FEBS PC12 023 programme

	FEBS Lectures 9:15-13:00	**FEBS Lab Exercises 14:30-18:30**	**Evening events 20:00**
Friday June 22	16:00-22:00 Registration 20:00 Refreshments		
Saturday June 23 10:00 Coffee and tee time	**9:15-9:30** Welcome [Ivana Kuta Smatanova & Pavlína Řezáčová] **9:30-10:00** *Prologue by the rector of the USB [Libor Grubhoffer]* **10:15-11:00** Protein crystals and the physical chemistry of their formation [Joe Ng] **11:00-11:45** Conventional crystallization methods and their modifications [Jeroen Mesters] **11:45-12:30** Crystallization of membrane proteins in lipidic mesophases [Martin Caffrey] **12:30-13:15** Crystallization of protein-lipid complexes of the immune system [Dirk M. Zajonc]	Conventional techniques and their modifications, crystallization of own proteins [J. Mesters] *Optional exercise*: Conventional techniques and crystallization of own proteins using commercial screening kits [Ľ. Urbániková] Crystallization of membrane proteins in lipidic mesophases [M. Caffrey]	Welcome party – representative quarters of the castle
Sunday June 24 11:15 Coffee and tee time	**9:15-10:00** Crystallogenesis methods and structural biology - historical overview [Richard Giegé] **10:00-10:45** Properties and nature of macromolecular crystals [Joe Ng] **10:45-11:15** Interpretation of the crystallization drop results [Terese Bergfors] **11:30-12:15** Crystallization and crystallographic analysis in a microfluidic chip [Claude Sauter] **12:15-13:00** Recent development in automatic protein crystallization [Patrick Shaw Stewart]	Observation of crystal growth / Seeding [T. Bergfors] Crystallization and crystallographic analysis in a microfluidic chip [C. Sauter] Crystallization under oil [L. Govada] Microseeding with automatic systems [Patrick Shaw Stewart]	Discussion with "speakers of the day" + posters
Monday June 25 10:45 Coffee and tee time	**9:15-10:00** An introduction to crystal morphology and crystal growth mechanisms [Juan M. García-Ruiz] **10:00-10:45** "What to do if everything has failed" Terese Bergfors] **11:00-11:45** Unconventional crystallization techniques for screening and optimisation [Naomi E. Chayen] **11:45-12:30** Tips and tricks for protein crystal manipulation and handling [José A. Gavira] **12:30-13:15** On the use of additives in protein crystallization [Rolf Hilgenfeld]	Observation of crystal growth / Seeding [T. Bergfors] Crystallization and crystallographic analysis in a microfluidic chip [C. Sauter] Crystalliation under oil [L. Govada] Microseeding with automatic systems [Patrick Shaw Stewart]	Distinguishing protein crystals from salt [Patrick Shaw Stewart] Discussion with "speakers of the day" + posters

	FEBS Lectures 9:15-13:00	**FEBS Lab Exercises 14:30-18:30**	**Evening events 20:00**
Tuesday June 26 10:45 Coffee and tee time	**9:15-10:00** E.coli - a factory for recombinant proteins [Lubomír Janda] **10:00-10:45** The road from protein expression and purification to protein crystallization [Estela Pineda Molina] **11:00-11:45** Preparation of protein samples for crystallization experiments [Pavlína Řezáčová] **11:45-12:30** Protein as the main variable in crystallization [Ľubica Urbániková]	**14:00-21:00** Social program – visit of Budvar brewery in České Budějovice (15:00-17:30). Traditional south-czech dinner (18:30 – 20:00).	**21:00** Discussion with "speakers of the day"
Wednesday June 27 10:45 Coffee and tee time	**9:15-10:00** Counter diffusion methods for protein crystallization and screening: gels, capillary volumes and microgravity [Juan M. Garcia-Ruiz] **10:00-10:45** Illuminating the Screening Process with Fluorescence [Marc L. Pusey] **11:00-11:45** DLS measurements prior to crystallization experiments [Christian Betzel] **11:45-12:30** Publication of scientific results with emphasis on crystallization communications [Howard Einspahr] **12:30-13:15** Large volume crystal growth in restricted geometry for neutron crystallography[Joe Ng]	Dynamic light scattering [K. Dierks] Illuminating the Screening Process with Fluorescence [M. Pusey] Publication of scientific results with emphasis on crystallization communications [H. Einspahr] Protein crystallization using the GCB [J. Gavira] How to set up a large and small diameter capillary counter diffusion for neutron diffraction [J. Ng] *Optional exercise:* Conventional techniques and crystallization of own proteins [J. Mesters, Ľ. Urbániková]	Round table discussion + student presentations
Thursday June 28 10:45 Coffee and tee time	**9:15-10:00** Nucleation of protein crystals: novel insights [Peter Vekilov] **10:00-10:45** Preparation of Nano-Crystals for Future Application of Serial Femtosecond Crystallography at X-FELs [Christian Betzel] **11:00-11:45** How to see hydrogens too - Introduction to neutron crystallography [Monika Budayová-Spano] **11:45-12:15** Screening the diffraction quality of protein crystals [Vernon Smith] **12:15-12:30** CIP as alternative crystallization method [Ivana Kuta Smatanová]	Dynamic light scattering [K. Dierks] Illuminating the Screening Process with Fluorescence [M. Pusey] Publication of scientific results with emphasis on crystallization communications [H. Einspahr] Protein crystallization using the GCB [J. Gavira] How to set up a large and small diameter capillary counter diffusion for neutron diffraction [J. Ng] *Optional exercise:* Conventional techniques and crystallization of own proteins [J. Mesters, Ľ. Urbániková]	**19:00** Farewell dinner
Friday July 2 10:45 Coffee and tee time	**9:30-12:30** Crystal observation, testing, handling, mounting etc. [J. Brynda]		

FEBS PC12 023 Lab Exercises

Date	Name of lab exercise	Time			
		14:30-15:30	15:30-16:30	16:30-17:30	17:30-18:30
Saturday June 23	Conventional techniques and their modifications, crystallization of own proteins [J.Mesters]	Group 1	Group 1	*Group 2*	*Group 2*
	Conventional techniques and crystallization of own proteins using commercial screening kits [Ľ. Urbániková]	Group 3	Group 3	Group 4	Group 4
	Crystallization of membrane proteins in lipidic mesophases [M. Caffrey]	Group 2 + 4	Group 2 + 4	Group 1 + 3	Group 1 + 3
Sunday June 24	Observation of crystal growth / Seeding [T. Bergfors]	Group 1	Group 1	*Group 2*	*Group 2*
	Crystallization and crystallographic analysis in a microfluidic chip [C. Sauter]	*Group 2*	*Group 2*	Group 1	Group 1
	Crystallization under oil [L. Govada]	Group 3	Group 3	Group 4	Group 4
	Microseeding with automatic systems [P. Shaw Stewart]	Group 4	Group 4	Group 3	Group 3
Monday June 25	Observation of crystal growth / Seeding [T. Bergfors]	Group 3	Group 3	Group 4	Group 4
	Crystallization and crystallographic analysis in a microfluidic chip [C. Sauter]	Group 4	Group 4	Group 3	Group 3
	Crystallization under oil [L. Govada]	Group 1	Group 1	*Group 2*	*Group 2*
	Microseeding with automatic systems [P. Shaw Stewart]	*Group 2*	*Group 2*	Group 1	Group 1
Wednesday June 26	Dynamic light scattering [K. Dierks]	Group 1	Group 1	*Group 2*	*Group 2*
	Protein cryst. using the GCB [J. Gavira] // How to set up capillary counter diffusion for neutron diffraction [J. Ng]	*Group 2*	*Group 2*	Group 1	Group 1
	Illuminating the Screening Process with Fluorescence [M. Pusey]	Group 3	Group 3	Group 4	Group 4
	Publication of scientific results with emphasis on crystallization communications [H. Einspahr]	Group 4	Group 4	Group 3	Group 3
	Conventional techniques and crystallization of own proteins [J. Mesters, Ľ. Urbániková]	Special exercises fro students with own protein			
Thursday June 27	Dynamic light scattering [K. Dierks]	Group 3	Group 3	Group 4	Group 4
	Protein cryst. using the GCB [J. Gavira] // How to set up capillary counter diffusion for neutron diffraction [J. Ng]	Group 4	Group 4	Group 3	Group 3
	Illuminating the Screening Process with Fluorescence [M. Pusey]	Group 1	Group 1	*Group 2*	*Group 2*
	Publication of scientific results with emphasis on crystallization communications [H. Einspahr]	*Group 2*	*Group 2*	Group 1	Group 1
	Conventional techniques and crystallization of own proteins [J. Mesters, Ľ. Urbániková]	Special exercises fro students with own protein			
Thursday June 28	Crystal observation, testing, handling, mounting etc. [J. Brynda]	9:30-12:30 Groups 1-4			