



Two Decades of FEBS Practical Crystallization Courses and Other Networking Conferences

[illegible]





Jihočeská univerzita
v Českých Budějovicích
University of South Bohemia
in České Budějovice



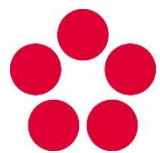
University of South Bohemia - Vision, Mission & Values

The University of South Bohemia (USB) proudly claims to be a **research-based** university and holds a **leading position** in the Czech Republic.

On the other hand, it covers a **significant part** of the professional fields necessary at the **regional level**.

As a member of the European Alliance of Universities, the University of South Bohemia feels and wants to be an **equal partner of European universities** in both the quality of education and research, accessible at all levels of education at the pan-European level.

YOUNG → FLEXIBLE → SUSTAINABLE → ...



Jihočeská univerzita
v Českých Budějovicích
University of South Bohemia
in České Budějovice

Faculties of the USB



Faculty of Economics



Faculty of Arts



Faculty of Education



Faculty of Science



**Faculty of Fisheries
and Protection of
Waters**



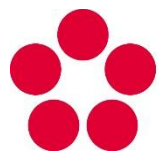
Faculty of Theology



**Faculty of Health
and Social Sciences**



**Faculty of Agriculture
and Technology**



Jihočeská univerzita
v Českých Budějovicích
University of South Bohemia
in České Budějovice

USB in numbers



EDUCATION

9,221
Students
10,3 % foreigners

70
Profesors
14 % females

814
Academic Staff,
scientists
34 % females

653
Non- Academic Staff
71 % females



RESEARCH

1468
University Staff
53 % Females

8/2
Faculties / Centre

169
Study Programmes
31 % in English

76 MIO EUR
Budget



HUMAN RESOURCES



INTERNALIZATION

567
Ph.D. students
48 % foreigners

960
Publications in
2023
(850 articles /
37 books / 73 book
chapters)

83
Active International
MoU

3
ESFRI infrastructure
(eLTER, DANUBIUS-
RI, ELIXIR)



INFRASTRUCTURE

Department of International Affairs USB

Strategic Goals



Foster global competencies for students and staff



Build an inclusive, international campus environment

European Universities Alliance



Strengthen global partnerships and visibility



European Universities alliances

KreativEU – Goals and Milestones

KreativEU Heritage – a joint European campus with more than 40,000 students

KreativEU Education – joint study programs and courses

KreativEU Research – support for innovation and scientific cooperation between universities

KreativEU Culture and Cultural Identity – support for artistic education and memorial incubators

KreativEU Smart Sustainability Think Tank – support for sustainable development

KreativEU Mobility – student mobility program

WP 1 - Management



V. Žlábek, J. Jerousková

WP 2 - Education



R. Malátová, J. Plečerová

WP 3 - Research



L. Berec, R. Závodská

WP 4 - Culture with and for society



L. Berec, R. Štemberková

WP 5 - Smart sustainability



P. Rozák, E. Krřín

WP 6 - Heritage European Campus



M. Hojdecký

WP 7 - Mobility



V. Žlábek, Z. Novotná

WP 8 - Communication and dissemination



P. Král, Z. Filip



Polytechnic University of Tomar (IPT, Portugal)



D. A. Tsenov Academy of Economics (TAE, Bulgaria)



University of South Bohemia in České Budějovice (USB, Czechia)



University of Camerino (UNICAM, Italy)



University of Greifswald (UG, Germany)



Breda University of Applied Sciences (BUas, Netherlands)



Opole University of Technology (OUTech, Poland)



Valahia University of Targoviste (VUT, Romania)



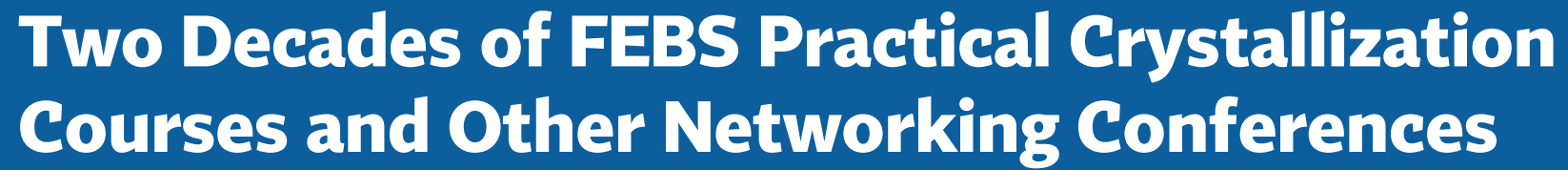
Trnava University (TUT, Slovakia)



Södertörn University (SH, Sweden)



Adana Alparslan Türkeş Science and Technology University (ATU, Turkey)



Idea → Enthusiasm → Contacts → Persistence → Motivation



What? Crystallization of biological macromolecules remains poorly understood, making trial-and-error methods unpredictable → the challenges in biological macromolecule crystallization persist.

Why? The progress leads to more rational approaches to crystallogenesiis, but still many students rely on time-consuming trial-and-error methods rather than using systematic, rational, data-driven techniques → the bridging the gap between new insights and practical application, fostering rational approaches.

Aims? The course aims to promote rational approaches to macromolecular crystallization and demonstrate their benefits.

Who? Leading experts in the field serve as teachers and tutors → renowned experts guide students, maintaining the tradition of the successful courses, with added topics such as fragment-screening, intracellular crystallization, and cryo-EM basics, etc.

How? The course stands out by combining advanced theoretical discussions with hands-on laboratory experiments for a balanced learning experience → the course's practical focus, theory discussions, and laboratory experiments create a unique learning experience.

Crystallization course CC2001

Oct 5-12/2001



SPEAKERS

Juan Manuel Garcia-Ruiz (Spain)
Rolf Hilgenfeld (Germany)
Thomas Klupsch (Germany)
Jeroen Mesters (Germany)

Jiří Brynda (Czech Republic)
Jindřich Hašek (Czech Republic)
Pavčina Řezáčová (Czech Republic)
Ivana Kutá Smatanová (Czech Republic)
Bohdan Schneider (Czech Republic)
Michal Hušák (Czech Republic)



TOPICS

Crystallization

Phase diagram
Properties of solution
Nucleation
Crystal growth
Applied crystallization

Solving of structures

Diffraction physics
Synchrotron radiation
Data collection
Phasing methods
Refinement

Topics 10

Speakers and tutors 10

Participants 20

STAG: UCH/254 Biocrystallization methods (ECTS 4)

UCH/253 Crystallization course (ECTS 6)

since 2004 → as FEBS advanced practical crystallization courses

1st FEBS advanced practical crystallization course

Oct 1-8/2004



FEBS Advanced Course
Advanced methods in protein crystallization

Academic and University Center at Nové Hradky, Czech Republic, October 1-8, 2004

PRIMARY INFORMATION

The course is designed for biologists (PhD level) and postgraduate students and provides with an insight to macromolecular crystallization.

The crystallization of biological macromolecules is still poorly understood and, as a consequence, many of the common structural experiments in X-ray crystallography are still not possible. On the other hand, more rational approaches have been developed in the past few years and progress in the science of crystallization is to be expected. Many of the new approaches are based on an improved theoretical insight into the processes of nucleation and crystal growth.

The planned course is designed to bring over the message of the benefits of more rational approaches to macromolecular crystallization. The course will consist of theoretical lectures, seminars as well as practical work and demonstrations (including 80% practical work, 20% seminars). For crystallization experiments, typical equipment using commercial products (Laminar, Cammer, etc.) will be used. In addition, students will have the opportunity to carry out crystallization trials on their own during the course.

A poster session is planned in order to encourage participants to present their own work.

Nové Hradky is located in the south of the Czech Republic. The Academic and University Center resides in a very stylish building, which provides many facilities such as two lecture halls, laboratories, apartments and a modern dormitory.

TOPICS

- Advanced crystallization techniques
- Advanced light scattering methods
- AFM and novel microarray techniques
- Cell-free expression systems
- Commercial crystallization methods and their modification
- Crystallization in nanodroplets
- Data collection
- Local kinetics of the hanging drop
- Oligomeric crystallization
- Membrane protein crystallization
- Nucleation and crystallization
- Principles of crystallization
- Protein crystallization
- Protein engineering
- Protein expression systems
- Protein purification
- Protein refolding
- Solvent properties, phase diagrams
- Trouble shooting
- Using gel in crystallization

MORE INFO and on-line registration form
<http://www.lmg.cas.cz/igm/cc/>

IMPORTANT DATES

Registration deadline:
July 31, 2004

Abstract deadline:
July 31, 2004

Date of FEBS ACC:
October 1-8, 2004

ORGANIZERS

Robert Kuznetsov, Ph.D.
Institute of Physical Biology, VSB TU
and Institute of Landscape Biology AS CR,
Nové Hradky, Czech Republic
e-mail: kuznetsov@igim.cas.cz
tel.: +420-585-561279
fax: +420-585-561279

Pavla Kozlovská, M.Sc.
Department of Macromolecules
Institute of Molecular Biology AS CR,
Czech Republic
e-mail: kozlovsk@igim.cas.cz

Prof. Rolf Hegerl
Institute of Biochemistry
University of Lübeck,
Germany
e-mail: hegerl@biochem.uni-luebeck.de

The 1st FEBS course "Advanced Methods in macromolecular crystallization" is funded by
Federation of European Biochemical Societies.



Topics 16
Speakers and tutors 17
Participants 20

FEBS ACC – <https://www.febs.org/listings/advanced-courses/>

Lectures and Lab Exercises



FEBS PC2024 program June 09-15, 2024 Faculty of Science University of South Bohemia Ceske Budejovice Czech Republic				
	Lectures 8:30-12:30 7:45-8:30 Breakfast 13:00-14:00 Lunch	Lab Exercises 14:00-19:00 15:30 Coffee and tea time 19:00 Dinner (Tue, Thu)	Evening events 20:00	
Sunday June 09	18:00-20:00 Registration			
Monday June 10	9:00-12:00 Registration 10:00-11:30 practical WS1 - How "random" microseeding can dramatically increase the number of crystal structures that your lab can produce [Patrick Shaw Stewart, Douglas Instruments] practical WS2 - Exploring the Invisible World with Nikon and Nikon [Barbara Kobilka]			
Monday June 10	12:00-12:15 Welcome and Course remarks [Ivana Kutá Smatnáová & Pavlína Rezáčová] 12:15-12:30 Prologue by the USB representative – vice-rector for science and development [Lukáš Berger] 12:30-12:45 Introduction of FEBS activities by the FEBS ACC representative [Mulya Asian] 12:45-13:15 Tackling the reproducibility crisis in scientific research [Sara Fuentes, Managing Editor of FEBS Open Bio] (on-line) 13:15-13:35 Guesting speech by Rolf Hilgendorf (on-line) 13:35-13:55 Guesting speech by Juan Ma García-Ruiz (on-line) 13:55-14:05 Prologue by the Mayor of the city Ceske Budejovice [Dagmar Šimková Parnová] 14:05-14:45 AlphaFold and biochemical considerations for protein crystallization [Joe Ng] 14:45-15:30 in Cell - A streamlined approach for protein crystallization in living cells [Lars Redecke] 15:30-16:15 Crystallization of membrane proteins in lipidic systems [Martin Caffrey] 16:15-17:30 Synthetic macrocycles as mediators of protein crystallization [Peter Crowley] 17:30-18:15 From target structures to drugs [Andrea Bencini] 18:15-19:00 The Chemistry of Mushroom Magic [Bernhard Rupp]	Welcome party		
Tuesday June 11	8:30-9:15 From protein solution to crystals: Nature and formation of protein crystals [Bernhard Rupp] 9:15-10:00 From protein expression and purification to crystallization [Sergio Martinez Rodriguez] 10:00-10:30 Crystallization for the desperate [Teresa Bergfors] 10:45-11:25 Microseeding on series and the protein phase diagram [Jerome Bergs] 11:25-12:05 Protein crystallization by capillary counter-diffusion methods [Jose A. Gavira] 12:05-12:45 Construct design and limited proteolysis strategies [Jerome Bergs] 12:45-13:00 A Crystallographer's guide to the Galaxy [Paul Driver, Molecular Dimensions]	1. Intracellular protein crystallization [L. Redecke] 2. Conventional techniques and crystallization of own proteins and [J. Mesters] 3. Crystallization of membrane proteins in lipidic system [M. Caffrey] 4. Observation of crystal growth / Seeding [T. Bergfors] 5. Crystallization under oil [L. Goyada] Optional exercises Capillary protein crystallization using counter-diffusion techniques [J. Gavira] "The secret life of your crystallization drop"? [B. Rupp]	Discussion with speakers and tutors of the day + posters section I Theory of X-ray diffraction I. [Jerome Mesters]	
Wednesday June 12	8:30-9:15 AlphaFold scoring and optimizing Crystallization Conditions applying advanced Dynamic Light Scattering (DLS) Techniques [Christian Berger] 9:15-9:45	1. Observation of crystal growth / Seeding [T. Bergfors] 2. Experimental phasing: practical considerations [J. Bencini]		

11:00 Coffee and tea time	Protein as the main variable in crystallization [Lars Redecke] 9:45-10:15 Unconventional crystallization strategies and techniques for screening and optimization [Lars Goyada] 10:15-11:00 Microfluidics in action: crystallization and crystallography in microchips [Claude Sauter] 11:15-11:45 What's this in my drop? Identifying drop phenomena". [Teresa Bergfors] 11:45-12:30 Sample preparation for routine and advanced structural biology, including serial data collection and microED [Patrick Shaw Stewart, Douglas Instruments]	3. "Random" Microseeding [P. Pachi, P. Shaw Stewart] 4. Capillary protein crystallization using counter-diffusion techniques [J. Gavira] 5. AlphaFold and biochemical considerations for protein crystallization [Joe Ng] 6. From the biomolecule solution to its 3D structure in a microfluidic chip [C. Sauter] Optional exercises Crystallization under oil [L. Goyada] Conventional techniques and crystallization of own proteins and [J. Mesters]	Visit of town Ceske Budejovice and the evening in own direction
Thursday June 13	8:30-9:00 Using Fluorescence to Find Your Crystals [Cecily L. Tarver] 9:00-9:45 Crystallization Screening Results Analysis and Condition Prediction [Marc L. Pusey] 9:45-10:30 Crystallographic fragment-screening: workflow, tools and procedures [Manfred Weiss] 10:45-11:30 Introduction to single particle analysis by cryo-EM [Oksana Dostálková] 11:30-12:15 Sample preparation for single particle cryo-EM [Lars Redecke] 12:15-12:35 Advancements in Imaging Technologies and Microscopy: Exploring the Invisible World with Nikon and Nikon [Barbara Kobilka, Alpha International]	1. Dynamic light scattering [K. Dierck, Mulya Asian] 2. Trace Fluorescent Labeling and Low Cost Fluorescent Imaging [M. Pusey, C. Tarver] 3. Crystal observation, testing, handling, mounting and cryocooling [J. Gavira, P. Pachi] 4. Intracellular protein crystallization [L. Redecke] 5. Soaking and co-crystallization [B. Kobilka] 6. "Random" Microseeding [P. Pachi, P. Shaw Stewart]	Discussion with speakers and tutors of the day + posters section II Theory of X-ray diffraction II. [Jerome Mesters] Poster prize awards
Friday June 14	8:30-9:15 Preparation of protein samples for crystallization experiments [Pavlína Rezáčová] 9:15-10:00 Preparation and crystallization of protein complexes: Tricks and examples from our host-virus studies [Ivana Novotná] (recorded, lecture) 10:00-10:45 Extremely brilliant X-ray sources and new opportunities in macromolecular crystallography [Petr Pachi] 11:00-11:45 How to trap small objects in a beam of light [Dusan Novotny, MT-M] 12:00-12:10 Student presentation 1 12:10-12:20 Student presentation 2 12:20-12:30 Student presentation 3	15:00-15:30 Round table discussion and final remarks [speakers and organizers] Poster prizes by FEBS ACC, FEBS OpenBio, IUCr Journals, etc. 16:00-19:00 work in the lab Optional exercises • Crystal observation, testing, handling, mounting and cryocooling [P. Pachi, J. Brynda] • Conventional techniques and crystallization of own proteins [J. Mesters] • Intracellular protein crystallization [L. Redecke] • Trace Fluorescent Labeling and Low Cost Fluorescent Imaging [M. Pusey, C. Tarver] • AlphaFold and biochemical considerations for protein crystallization [Joe Ng]	19:30 Closing ceremony followed by Farewell dinner
Saturday June 15	Optional exercises • Crystal observation, testing, handling, mounting and cryocooling [P. Pachi, J. Brynda] • Conventional techniques and crystallization of own proteins [J. Mesters] • Intracellular protein crystallization [L. Redecke] • Trace Fluorescent Labeling and Low Cost Fluorescent Imaging [M. Pusey, C. Tarver] • AlphaFold and biochemical considerations for protein crystallization [Joe Ng] 12:00 Lunch take away and End of the course		

Date	Name of lab exercise	Time					
		14:00-14:45	14:45-15:30	15:30-16:15	16:15-17:00	17:00-17:45	17:45-18:30
Tuesday June 11	Intracellular protein crystallization [L. Redecke]	C	D	E	F	A	B
	Conventional techniques and crystallization of own proteins and [J. Mesters]	D	C	F	E	B	A
	Crystallization of membrane proteins in lipidic system [M. Caffrey]	A+B		C+D		E+F	
	Observation of crystal growth / Seeding [T. Bergfors]	E		A		C	
	Crystallization under oil [L. Govada]		F		B		D
	"The secret life of your crystallization drop"? [B. Rupp]	according to own interest					
Wednesday June 12	Observation of crystal growth / Seeding [T. Bergfors]	F	B				D
	Experimental phasing: practical considerations [J. Basquin]	D	E	A	F	B	C
	"Random" Microseeding [P. Pachi, P. Shaw Stewart]	C	D	B	E	A	F
	Capillary protein crystallization using counter-diffusion techniques [J. Gavira]	E	C	F	B	D	A
	AlphaFold and biochemical considerations for protein crystallization [Joe Ng]	A	F	D	C	E	B
	From the biomolecule solution to its 3D structure in a microfluidic chip [C. Sauter]	B	A	C	D	F	E
	Crystallization under oil [L. Govada]	according to own interest					
	Conventional techniques and crystallization of own	for selected proteins					

Lectures





Lab exercises



Evening and social activities



Topics offered at the FEBS practical crystallization courses



Fundamentals – Nucleation; crystal growth mechanism; phase diagrams

Sample preparation – Construct design; sequence adaptation; entropy reduction; expression; purification

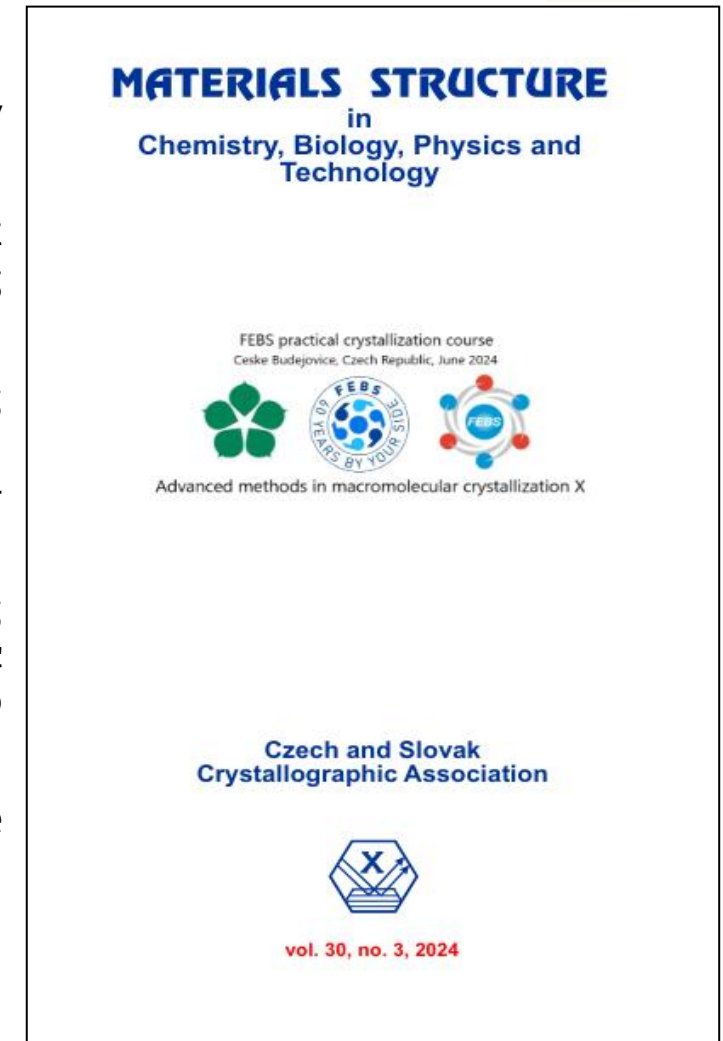
Sample characterization – Dynamic light scattering/static light scattering/differential scanning fluorimetry; microscale thermophoresis; UVEX crystal imaging systems; ultracentrifugation

Crystallization methods – Vapour diffusion, hanging and sitting drop; crystallization under oil; high-throughput methods; lipidic cubic phase and micelles; dialysis and temperature control methods; complexes, protein–protein/protein–nucleic acid

Advanced methods – Liquid diffusion methods: capillaries/microfluidics; fluorescent trace labelling; seeding/microseed matrix screening; ionic liquids, nano/microcrystals for X-ray free-electron lasers; in cellulo crystallization; fragment screening

Complementary methods – Small-angle X-ray scattering/small-angle neutron scattering; NMR; cryo-EM

Other methods – Crystal handling; diffraction measurement; publication of scientific results





Sponsors & Questionnaire



FEBS main sponsor



Sponsors of FEBS lab exercises and other FEBS events



IOCB TEC-H

FEBS student's support



FEBS poster prize sponsors



FEDERATION OF EUROPEAN BIOCHEMICAL SOCIETIES EVALUATION QUESTIONNAIRE

FEBS Advanced Courses / Practical Courses / Workshops / Special Meetings

We kindly ask you to cooperate by filling in this Questionnaire. Organizer(s) will collect it at the end of the event and return it to the FEBS Courses Committee. Thank you for your help. Responsible Organizers MUST send by registered mail all collected ORIGINAL Questionnaires to the FEBS Member-in-Charge for their course.

Advanced methods in macromolecular crystallization VII
Title FEBS EVENT the 2nd FEBS practical crystallization course co-sponsored by INSTRUCT FEBS NUMBER: PC16-003

Location Nove Hrad, Czech Republic Duration (Dates) June 27th - July 2nd, 2016

Name of participant (optional) _____ Sex: M / F

Nationality _____ Highest degree _____

Occupation:

Invited Speaker ☐ Senior Academic ☐ PhD ☐ Post-Doc ☐ Industry ☐ Other ☐

How many FEBS Events have you attended as scientist or invited speaker in the past nine years?

Zero ☐ One - Two ☐ Three - Five ☐ More than Five ☐ Not applicable ☐

This FEBS Event comprised (check all applicable circles):

Hands-On Work ☐ Lectures ☐ Discussion/Tutorial Groups ☐ Poster Sessions ☐ Poster Discussions ☐

1. Organisation of the program

excellent ☐ good ☐ adequate ☐ poor ☐ unsatisfactory ☐

Comments: _____

2. Quality of scientific training and interaction with speakers

excellent ☐ good ☐ adequate ☐ poor ☐ unsatisfactory ☐

Comments: _____

3. Quality of lectures & talks - was the scientific subject adequately covered and state-of-the-art?

excellent ☐ good ☐ adequate ☐ poor ☐ unsatisfactory ☐

Comments (name best or worse lectures): _____

4. Was there adequate discussion after presentations, or session or during practical work?

excellent ☐ good ☐ adequate ☐ poor ☐ unsatisfactory ☐

Comments: _____

5. Balance between training (tutorials & poster sessions) and scientific lectures:

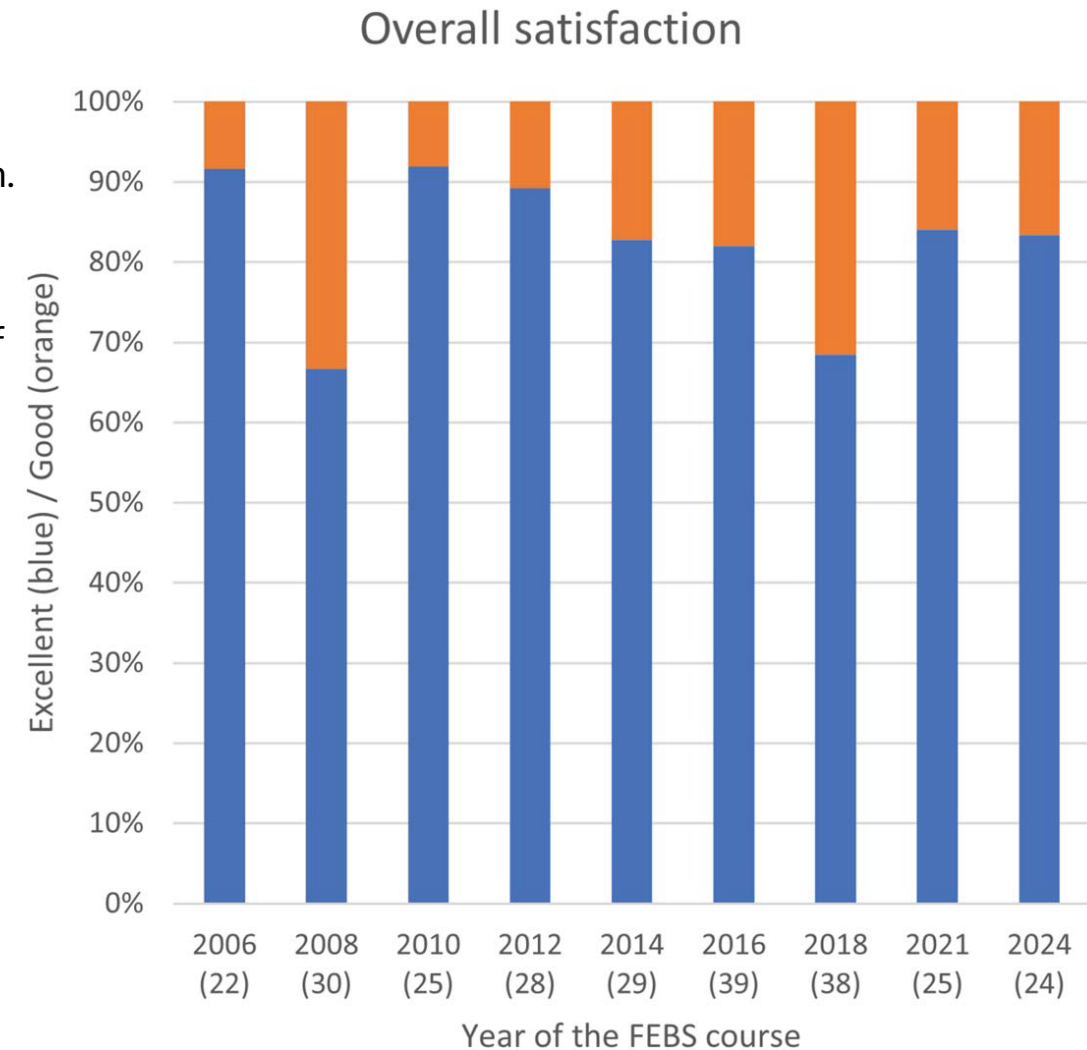
excellent ☐ good ☐ adequate ☐ poor ☐ unsatisfactory ☐

Comments: _____

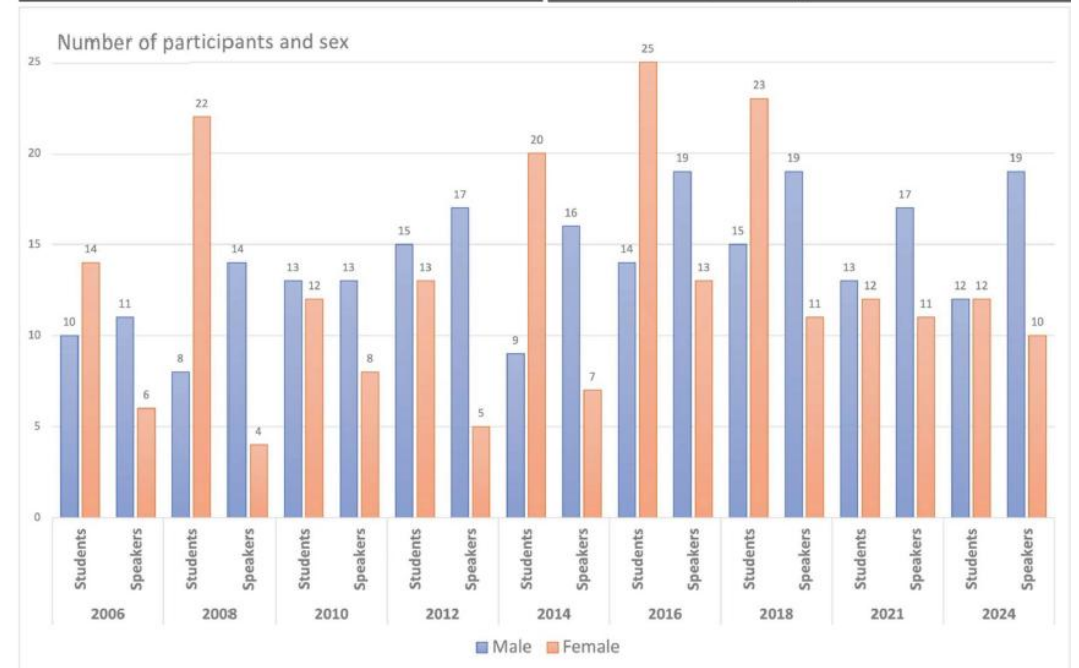
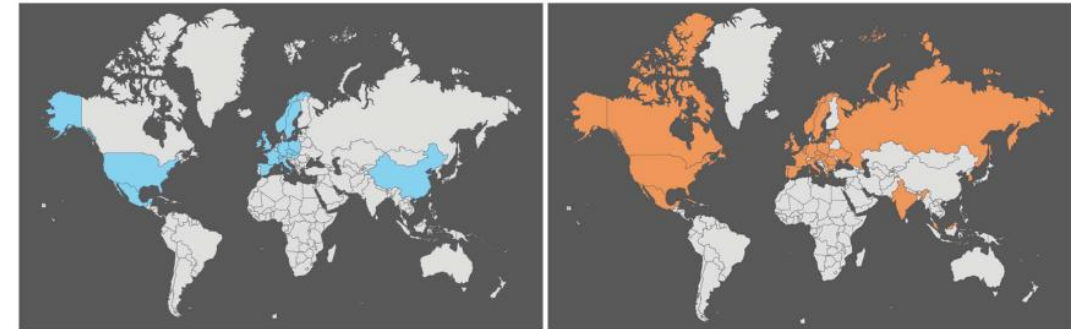
From participant's questionnaires after FEBS crystallization courses



- Very good overall organization and coordination!
- Good division of having lectures in the morning and practical afternoon.
- Covers varieties of techniques.
- Speakers all very know-leadable and willing to help!
- I really appreciated the chance to bring my sample and have the help of experts.
- Very interactive and accessible speakers.
- A lot of advices and tips.
- Good to have same people doing the talks and practical workshops.
- It was possible to see in practice almost everything that was presented during lectures.
- Intensive. Very packed program.
- The course conveyed new ideas about techniques that I did not know.
- Amazing experiences, I enjoyed it very much.
- It exceeded my expectations! Keep on doing much great job!



Crystallization course from CC2001 through FEBS PC16-003 to FEBS PC24-047

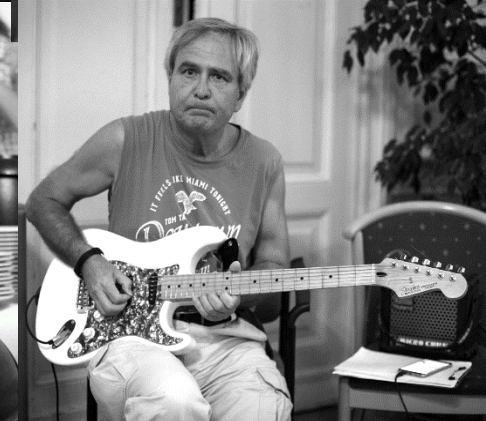
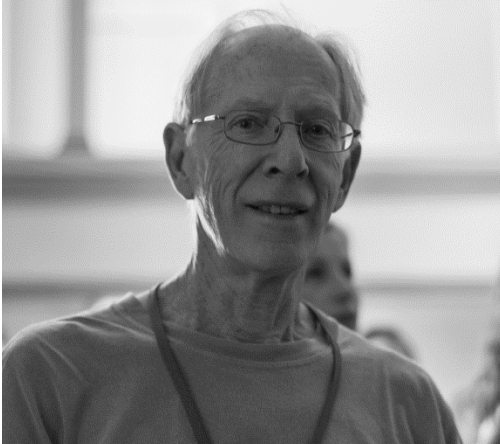
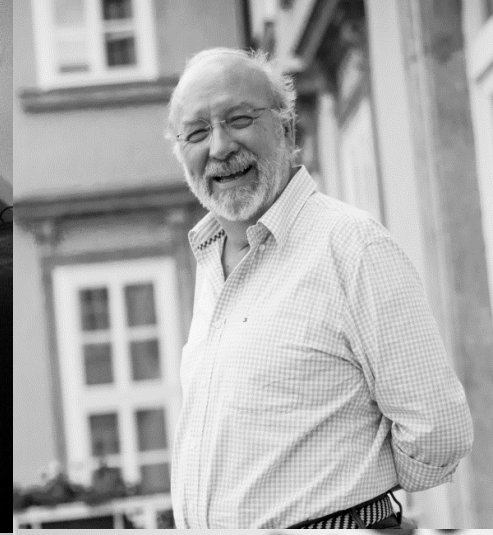


This is how we started...



... and how we continue...

2016



15th Int. Conference on
the Crystallisation of
Biol. Macromolecules
July 1-5, 2016, Prague

UCH/254 Biocrystallization methods and UCH/253 Crystallization course as FEBS advanced practical crystallization courses since 2004





Publicity



JAC
JOURNAL OF
APPLIED
CRYSTALLOGRAPHY
ISSN: 1600-5767
journals.iucr.org/j

electronic reprint

Practical courses on advanced methods in macromolecular crystallization: 20 years of history and future perspectives

Petra Havlickova, Jose A. Gavira, Jeroen R. Mesters, Anna Koutska, Barbora Kascakova, Tatyana Prudnikova, Rolf Hilgenfeld, Juan Manuel Garcia-Ruiz, Pavlina Rezacova and Ivana Kuta Smananova

J. Appl. Cryst. (2024). 57, 1609–1617



IUCr Journals
CRYSTALLOGRAPHY JOURNALS ONLINE

This open-access article is distributed under the terms of the Creative Commons Attribution Licence <https://creativecommons.org/licenses/by/4.0/legalcode>, which permits unrestricted use, distribution, and reproduction in any medium, provided the original authors and source are cited.



New Trends in Bioscience

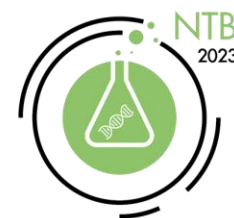


The poster for 'NEW TRENDS IN bioSCIENCE' features logos for the Faculty of Science and the Institute of Chemistry at the University of South Bohemia. It includes the dates '10-11 OCTOBER 2019' and lists organizers Ivana Kutá Smatanová and František Vácha. A photograph at the bottom shows a workshop or meeting in progress.

NEW TRENDS IN bioSCIENCE
10-11 OCTOBER 2019

Organizers:
Ivana Kutá Smatanová, Faculty of Science USB
František Vácha, Faculty of Science USB

www.xray.cz/newtrends More info: ivanaks@seznam.cz



New Trends in Bioscience 2



plus Nanotemper WS

Organized by: University of South Bohemia, Faculty of Science
Department of Chemistry

Supported by:
Nanotemper
Czech and Slovak Crystallographic Association



October 12-14, 2023 Building C, FSci, USB, Ceske Budejovice

Information: www.xray.cz/newtrends

Speakers:

Michaela Fencková, University of South Bohemia, Ceske Budejovice, CR
José A. Gavira, Laboratorio de Estudios Cristalográficos, CSIC – UGR, Granada, Spain
Pawel Kania, NanoTemper, Krakow, Poland
Sergio Martínez-Rodríguez, Laboratorio de Estudios Cristalográficos, CSIC – UGR, Granada, Spain
Petr Pacht, Academy of Sciences of the Czech Republic, Praha, CR
Lars Redecke, University of Luebeck, Germany
Iosifina Sarrou, Wiley, Berlin, Germany
Lubica Urbanikova, Institute of Molecular Biology SAS, Bratislava, Slovakia
Manfred Weiss, HZB BESY, Berlin, Germany

Registration: online at www.xray.cz/newtrends until October 5th, 2023

Since 2025 → **STAG: UCH/948 Advances in Science (ECTS 3)**



KreativEU = base for a EU University that places EU's cultural heritage and creativity at the core of education, research, and innovation.



History, Traditions and Innovative Approaches *or* BioScience in Cultural Heritage

Speakers:

USB representatives
Sergio Martínez-Rodríguez

Jose A. Gavira

Lars Redecke

Jeroen R. Mesters

Silviu Miloiu

Dina Mateus

Pavlina Rezacova

Jana Skerlova

Anna Imbert Stulc

Silvie Svarcova

Petr Bezdicka

Marek Kotrly

Ivana Turkova

Katerina Lonova

Petr Pacht

Barbora Kascakova

Anna Koutska

Daniel Sojka

Cyril Barinka

Roman Tuma

Milan Dopita

Vitezslav Stranek



Information: www.xray.cz/newtrends

Organized and supported by: University of South Bohemia
Ceske Budejovice - Faculty of Science, Rector's Office, and
International Relations Office



HISTORY

SCIENCE

Applied SCIENCE

Topics 22
Speakers
and tutors 22
Participants 43

Program



Monday, October 6	Tuesday, October 7	Wednesday, October 8
13:00-14:00 Registration & welcome coffee 14:00-15:00 Opening Opening Remarks by Conference Chair [Ivana Kutá Smatanová] Prologue by the USB representative – Rector [Pavel Kozák] Prologue by the Mayor of the city České Budějovice [Dagmar Škodová Parmová] Prologue by the FSC USB representative – Dean [František Vácha] Prologue by the USB representative – Vice-rector for International Relations [Vladimír Žlábek] Prologue by the USB representative – Vice-Rector for Research [Luděk Berec] Prologue by the KreativEU representative - Member of Steering Committee, Valahia University of Targoviste [Silviu Miloju] Prologue by the USB and KreativEU representative – Member of Steering Committee [Radka Závodská] 15:00 Pavčina Řezáčová L1 130 years of seeing the invisible: The story of X-Ray Discovery 15:35 Jana Škerlová L2 X-ray in structural biology 16:10 Break, refreshment 16:30 Anna Imbert Stulc L3 Tracing the origin of Notre Dame timberwood: Elemental and isotopic(strontium and neodymium) markers 17:05 L4 Silvie Švarcová, Petr Bezdička Revealing of lead and mercury soaps in miniature portraits 17:40 Marek Kotrlý, Ivana Turková L5 Counterfeit Analysis in Real Forensic Practice 18:15 Ivana Turková, Marek Kotrlý L6 Analysis of Fine Art Forgeries in Forensic Practice 19:00-22:00 Poster Session & Networking Reception	09:30 Cyril Bařinka L7 Development of targeted approaches for combating prostate cancer 10:00 Lab walking tour 11:00 Break, refreshment 11:20-12:30 Poster Presentations & Informal Networking 13:00-14:30 Lunch 14:30 Sergio Martínez-Rodríguez L8 Protein purification in and beyond the crystallography world 15:05 L9 José A. Gavira-Gallardo Pharma & Biotechnological Use of Protein Crystals 15:40 L10 Daniel Sojka Heritage to Innovation: How classical Czech parasitology can fuel protease-based drug Discovery 16:15 Break, refreshment 16:35 Jeroen Mesters L11 Anaemia, cultural/religious heritage and dietary preferences 17:10 L12 Silviu Miloju, Lucia Nováková Eco-Cultural Heritage: Conceptual Innovations and Applied Methodologies for the 21st Century 17:45 L13 Dina Mateus Plant-Based Biocides for the Sustainable Preservation of Built Cultural Heritage 18:20 L14 Kateřina Lonová No labels needed – analyze your organelles using holography 20:00-22:00 Social Networking & Informal Discussion	09:30 Barbora Kašćáková L15 Broad-spectrum antiviral research 10:00 Lars Redecke L16 Protein crystallization in living cells - Pushing the limits 10:30 Anna Koutská L17 Small fly, big impact: Drosophila to unravel the pathology of neurodevelopmental disorders. 11:00 Break, refreshment 11:20 Roman Túma L18 From the Braggs to Bill Astbury and the advent of modern structural molecular biology 11:50 Petr Pacht L19 Extremely brilliant X-ray sources and new opportunities in macromolecular crystallography 13:00-14:30 Lunch 14:30 Vítězslav Straňák L20 Functional nanostructured surfaces: from design to sensing applications 15:00 L21 Milan Dopita Exploring the Morphology and Structure of Fe-Based Nanomaterials for Pharmaceutical Applications Using X-ray Scattering Methods 15:30 Flash Talks 16:00 Closing Remarks & Awards for Best Poster / Flash Talk 16:20 Break, refreshment

Publicity



KreativEU | 10.10.2025

New Trends in bioScience 3 – the first KreativEU networking conference built bridges between disciplines and nations



The first KreativEU networking conference demonstrated the value of collaboration among universities, researchers, and students. High-quality discussions confirmed that KreativEU provides a platform where science, culture, and creativity converge, laying a promising foundation for future European cooperation.

The pilot networking conference KreativEU, entitled "New Trends in bioScience 3 – History, Tradition, and Innovative Approaches" was held at the Faculty of Science of the University of South Bohemia in České Budějovice from October 6 to 8, 2025. The meeting attracted approximately 45 participants and 22 speakers from seven European countries, marking a significant milestone in the development of the KreativEU alliance.

Have a pleasant stay and enjoy the CEEDUCON atmosphere

Thank you!