and Confocal Microscopy: A New Era in 3D Live Cell Imaging with Tomocube Daniel Ghete, Sven BioLabs s.r.o.	

14:15-14:30	Imaging the Minute Neurohemal Gland Complex in Mosquitoes Marcela Nouzová, Biology Centre of the Czech Academy of Sciences, České Budějovice
14:30-14:45	Industry presentation: Automated High Content Fluorescence Imaging and AI Analysis for Zebrafish and Beyond Yael Paran, Animalab, s.r.o.
14:45-15:00	Imaging alginate-encapsulated bacteria for ferulic acid biotransformation Vendula Hrabalová, Delong Instruments, a.s.
15:00-15:15	Applications of FIB-SEM at IMG: Supporting Multidisciplinary Scientific Research Markéta Dalecká, Institute of Molecular Genetics of the Czech Academy of Sciences, Prague
15:15	Conference Closing by Pavel Hozák, Director of Czech-BioImaging
From 15:30	<i>Departures</i>

