

# XXII Discussions in Structural Molecular Biology and 9th User Meeting of CIISB

19-21 March 2026

## Programme

Thursday, March 19

12:00 - 14:30 Registration and accommodation, **coffee**

All talks are 20 minutes long unless indicated otherwise. All times are INCLUDING discussion.

14:30 **Opening of XXII Discussions and 9th User Meeting of CIISB** (*Jan Dohnálek*)

*Lecture no. – page of abstract*

14:40 - 15:10 PhD Thesis Award 2025 winner's talk *Chair person: Jan Dohnálek*

<b>Jana Campbell</b> Institute of Biotechnology, Czech Academy of Sciences, Vestec	Structure-function studies of tubulin-modifying enzymes (PhD Thesis Award 2025 winner's talk, 30 min)	L1 – 7
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15:10 - 15:50 **Session I** *Chair person: Pavel Plevka*

<b>Pauline Audergon</b> Instruct-ERIC Hub, Oxford, UK	An Introduction to Instruct-ERIC: Funded Access to Structural Biology Infrastructure	L2 – 8
<b>Miroslava Alblová</b> Institute of Biotechnology, Czech Academy of Sciences, Vestec	Centre of Molecular Structure – Protein Production and Technologies for Structural and Biophysical Analysis	L3 – 8

15:50 - 16:20 **Coffee**

16:20 - 18:00 **Session II** *Chair person: Pavlína Řezáčová*

<b>Jan Bláha</b> Faculty of Science, Charles University, Prague	Efficient enrichment of <i>in cellulo</i> grown protein crystals	L4 – 9
<b>Jakub Bělíček</b> Faculty of Science, Palacký University, Olomouc	Insight into GABA shunt-associated aldehyde dehydrogenases (ALDH) and stress responses of ALDH superfamily in moss and barley	L5 – 9
<b>Jan Dohnálek</b> Institute of Biotechnology, Czech Academy of Sciences, Vestec	Molecular Biophysics Database for annotated raw data	L6 – 10
<b>Bohdan Schneider</b> Institute of Biotechnology, Czech Academy of Sciences, Vestec	Base pairing? Base pairing!	L7 – 11
<b>Paul Driver</b> Molecular Dimensions, Cambridge	Better Samples, Better Structures: New Practical Tools for Cryo-EM and Crystallography (10 min)	L8 – 11
<b>Jakub Nowak</b> NanoTemper Technologies, Kraków	From Expression to Interaction: Biophysical Characterization of RNA–Protein Complexes Across the Structural Biology Workflow (10 min)	L9 – 12

18:00 **Dinner**

19:00 **CIISB Executive committee**

20:00 **Pub Quiz**

Friday, March 20

7:30 - 9:00 *Breakfast*

9:00 - 10:30 **Session III** *Chair person: Jana Škerlová*

<b>Lenka Faltová</b> Institute for Chemical and Bioengineering, ETH Zurich	Modulation of enzymatic activity and amyloid formation by biomolecular condensates <i>L10 – 13</i>
<b>Aditi Chatterjee</b> Institute of Biotechnology, Czech Academy of Sciences, Vestec	Engineering protein structural dynamics with a novel genetically encoded Raman-active and chemically-reactive non-canonical amino acid (Student talk) <i>L11 – 14</i>
<b>Andrej Tekel</b> Faculty of Science, Charles University, Prague	Structural Mechanisms of Nedd4-2 Autoinhibition and Regulation by Membranes, Calcium and 14-3-3η (Student talk) <i>L12 – 15</i>
<b>Klára Kohoutová</b> Faculty of Science, Charles University, Prague	The activity of CDK16 is regulated by 14-3-3 <i>L13 – 16</i>
<b>Kateřina Kolková</b> SPECION, s.r.o., Prague	From Molecule to Mechanism: Integrated Instrumentation for Structural Biology (10 min) <i>L14 – 17</i>

10:30 - 11:00 **Conference photo and Coffee break**

11:00 - 12:30 **Session IV** *Chair person: Vojtěch Spiwok*

<b>Edward Curtis</b> Institute of Organic Chemistry and Biochemistry, Czech Academy of Sciences, Prague	Exploring the sequence space of a fluorescent deoxyribozyme using structured libraries, selection and machine learning <i>L15 – 17</i>
<b>Zdeněk Futera</b> Faculty of Science, University of South Bohemia, České Budějovice	Computational Approaches for Biomolecular Electronics From Molecular Bridges to Protein Junctions <i>L16 – 18</i>
<b>Jiří Černý</b> Institute of Biotechnology, Czech Academy of Sciences, Vestec	Annotation, validation, refinement, and modeling of nucleic acid structures <i>L17 – 19</i>
<b>Matteo Cattaneo</b> Syncell Inc., Livermore, CA, USA	Microscopic Scooping for Unbiased, Subcellular, Spatial Optoproteomic Discovery (10 min) <i>L18 – 20</i>
<b>Poster flash talks, 2 minutes each</b>	
<b>Jitka Vysloužilová</b> (Faculty of Science, University of South Bohemia, České Budějovice) Simulation of Electron Transfer on Biomolecular Bridges by Non-Adiabatic Molecular Dynamics (Student poster)	
<b>Zuzana Králová</b> (Institute of Organic Chemistry and Biochemistry, Czech Academy of Sciences, Prague) Probing the specificity of fluorescent deoxyribozymes using single-step selections and machine learning (Student poster)	
<b>Patrik Lettrich</b> (Institute of Organic Chemistry and Biochemistry, Czech Academy of Sciences, Prague) Development and application of catalytic DNA molecules (Student poster)	
<b>Adam Brzezina</b> (Faculty of Science, Charles University, Prague) Biophysical Characterization of Proteins and Protein Complexes by Sedimentation Velocity Analytical Ultracentrifugation (Student poster)	
<b>Martin Slavík</b> (Institute of Physiology, Czech Academy of Sciences, Prague) Regulation of Nedd4-2 by Ndfip adaptor proteins (Student poster)	
<b>Eva Paulenová</b> (CEITEC, Masaryk University, Brno) PHL2: a black sheep of the PLL lectin family	

12:30 **Lunch**

15:30 **Coffee**

16:00 - 17:40 **Session V** Chair person: **Lukáš Židek**

<b>Ladislav Bumba</b> Institute of Microbiology, Czech Academy of Sciences, Prague	C-terminal domain of the filamentous hemagglutinin FhaB is crucial for interaction of <i>Bordetella pertussis</i> with ciliated epithelial cells <b>L19 – 20</b>
<b>Zdeněk Tošner</b> Faculty of Science, Charles University, Prague	High-resolution solid-state NMR of proteins: Current status and perspectives <b>L20 – 21</b>
<b>Ondřej Vaněk</b> Faculty of Science, Charles University, Prague	Host, sweet host! A tale of glycans, lectins, microbes, killers <b>L21 – 21</b>
<b>Kateřina Sedláčková</b> Altium International s.r.o., Prague	SPRead the word about the REVolution! (10 min) <b>L22 – 22</b>
<b>Josef Uskoba</b> BioTech a.s., Prague	Photonic Integrated Circuits - Future of Immobilization Techniques (10 min) <b>L23 – 22</b>
<b>Poster flash talks, 2 minutes each</b>	
<b>Róbert Šándor</b> (CEITEC, Masaryk University, Brno) Phosphorylation of Microtubule-Associated Protein 2c by Serine/Threonine Kinases and the Effect of Phosphorylation on its Interactions (Student poster)	
<b>Tereza Buráňová</b> (CEITEC, Masaryk University, Brno) When LecB Is Not Alone: Structural and Functional Analysis of a Two-Domain Lectin (Student poster)	
<b>Yelyzaveta Pulnova</b> (Extreme Light Infrastructure ERIC, Dolní Břežany) Plasma X-ray source for time-resolved diffraction in ELI (Student poster)	
<b>Jayashri Babaji Bhosale</b> (Faculty of Science, Charles University, Prague) Structural basis of ASK1 regulation: from 14-3-3 mediated inhibition to MKK7 substrate recognition (Student poster)	
<b>Hana Šimečková</b> (CEITEC, Masaryk University, Brno) Structure of the LE3 phage infecting <i>Leptospira biflexa</i>	
<b>Adéla Fejfarová</b> (Institute of Organic Chemistry and Biochemistry, Czech Academy of Sciences, Prague) Structural complexity in bacterial transcription regulation (Student poster)	

17:45 - 18:30 **General Assembly of the Czech Society for Structural Biology**

The meeting will be held in the Czech and/or Slovak languages

1. Volba zapisovatele
2. Schválení programu
3. Výroční zpráva Rady ČSSB o činnosti a hospodaření
4. Zpráva revizní komise
5. Schválení výroční zprávy Rady ČSSB o činnosti a hospodaření
6. Revize členské základny
7. Infrastruktury se vztahem ke strukturní biologii, přístupy, financování, vývoj Instructu a jiných
8. Různé

18:30 - 19:30 **Dinner**

19:30 - 21:30 **Poster session**, (CSSB Council meeting)

**Saturday, March 21**

7:30 - 9:00 *Breakfast*

9:00 - 10:20 **Session VI** *Chair person: Jiří Nováček*

<b>Gabriel Soares Guerra</b> Masaryk University, CEITEC, Brno	Time-resolved cryo-EM investigation of the translation initiation in bacteria <i>L24 – 23</i>
<b>Amiyanranjan Das</b> Masaryk University, CEITEC, Brno	Structural and mechanistic insights into Rift Valley Fever Virus genome replication (Student talk) <i>L25 – 24</i>
<b>Tibor Füzik</b> Masaryk University, CEITEC, Brno	Structures of asymmetric particles of TBEV provide insight into flavivirus assembly and maturation <i>L26 – 24</i>
<b>Dalibor Košek</b> Institute of Physiology, Czech Academy of Sciences, Prague	The Asymmetry-to-Symmetry Transition in Copy-Out-Paste-In DNA Transposition <i>L27 – 25</i>

10:20 - 10:50 *Coffee break*

10:50 - 11:50 **Session VII** *Chair person: Michaela Wimmerová*

<b>Tomáš Koval'</b> Institute of Biotechnology, Czech Academy of Sciences, Vestec	The challenge of bacterial RNA polymerase biophysical characterization <i>L28 – 26</i>
<b>Ján Sabó</b> University of Groningen, The Netherlands	Human papillomavirus virus particles studied by High-Speed AFM <i>L29 – 26</i>
<b>Miroslav Kloz</b> Extreme Light Infrastructure ERIC, Dolní Břežany	Analog Computing in Biological Photoreceptors: The Case of a Neorhodopsin Tandem <i>L30 – 27</i>

11:50 - 12:10 **Evaluation of student presentations, prizes, concluding remarks**

12:10 *Lunch & departure*