

SCHOOL OF XFEL AND SYNCHROTRON RADIATION USERS "SFEL2018"

5th International Scientific School, May 27th – 31st 2018, Hotel SOREA MÁJ – Liptovský Ján, Slovakia



Programme



MINISTERSTVO
ŠKOLSTVA, VEDY,
VÝSKUMU A ŠPORTU
SLOVENSKEJ REPUBLIKY



NÁRODNÉ CENTRUM
PRE POPULARIZÁCIU VEDY A TECHNIKY
V SPOLOČNOSTI

SUNDAY May 27th, 2018



04:00 pm - 06:00 pm Arrival & Registration

05:00 pm - 06:30 pm **Rajmund Mokso** (Max IV Laboratory Sweden)
hands on (practical exercise) imaging, computer tomography

06:00 pm - 07:30pm Dinner

MONDAY May 28th, 2018



Opening

08:45 am - 09:00 am **Pavol Sovák, Karel SaksI** (UPJŠ, SAS)
"SVK representatives in the E-XFEL Council"

Tutorial Lectures (chairmen: Pavol Sovák, Karel SaksI)

09:00 am - 09:45 am **Robert Feidenhans'l** (European XFEL Germany)
"New Science With X-ray Free Electron Lasers - The European XFEL"

09:45 am - 10:30 am **Carsten Fortmann-Grote** (European XFEL Germany)
"Start-to-end simulations of experiments at the European XFEL"

10:00 am - 10:30 am Coffee Break

11:00 am - 11:45 am **Jacek Krzywinski** (SLAC National Accelerator Lab. USA)
"XFEL physics and properties of XFEL radiation"

11:45 am - 12:30 pm **Ivan Vartanians** (DESY Germany)
"Single Particle Imaging and Intensity Correlation Measurements at XFEL sources"

12:30 pm - 02:30 pm Lunch

Contributed Talks (chairmen: Adriana Zeleňáková, Libor Juha)

02:30 pm - 03:15 pm **Karel SaksI** (IMR SAS, UPJŠ Slovakia)
"The Serial Femtosecond Crystallography (SFX)"

Imrich Barák (IMB SAS Slovakia)
"Protein structure studies - the way to understand the mechanisms of basic cell processes in model organism *Bacillus subtilis*"

03:15 pm - 04:00 pm **Jozef Uličný** (UPJŠ Slovakia)
"The XFEL Biology Infrastructure (XBI) Structural dynamics of cell nucleus, opportunities for multimodal imaging"

04:00 pm - 04:30 pm Coffee Break

04:30 pm - 06:00 pm Round table discussions - headed by the XFEL Guests

Jacek Krzywinski (SLAC National Accelerator Lab. USA)
"Development of new operational modes of LCLS XFEL: 1. Attosecond pulses. 2 Production of multicolor multipulses with controlled separation (from femtoseconds to nanoseconds). 3 High power, few femtosecond pulses. 4. Polarization control. 5 Selfseeding. 6 CW operation"

06:00 pm - 07:30 pm Dinner

08:00 pm - 09:30 pm Round table discussions - headed by the XFEL Guests

Jaromír Chalupský (FZU AVČR Czech republic)
"Practical aspects of laser-matter interaction research at FELs"

Ladislav Mikeš (European XFEL Germany)
"Ultrafast wavefront reconstruction"

TUESDAY May 29th, 2018



Tutorial Lectures (chairmen: Jozef Uličný, Imrich Barak)

- 08:30 am - 09:15 am **Serguei Molodsov** (European XFEL Germany)
"Soft X-Ray Instrumentation at the European XFEL"
- 09:15 am - 10:00 am **Grant Mills** (European XFEL Germany)
"Introduction to the SPB/SFX beamline at European XFEL"
- 10:00 am - 10:30 am Coffee Break
- 10:30 am - 11:15 am **Jakob Andreasson** (ELI Czech republic)
"Femtosecond spectroscopy and diffraction at the ELI Beamlines facility"
- 11:15 am - 12:00 pm **Libor Juha** (FZU AVČR Czech republic)
"Interaction of short and ultra-short pulses of XUV/x-ray laser radiation with matter"
- 12:00 pm - 02:00 pm Lunch

Tutorial Lectures (chairmen: Norbert Kučerka, Serguei Moldsov)

- 02:30 pm - 04:15 pm **Harald Reichert** (ESRF France)
"New opportunities at the ESRF-EBS with a particular emphasis on X-ray imaging"
- 04:15 pm - 04:45 pm Coffee Break

Contributed Talks (chairmen: Norbert Kučerka, Serguei Moldsov)

- 04:45 pm - 05:10 pm **Rajmund Mokso** (Max IV Laboratory Sweden)
"MAX IV"
- 05:10 pm - 05:30 pm **Štefan Michalik** (Diamond Light Source UK)
"Diamond Light Source"
- 05:30 pm - 06:00 pm **Jozef Keckes** (Montanuniversität Leoben Austria)
"In-situ and Scanning Cross-Sectional X-ray nanodiffraction: Short Overview and Perspectives"
- 06:00 pm - 07:30 pm Dinner
- 08:00 pm - 09:30 pm Round table discussions - headed by the XFEL Guests

WEDNESDAY May 30th, 2018



Contributed Talks (chairmen: Jiří Kulda, Jakob Andreasson)

- 08:30 am - 08:50 am **Young Yong Kim** (DESY Germany)
"3D reconstruction using Bragg coherent x-ray diffraction imaging"
- 08:50 am - 09:10 am **Yurii Chushkin** (ESRF France)
"Coherent diffraction microscopy - seeing the invisible"
- 09:10 am - 09:30 am **Juraj Ďurišin** (FEI TUKE Slovakia)
"XRD"
- 09:30 am - 09:50 am **Eva Majková** (IoP SAS Slovakia)
"Time-resolved GI-WAXS/SAXS studies of thin film growth"
- 10:00 am - 10:30 am Coffee Break
- 10:30 am - 10:50 am **Blanka Detlefs** (ESRF France)
"X-ray photon-in/photon-out spectroscopies"
- 10:50 am - 11:10 am **Štefan Michalik** (Diamond Light Source UK)
"PDF analysis"

- 11:10 am - 11:30 am **Peter Herich** (STU Slovakia)
"Single crystal diffraction"
- 11:30 am - 11:50 am **Stanislav Hrivňák** (UPJŠ Slovakia)
"Dose-efficient X-ray bioimaging using Bragg Magnifier"
- 12:00 pm - 02:00 pm Lunch
- 02:30 pm - 05:00 pm PhD student presentations/competition
- 05:00 pm - 06:00 pm Poster session
- 07:30 pm - 10:00 pm Conference dinner - results announcement best presentation, best poster

THURSDAY May 31st, 2018



Contributed Talks (chairman: Daniela Uhríková)

- 08:30 am - 09:05 am **Norbert Kučerka** (JINR Dubna RF)
"Neutrons in Modern Sciences"
- 09:05 am - 09:40 am **Jiří Kulda** (ILL France)
"Neutron spectroscopy of modern functional materials"
- 09:40 am - 10:15 am **Dorota Chudoba** (JINR Dubna RF)
"Research possibilities in Frank Laboratory of Neutron Physics at Joint Institute for Nuclear Research"
- 10:15 am - 10:45 am Coffee Break

Contributed Talks (chairman: Norbert Kučerka)

- 10:45 am - 11:10 am **Daniela Uhríková** (STU Slovakia)
"Lipid bilayers in model membranes and drug delivery systems: SANS and SAXD"
- 11:10 am - 11:30 am **Michal Rajnák** (IEP SAS Slovakia)
"The use of neutron scattering in the study of magnetic fluids in electric fields"
- 11:30 am - 11:50 am **Jana Pásztorová** (University of Edinburgh UK)
"Single to multiparticle excitations in the S=5/2 chiral magnet MnSb₂O₆"
- 11:50 am - 12:10 pm **Pavol Hrubovčák** (UPJŠ Slovakia)
"Utilization of neutron scattering in structural studies of nanomaterials"
- 12:10 pm - 12:30 pm Closing
- 12:30 pm - 02:00 pm Lunch



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