



PROGRAMME

Thursday, March 13

10:30	12:00	Registration	
12:00	12:45	Accommodation	
13:00	14:15	Special Session celebrating IYCr	chairperson: <i>Jan Dohnálek</i>
		Plenary lecture to celebrate the International Year of Crystallography	3
		<i>David Stuart</i>	
		Challenges of virus crystallography	
14:15	14:45	<i>Coffee break</i>	
14:45	16:05	Special Session celebrating IYCr	chairperson: <i>Bohdan Schneider</i>
L1			3
		<i>Radomír Kužel</i>	
		2014 - International Year of Crystallography	
L2			4
		<i>Jindřich Hašek</i>	
		International appreciation of crystallography	
L3			7
		<i>Imre Barák</i>	
		User consortium of serial femtosecond crystallography - Slovak involvement	
L4			8
		<i>J. Dohnálek</i>	
		Methods of structural biology of Instruct available to Czech researchers	
16:05	16:30	<i>Coffee break</i>	
16:30	18:00	Session I	chairperson: <i>Petr Novák</i>
L5			8
		<i>Daniel Němeček</i>	
		Application of Difference 3D Electron Microscopy to Identify DSS1 Subunits and Induced Conformational Changes in the Complex with Rad52	
L6			9
		<i>Tanvir Shaikh</i>	
		Initial bridges between the two ribosomal subunits are formed within 9.4 milliseconds: A time-resolved cryo-EM study	
L7			10
		<i>Z. Kukačka</i>	
		Chemical Cross-linking and Hydrogen-Deuterium Exchange –Tools for Precise Definition of Human Haptoglobin Structure	
L8			10
		<i>E. Bouřa</i>	
		Combination of Xtal, SAXS, DEER and FRET data – the structure of ESCRT-I/II supercomplex and implications for membrane budding (30')	
18:00	21:00	Dinner	

Friday, March 14

8:00		Breakfast	
9:00	10:00	Session II	chairperson: <i>Tomáš Obšil</i>
L9			11
		<i>Vernon. Smith</i>	
		Improvements to Data Quality with the PHOTON 100 detector in Shutterless Mode	
L10			
		<i>Jiří Maršík</i>	
		Latest Developments for Life Science from Rigaku	
L11			11
		<i>Jiří Brynda</i>	
		X-ray Structural Analysis of Carbonic Anhydrase and Carborane-Based Inhibitors Complexes	
10:00	10:20	<i>Coffee break</i>	
10:20	12:00	Session III	chairperson: <i>Evžen Bouřa</i>
L12			12
		<i>Kvido Strišovký</i>	
		Crystal structures of rhomboid intramembrane protease bound to substrate peptides elucidate the basis of substrate specificity and mechanism (30')	
L13			12
		<i>David Kopečný</i>	
		Family of plant nucleoside N-ribohydrolases	
L14			13
		<i>Veronika Lišková</i>	
		Engineering enzyme access tunnels for protein stabilization	
L15			14
		<i>Sergio Maques</i>	
		Investigation of gating mechanisms in the access tunnel of haloalkane dehalogenases (30')	
12:10	13:30	Lunch	
13:45	15:35	Session IV	chairperson: <i>Daniel Němeček</i>
L16			15
		<i>Moran Jerabek</i>	
		MicroScale Thermophoresis: Interaction analysis and beyond (30')	
L17			15
		<i>Lucie Bednářová</i>	
		Raman microspectroscopy of <i>Candida albicans</i> vacuoles	
L18			16
		<i>Irena Kratochvílová</i>	
		Theoretical and experimental study of charge transfer through DNA: impact of mercury attached to mismatched base pairs	



L19 <i>Tatsiana Charnavets</i> Structure, stability and thermodynamic characteristics of single stranded DNA in repetitive extragenic palindromic elements	16	Saturday, March 15	
		8:00 Breakfast	
		9:15 10:45 Session VI	chairperson: <i>Rüdiger Ettrich</i>
L20 <i>Josef Houser</i> RSL lectin - a complex approach to study carbohydrate-protein interaction	17	L26 <i>Katsiaryna Tratsiak</i> Haloalkane dehalogenases: DmxA from <i>Marinobacter sp.</i> ELB 17 and DpcA from <i>Psychrobacter cryohalolentis</i> K5, from the crystallization to the structure analysis	21
15:35 16:00 <i>Coffee break</i>		L27 <i>Radka Chaloupková</i> Comparison of catalytic performance of haloalkane dehalogenases in deep eutectic and organic co-solvents	21
16:00 17:40 Session V	chairperson: <i>Richard Hrabal</i>	L28 <i>Petra Szelcsányiová</i> Modification of substrate specificity and catalytic activity of haloalkane dehalogenase linb by opening de novo access tunnels	22
L21 <i>Matej Zábřady</i> Recombinant antibodies for in vivo applications	18		
L22 <i>Jakub Ptáček</i> Selection and characterization of Anticalins specific for human glutamate carboxypeptidase II	18	10:00 10:20 <i>Coffee break</i>	
L23 <i>Miroslava Kopecká</i> Role of EF-hand motif in the activation of neutral trehalase	19	10:20 12:00 Session VII	chairperson: <i>Jiří Černý</i>
L24 <i>Dalibor Kosek</i> Characterization of interactions between protein kinase ASK1 and its binding partners	19	L29 <i>Rüdiger Ettrich</i> Charybdotoxin unbinding from the mKv1.3 potassium channel: A Combined computational and experimental study (30')	23
L25 <i>Ivana Nemčovičová</i> Cytomegalovirus gpUL141 exhibits unique receptor-binding domain to inhibit cell surface expression of CD155 and TRAIL death receptors	20	L30 <i>Saurabh Kumar Pandey</i> Binding competent states for L-arginine in E. coli arginine repressor apoprotein	23
17:45 19:00 Dinner		L31 <i>Hedi Hegyi</i> Domain Integrity Verification of Alternative Splicing - the DIVAS server	24
20:00 21:00 General Assembly of the Czech Society for Structural Biology. Meeting will be held in the Czech and/or Slovak languages.		L32 <i>Bohdan Schneider</i> Dynamics of biomolecules estimated by crystallographic B-factors (30')	24
20:15 22:45 Poster Session		12:00 12:05 <i>Closing remarks</i>	
		12:15 <i>Lunch</i>	



POSTERS

P1	25	P12	32
<i>Adriana Baumlová</i>		<i>Karla Fejfarová</i>	
Structural characterization of phosphatidylinositol 4-phosphate IIalpha		Crystallization and preliminary X-ray diffraction analysis of nepenthesin-1	
P2	25	P13	32
<i>Lada Biedermannová</i>		<i>Jan Frömmel</i>	
Hydration of amino acid residues in proteins: what can we learn from data mining?		Aminoaldehyde dehydrogenase isoenzymes from <i>Pisum sativum</i> oxidize N-acylated aminoaldehydes	
P3	26	P14	33
<i>Kristýna Boušová</i>		<i>Pavel Grinkevich</i>	
Calmodulin and S100A1 protein interact with the intracellular termini of the TRPM4 channel		Structure and function of the C-terminal helical domain of the motor subunit HsdR from the type I restriction-modification system EcoR124I	
P4	27	P15	33
<i>Jiří Buřka</i>		<i>Dipanjan Guha</i>	
Synthesis and Spectroscopy of Derivatives of the Fluorescent Protein Chromophore		Assembly and molecular architecture of the TSC1-TSC2 complex	
P5	27	P16	34
<i>Zuzana Chromíková</i>		<i>Jiří Heller</i>	
Crucial role of SpoIIE during <i>Bacillus subtilis</i> cell differentiation		Photosystem II PsbO protein from higher plants	
P6	28	P17	34
<i>Zdeněk Chval</i>		<i>Petr Hošek</i>	
Molecular dynamics calculations of Cy3 and Cy5 cyanine dyes terminally attached to DNA		Moving hills - new parallelizable metadynamic method with fixed amount of bias potential	
P7	29	P18	35
<i>Ladislav Csefalvay</i>		<i>Dominik Hrebík</i>	
Purification and Initial Imaging of the type I DNA Restriction-Modification Enzyme EcoR124I by Electron Microscopy		Interactions between receiver domain of cytokinin receptor CKI1RD and AHP protein from <i>Arabidopsis thaliana</i>	
P8	30	P19	35
<i>Oksana Degtjarik</i>		<i>Iulia Iermak</i>	
Crystallization and structural characterization of LinB86 haloalkane dehalogenase mutant		Crystallization of glyceraldehyde dehydrogenase from <i>Thermoplasma acidophilum</i>	
P9	30	P20	36
<i>Radka Dopitová</i>		<i>Michaela Jirků</i>	
Crystal Structure of Phosphotransmitter AHP2 and Modeling of its Interaction with Sensor Histidine Kinase CKI1 - Towards Elucidating Molecular Recognition in the Multistep Phosphorelay Signaling in Plants		Characterization of the calmodulin and S100A1 binding domains on the N-terminus of TRPM1 receptor	
P10	31	P21	36
<i>David Dufour</i>		<i>Miroslava Kacířová</i>	
RNA structure prediction by knowledge-based statistical potentials and fragment assembly		Structural studies on Pdc/14-3-3 protein complex	
P11	31	P22	37
<i>Olga Dvořáčková</i>		<i>Radka Končítíková</i>	
Influence of the substitution effects in the pyridine ring on the reactivity of the trans-[Pt(NH ₃) ₂ (pyr)Cl] ⁺ complex		Structure-function study on enzymes linked to cytokinin metabolism - aldehyde dehydrogenases and nucleoside N-ribohydrolases	



P23 <i>Tereza Kovařová</i> Structural and catalytic properties of α -L-fucosidase from <i>Paenibacillus thiaminolyticus</i>	38	P34 <i>Daniel Pokorný</i> Structural and functional characterization of <i>Ralstonia solanacearum</i> lectin mutant	43
P24 <i>Daniela Krajčiková</i> Studies of Self-assembly Properties of <i>Bacillus</i> Spore Coat Proteins	38	P35 <i>Tatyna Prudnikova</i> Structural analysis of a novel haloalkane dehalogenase DbeA from <i>Bradyrhizobium elkanii</i> USDA94	44
P25 <i>Tomáš Kroupa</i> Interaction of M-PMV matrix protein mutants with membranes	39	P36 <i>David Řeha</i> Molecular dynamics comparison of <i>E. coli</i> WrbA apoprotein and holoprotein	45
P26 <i>Monika Krupová</i> Detection of Molecular Chirality in Lanthanide Complexes by the Raman Optical Activity	39	P37 <i>Leona Šerá</i> Pump-probe molecular dynamics (PPMD) simulations in GROMACS and its testing on the PDZ domain	45
P27 <i>Ivana Kutá Smatanová</i> Protein crystallization projects at the Faculty of Science of the USB CB	40	P38 <i>Katsiaryna Shamayeva</i> Interdomain communication in the endonuclease/motor subunit of Type I restriction-modification enzyme EcoR124I	46
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P29 <i>Lucie Marečková</i> KLK2- and KLK11-binding proteins as novel class of recombinant capture ligands useful for improved Prostate Cancer diagnostics	41	P40 <i>Vojtěch Spiwok</i> Enhancement of linear vs. non-linear motions in protein folding	47
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