

# BIOCEV DAYS 2024

Annual scientific conference with poster session

BIOCEV, Průmyslová 595, Vestec 252 50 · Czech Republic

Main Conference Hall · [www.biocev.eu](http://www.biocev.eu)

Monday October 21

Tuesday October 22

Wednesday October 23

Sponsored by:



12:30 - 12:45

## Opening Ceremony

**Pavel Martásek** / Scientific Director, BIOCEV

**Eva Zažímalová** / President, Czech Academy of Sciences

**Markéta Martínková** / Vice-Rector for Education, Charles University

**Ladislav Anděra** / Institute of Biotechnology of the Czech Academy of Sciences

*Announcement of the BIOCEV's PhD student publication award*

## Cellular Biology and Virology

Chair: **Jan Tachezy** / Faculty of Sciences, Charles University

12:45 - 13:35

### Deciphering the metabolism of anaerobic fungi to advance their biotech potential

**Michelle A. O'Malley** / University of California, Santa Barbara / USA

13:35 - 14:10

### Tick-borne encephalitis - from virus biology to novel therapeutic approaches

**Daniel Růžek** / Masaryk University, Brno

14:10 - 14:30

**Coffee Break** – Foyer at the Conference Hall

14:30 - 15:05

### Condensate Biology at the Synapse

**Dragomir Milovanovic** / German Center for Neurodegenerative Diseases, Berlin, Germany

15:05 - 15:20

### Mif Mediates Proteotoxic Response via Formation of Cellular Foci for Protein Folding

**Martina Vinopalová** / Faculty of Science, Charles University, Prague

15:20 - 15:35

### Microtubule-associated NAV3 regulates invasive phenotypes in glioblastoma cells

**Markéta Pelantová** / Faculty of Science, Charles University, Prague

15:35

**Poster Session** (with commentary and drink)

*May continue during a buffet dinner / Light refreshment*

17:00 - 20:00

**Buffet & Barbecue Dinner - Perfect Canteen BIOCEV**



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## VARIA

Chair: **Pavel Martásek** / Scientific Director, BIOCEV

09:00 - 09:50 **Unravelling DNA repair defects in human disease**  
**Haico van Attikum** / Leiden University Medical Center, The Netherlands

09:50 - 10:25 **EHMT2 mutations affect epigenetic control and neurodevelopment**  
**Aleš Hnízda** / First Faculty of Medicine, Charles University, Prague

10:25 - 10:45 **Coffee Break** - Foyer at the Conference Hall

10:45 - 11:20 **Endothelial pyrimidine synthesis deficiency promotes tumor growth and alters immune repertoire**  
**Petra Hyroššová** / Institute of Biotechnology of the Czech Academy of Sciences, Vestec

11:20 - 11:35 **Small protein inhibitors targeting human IL-22 receptor 1 (IL-22R1) with protective effect in murine model of DSS-induced colitis**

**Yaroslava Groza** / Institute of Biotechnology of the Czech Academy of Sciences, Vestec

11:35 - 11:50 **Early Selection of the Amino Acid Alphabet Was Adaptively Shaped by Biophysical Constraints of Foldability**

**Mikhail Makarov** / Faculty of Science, Charles University

11:50 - 13:00 **Lunch Break - Perfect Canteen BIOCEV** · Not covered by the organizers

## Structural Biology and Protein Engineering

Chair: **Bohdan Schneider** / Institute of Biotechnology of the Czech Academy of Sciences

13:00 - 13:50 **Computational tools for structural biology from X to Alpha**  
**Robbie P. Joosten** / Netherlands Cancer Institute, Amsterdam, The Netherlands

13:50 - 14:25 **Seeing the chemistry in biology using neutron crystallography**  
**Lukáš Gajdoš** / Institut Laue-Langevin, Grenoble, France

14:25 - 14:45 **Coffee Break** - Foyer at the Conference Hall

14:45 - 15:10 **Photocontrolled interleukin-receptor interactions with genetically encoded non-canonical amino acids**

**Phuong Ngoc Pham** / Winner of the PhD competition / Institute of Biotechnology of the Czech Academy of Sciences, Vestec

15:10 - 15:30 **Understanding highly-active nucleases from human pathogens**

**Kristýna Adámková** / Institute of Biotechnology of the Czech Academy of Sciences, Vestec

15:30 - 15:50 **CLINCELIN: A redesigned lincosamide combats ribosome resistance modification through enhanced binding and structural flexibility**

**Michaela Novotná** / Institute of Microbiology of the Czech Academy of Sciences, Prague

15:50 **Closing of the day**



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## Biomaterials and Tissue Engineering

Chair: **Tomáš Etrych** / Institute of Macromolecular Chemistry of the Czech Academy of Sciences, Prague

- 09:00 - 09:50 **Insights into multifunctional polyester biomaterials in biomedical applications: from drug delivery to medical devices**  
**Benjamin Nottelet** / Faculty of Pharmacy, University of Montpellier, France
- 09:50 - 10:25 **Coated Gold Nanoparticles Containing SERS-active Moiety for Biocontrasting Synthesized by One-Pot Process**  
**Hana Charvátová** / Institute of Macromolecular Chemistry of the Czech Academy of Sciences, Prague
- 10:25 - 10:45 **Coffee Break** - Foyer at the Conference Hall
- 10:45 - 11:20 **A versatile pre-vascularized construct for soft and hard tissue engineering**  
**Lucie Bačáková** / Institute of Physiology of the Czech Academy of Sciences, Prague
- 11:20 - 11:35 **The role of small extracellular vesicles in the regeneration of nervous tissue**  
**Kristýna Šintáková** / Institute of Experimental Medicine of the Czech Academy of Sciences, Prague
- 11:35 - 11:50 **Tumor targeted polymer nanomedicines with protoporphyrin IX precursors for photodynamic therapy**  
**Kevin Kotalík** / Institute of Macromolecular Chemistry of the Czech Academy of Sciences, Prague
- 11:50 - 13:00 **Lunch Break - Perfect Canteen BIOCEV** · Not covered by the organizers

## Development of Diagnostics and Therapeutic Procedures

Chair: **Stanislav Kmoch** / First Faculty of Medicine, Charles University

- 13:00 - 13:50 **Rare disease homocystinuria: What we know after six decades since its description**  
**Viktor Kožich** / Department of Pediatrics and Inherited Metabolic Disorders, Charles University - First Faculty of Medicine and General University Hospital in Prague
- 13:50 - 14:25 **Unlocking cell metabolism: Exploring the power of high-resolution respirometry with the NextGen-O2k**  
**Erich Gnaiger** / CEO, Oroboros Instruments, Innsbruck, Austria
- 14:25 - 14:45 **Coffee Break** - Foyer at the Conference Hall
- 14:45 - 15:20 **Genetic causes and therapy of rare hereditary amyloidosis**  
**Jakub Sikora** / First Faculty of Medicine, Charles University, Prague
- 15:20 - 15:35 **Misprocessing of alpha-galactosidase A induces endoplasmic reticulum stress and the unfolded protein response**  
**Klára Svojšová** / First Faculty of Medicine, Charles University, Prague
- 15:35 - 15:50 **Aberrant neurodevelopment in human iPS cell-derived models of Alexander disease**  
**Zuzana Matušová** / Institute of Biotechnology of the Czech Academy of Sciences, Vestec
- 15:50 **Official Closing**

*The program and time schedule is subject to further minor changes and clarification.*



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