

# BSR14 Programme

Lund, 11 – 14 June 2023

## Sunday 11 June

15:00 – 16:00	Registration (Location: Lunds standshallen)
16:00 - 17:30	Reception (Location: Lunds standshallen)

## Monday 12 June

09:00 - 09:30	Thomas Grant (University of Buffalo, USA) Ab initio electron density determination directly from solution scattering data, applications to drug discovery
09:30 - 10:00	Kartik Ayer (MPI Hamburg, Germany) Machine learning to handle conformational heterogeneity in coherent imaging
10:00 - 10:30	Coffee
10:30 - 10:55	Eugene KRISSINEL (CCP4, UK), Structure Determination Online with CCP4 Cloud
10:55 - 11:20	Archana JADHAV, Archana (DLS, UK), A high-resolution correlative light and X-ray 3D cryo-imaging platform for cells and tissue at near-native physiological conditions
11:20 - 11:40	Yao-Chang LEE, (National Synchrotron Radiation Research Center, Taiwan) Medical application by using wax physisorption kinetics and Fourier transform infrared spectral imaging
11:40 - 12:00	Kunal SHARMA, (Lund University, Sweden) Multimodal characterization of heterotopic ossification during Achilles tendon healing in a rat animal model
12:00 - 13:00	Lunch
13:00 - 13:30	Connie Darmanin (La Trobe, Melbourne) Studies of Toll-like receptors using electron diffraction and FELS
13:30 - 14:00	Vadim Cherezov (University of Southern California, USA), Understanding GPCRs and their complexes
14:00 - 14:20	Jaehyun PARK, (Pohang Accelerator Laboratory, South Korea) Approaches to study biological systems at PAL-XFEL
14:20 - 14:40	Tobias KROJER, (MAX IV, Sweden) The FragMAX facility for structure-based drug discovery at MAX IV Laboratory
14:40- 15:00	Francesca SIRACUSA, (DTU, Denmark) Time-resolved phase contrast $\mu$ CT measurements of nanoparticle transport in living plants.
15:00 - 15:15	Coffee
15:15 - 16:00	<b>Stephen Burley (Rutgers University, New Brunswick, USA) “Beyond the 50 years of the PDB”</b>
16:00 - 16:20	Peter GAAL, (TXproducts UG) WaveGate X-Ray Chopper for Synchrotron-Based Time-Resolved Serial Crystallography using the Hadamard Transform
16:20 - 18:00	Poster Session

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## Tuesday 13 June

<b>09:00 - 09:30</b>	Alexandra Pacureanu (ESRF, Grenoble, France) 3D synchrotron studies of the brain
<b>09:30 - 10:00</b>	Atsushi Momose (Tohoku University, Japan) Synchrotron Radiation Phase Imaging/Tomography Based on Grating Interferometry
<b>10:00 - 10:30</b>	Coffee
<b>10:30 - 11:00</b>	Marianne Liebi (Chalmers, Gothenburg, Sweden) SAXS tensor tomography in biomedical applications
<b>11:00 - 11:30</b>	Tim Salditt (Georg August University, Göttingen, Germany) Advances in 3-D imaging for bio-medical applications at modern synchrotrons
<b>11:30 - 12:00</b>	Colin NAVE, (Diamond Light Source, UK) Coherent Hard X-ray Bio-imaging at Diamond & Diamond II.
<b>12:00 - 13:00</b>	Lunch
<b>13:00 - 13:30</b>	Holger Stark (MAX Planck Institute, Göttingen, Germany) Structural insights into the spliceosome
<b>13:30 - 14:00</b>	Andrey Kovalevsky (ORNL, Oakridge, USA) Combined X-ray & neutron crystallography for drug design purposes
<b>14:00 - 14:30</b>	Britt Hedman (SLAC, Stanford, USA) Probing enzyme reaction mechanisms with XAS
<b>14:30 - 15:00</b>	Joanna CZAPLA-MASZTAFIAK, Complementary use of synchrotron and laboratory X-ray sources to study metal-based complexes in biological systems
<b>15:00 - 15:30</b>	Coffee
<b>15:30 - 15:55</b>	Oxana KLEMENTIEVA, (Lund University, Sweden ) Correlative imaging to resolve molecular structures in individual cells
<b>15:55 - 16:20</b>	Andre CONCEICAO, (Deutsches Elektronen-Synchrotron DESY, Germany) Breast cancer metastasis progress based on the 3D collagen fibril orientation map
<b>16:20 - 16:40</b>	Margaux SCHMELTZ, (PSI, Switzerland) The human middle ear in motion: visualization and movement quantification using dynamic synchrotron-based X-ray microtomography
<b>16:40 - 17:00</b>	Irene RODRIGUEZ FERNANDEZ, (PSI, Switzerland) X-ray scattering methods to image bone healing around bio-resorbable implants RODRIGUEZ FERNANDEZ, Irene (Paul Scherrer Institut)
<b>17:00 - 17:30</b>	Travel to MAX IV
<b>17.30 - end</b>	MAX IV Visit

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## Wednesday 14 June

<b>09:00 - 09:30</b>	Aina Cohen (SLAC, Stanford, USA) Developments for macromolecular crystallography at the LCLS and SSRL
<b>09:30 - 10:00</b>	Helena Käck (Astra Zeneca, Mölndal, Sweden) Synchrotron and FEL studies for drug discovery: an industrial perspective
<b>10:00 - 10:30</b>	Coffee
<b>10:30 – 10:55</b>	Susan Nehzati (University of Saskatchewan, Saskatoon, Canada, MAX IV LU) Metals and human disease
<b>10:55 - 11:20</b>	Wojciech POTRZEBOWSKI (ESS, Sweden) Towards building and disseminating comprehensive publication guidelines for biomolecular small-angle scattering in an e-learning format
<b>11:30 - 11:55</b>	Isabella SILVA BARRETO (Lund University, Sweden) Micro- and nanostructure specific X-ray tomography to study collagen regeneration during tendon healing
<b>11:55 - 12:45</b>	Lunch
<b>12:45 - 13:30</b>	<b>Ian Wilson (Scripps Research Institute, La Jolla, USA) “Synchrotrons and Virus Research”</b>
<b>13:30 - 14:00</b>	Clement Blanchet (EMBL-Hamburg, Germany) Role of BioSAXS in the fight against coronavirus: from viral protein characterization to vaccine development.
<b>14:00 - 14:30</b>	Maximilian Ackermann (Johannes Gutenberg University Mainz, Germany) COVID19 – 3D imaging for deciphering the pathology of a global pandemic
<b>14:30 - 15:00</b>	Daniel ERIKSSON, (Australia) MX3: A new macromolecular crystallography beamline at the Australian Synchrotron
<b>15:00 - 15:30</b>	Coffee
<b>15:30 - 16:00</b>	Jill Trewella (University of Sydney, Sydney, Australia) Importance of validation in SAXS/SANS
<b>16:00 - 16:25</b>	Juan Sanchez Weatherby, (Diamond Light Source, UK) Routine room temperature protein structure determination in situ at Diamond beamline VMXi: current status and recent developments
<b>16:25 - 16:50</b>	Janina SPRENGER, (Deutsches Elektronen Synchrotron) SARS-CoV-2 Methyltransferase ligand screening and peptide inhibitors
<b>16:45 - 17:00</b>	Closing remarks