



## FEBS-INSTRUCT PC14 005 programme

June 20-27, 2014 Nové Hradý

	<b>FEBS-INSTRUCT Lectures 9:15-13:00</b>	<b>FEBS-INSTRUCT Lab Exercises 14:30-18:30</b>	<b>Evening events 20:00</b>
<b>Friday June 20</b>	16:00-22:00 Registration 20:00 Refreshments		
<b>Saturday June 21</b>  10:20 Coffee and tea time	<b>9:00-9:30</b> Welcome and Course remarks [Ivana Kuta Smatanova & Pavlína Řezáčová] <b>9:30-9:45</b> Prologue by the rector of the USB [Libor Grubhoffer] <b>9:45-10:20</b> Prologue by the INSTRUCT directors [David Stuart] <b>10:50-11:15</b> International Year of Crystallography [Radomír Kužel] <b>11:15-12:00</b> Principles of protein crystallization: The nature of Protein Crystals and the Physical Chemistry of their formation [Bernhard Rupp] <b>12:00-12:45</b> Crystallization of membrane proteins in lipidic systems [Martin Caffrey]	Conventional techniques and their modifications, crystallization of own proteins [J. Mesters] "The secret life of your crystallization drop"? [B. Rupp] Crystallization of membrane proteins in lipidic systems [M. Caffrey]	Welcome party – representative quarters of the castle
<b>Sunday June 22</b>  10:45 Coffee and tea time	<b>9:15-10:00</b> Nucleation of protein crystals: novel insights [Peter G. Vekilov] <b>10:00-10:45</b> An introduction to crystal morphology and crystal growth mechanisms [Juan M. García-Ruiz by Gavi] <b>11:15-12:00</b> Conventional crystallization methods and their modifications [Jeroen Mesters] <b>12:00-12:30</b> Interpretation of the crystallization drop results <b>12:30-13:00</b> Seeding Strategies for "Random" Crystal Screening and Crystal Optimization [Stefan Kolek]	Observation of crystal growth/ Seeding [T. Bergfors] Capillary protein crystallization using counter-diffusion techniques [J. Gavira] Crystallization under oil [L. Govada] "Random" Microseeding [S. Kolek] Optional exercise: "The secret life of your crystallization drop"? [B. Rupp]	Theory of X-ray diffraction [Jeroen Mesters]  Discussion with "speakers of the day" + posters
<b>Monday June 25</b>  10:45 Coffee and tea time	<b>9:15-10:00</b> Principles of protein crystallization II: Methods, evaluation, and properties of 'real' crystals [Bernhard Rupp] <b>10:00-10:45</b> Capillary counterdiffusion technique for protein crystallization and screening [Juan M. Garcia-Ruiz by Gavi] <b>11:15-12:00</b> "What to do if everything has failed" [Terese Bergfors] 11:45-12:30 <b>12:00-12:15</b> Tips and tricks for protein crystal manipulation and handling [José A. Gavira]	Observation of crystal growth/ Seeding [T. Bergfors] Capillary protein crystallization using counter-diffusion techniques [J. Gavira] Crystallization under oil [L. Govada] "Random" Microseeding [S. Kolek] Optional exercise: "The secret life of your crystallization drop"? [B. Rupp]	Theory of X-ray diffraction [Jeroen Mesters]  Discussion with "speakers of the day" + posters



	<b>FEBS Lectures 9:15-13:00</b>	<b>FEBS Lab Exercises 14:30-18:30</b>	<b>Evening events 20:00</b>
<b>Tuesday June 24</b>  10:45 Coffee and tea time	<b>9:15-10:00</b> Preparation of protein samples for crystallization experiments [Pavčina Řezáčová] <b>10:00-10:45</b> Protein as the main variable in crystallization [Lubica Urbániková] <b>11:15-12:00</b> Unconventional crystallization strategies and techniques for screening and optimisation [Naomi E. Chayen] <b>12:00-13:00</b> A historical perspective on protein crystallization from 1840 to the present day [Richard Giegé]	<b>14:00-21:00</b> Social program – (15:00-17:30).  Traditional south-czech dinner (18:30 – 20:00).	<b>21:00</b>  Discussion with speakers of the day
<b>Wednesday June 25</b>  10:45 Coffee and tea time	<b>9:15-10:00</b> Crystallization and crystallographic analysis in a microfluidic chip [Claude Sauter] <b>10:00-10:45</b> Optimization of Cryptic Leads Derived from Trace Fluorescent Labeling Screening [Marc L. Pusey] <b>11:15-12:00</b> Publication of scientific results with emphasis on crystallization communications [Howard Einspahr] <b>12:00-12:45</b> DLS measurements prior to crystallization experiments [Christian Betzel]	Dynamic light scattering [K. Dierks, Ch. Betzel] Trace Fluorescent Labeling for Protein Crystallization Screening [M. Pusey]  Publication of scientific results with emphasis on crystallization communications [H. Einspahr]  Crystallization in microfluidic chips [C. Sauter]  Optional exercise: Conventional techniques and crystallization of own proteins [J. Mesters, L. Urbániková]	Round table discussion + student presentations
<b>Thursday June 26</b>  10:45 Coffee and tea time	<b>9:15-10:00</b> Receptor-ligand interactions promote crystallization [Ivana Nemčovičová] <b>10:00-10:45</b> Optimisation of crystal growth for neutron crystallography [Monika Budayová-Spano] <b>11:15-12:00</b> Preparation of Micro- and Nano-Crystals for Free-Electron-Laser and Synchrotron Radiation Sources [Christian Betzel] <b>12:00-12:45</b> Additives in macromolecular crystallization [Jan Dohnálek] <b>12:45-13:00</b> Alternative crystallization technique [Ivana Kuta Smatanová]	Dynamic light scattering [K. Dierks, Ch. Betzel] Trace Fluorescent Labeling for Protein Crystallization Screening [M. Pusey]  Publication of scientific results with emphasis on crystallization communications [H. Einspahr]  Crystallization in microfluidic chips [C. Sauter]  Optional exercise: Conventional techniques and crystallization of own proteins [J. Mesters, L. Urbániková]	<b>19:00</b> Farewell dinner
<b>Friday June 27</b>  10:45 Coffee and tea time	<b>9:30-12:30</b> Crystal observation, testing, handling, mounting and cryocooling [J. Brynda, P: Pachi]		



## FEBS-INSTRUCT PC14 005 Lab Exercises

Date	Name of lab exercise	Time			
		14:30-15:30	15:30-16:30	16:30-17:30	17:30-18:30
<b>Saturday June 21</b>	Conventional techniques and their modifications, crystallization of own proteins [J.Mesters]	Group 1	Group 1	Group 2	Group 2
	"The secret life of your crystallization drop"? [B. Rupp]	Group 3	Group 3	Group 4	Group 4
	Crystallization of membrane proteins in lipidic systems [M. Caffrey]	Group 2 + 4	Group 2 + 4	Group 1 + 3	Group 1 + 3
<b>Sunday June 22</b>	Observation of crystal growth / Seeding [T. Bergfors]	Group 1	Group 1	Group 2	Group 2
	Capillary protein crystallization using counter-diffusion techniques [J. Gavira]	Group 2	Group 2	Group 1	Group 1
	Crystallization under oil [L. Govada]	Group 3	Group 3	Group 4	Group 4
	"Random" Microseeding [S. Kolek]	Group 4	Group 4	Group 3	Group 3
	"The secret life of your crystallization drop"? [B. Rupp]	Optional exercise			
<b>Monday June 23</b>	Observation of crystal growth / Seeding [T. Bergfors]	Group 3	Group 3	Group 4	Group 4
	Capillary protein crystallization using counter-diffusion techniques [J. Gavira]	Group 4	Group 4	Group 3	Group 3
	Crystallization under oil [L. Govada]	Group 1	Group 1	Group 2	Group 2
	"Random" Microseeding [S. Kolek]	Group 2	Group 2	Group 1	Group 1
	"The secret life of your crystallization drop"? [B. Rupp]	Optional exercise			
<b>Wednesday June 25</b>	Dynamic light scattering [K. Dierks]	Group 1	Group 1	Group 2	Group 2
	Trace Fluorescent Labeling for Protein Crystallization Screening [M. Pusey]	Group 2	Group 2	Group 1	Group 1
	Publication of scientific results with emphasis on crystallization communications [H. Einspahr]	Group 3	Group 3	Group 4	Group 4
	Crystallization in microfluidic chips [C. Sauter]	Group 4	Group 4	Group 3	Group 3
	Conventional techniques and crystallization of own proteins [J. Mesters, L. Urbániková]	Special exercises for students with own protein			
<b>Thursday June 26</b>	Dynamic light scattering [K. Dierks]	Group 3	Group 3	Group 4	Group 4
	Trace Fluorescent Labeling for Protein Crystallization Screening [M. Pusey]	Group 4	Group 4	Group 3	Group 3
	Publication of scientific results with emphasis on crystallization communications [H. Einspahr]	Group 1	Group 1	Group 2	Group 2
	Crystallization in microfluidic chips [C. Sauter]	Group 2	Group 2	Group 1	Group 1
	Conventional techniques and crystallization of own proteins [J. Mesters, L. Urbániková]	Special exercises for students with own protein			
<b>Friday June 27</b>	Crystal observation, testing, handling, mounting and cryo-cooling [J. Brynda]	9:30-12:30 Groups 1-4			