**6th Ringberg Workshop on Structural Biology with XFELs**

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| **Wednesday, February 27th, 2019** | | | | | | | | |
| > 15:00 | | *Coffee, cake, Garden room* | | | | | | |
| **Chair: Makina Yabashi** | | | | | | | | |
| 16:20 | | Ilme Schlichting | | Welcome | | | | |
| 16:30 | | Johan Bielecki | | First year of operation at SPB/SFX | | | | |
| 17:00 | | Jaehyun Park | | Current operation status of serial femtosecond crystallography at the PAL-XFEL | | | | |
| 17:30 | | Christopher Milne | | First serial femtosecond crystallography experiments at SwissFEL | | | | |
| 18:00 | | Andrew Martin | | Probing the real-space angular structure of liquids and the lipidic cubic phase at LCLS | | | | |
| 18:30 | | *Dinner* | | | | | | |
|  | | **Chair: Paul Fuoss** | | | | | | |
| 20:00 | | Beata Ziaja-Motyka | | Femtosecond dissociation of disulfide bridges within X-ray irradiated protein crystals | | | | |
| **Thursday, February 28th, 2019** | | | | | | | | |
|  | **Chair: Marc Messerschmidt** | | | | | | | |
| 9:00 | Gabriela Nass-Kovacs | | | Observations of ultrafast light-induced events in bacteriorhodopsin using time-resolved serial femtosecond crystallography | | | | |
| 9:30 | Yoshitaka Bessho | | | XFEL analysis of light-mediated pyrimidine dimer repair by DNA photolyase | | | | |
| 10:00 | Martin Weik | | | Excited-state structural dynamics of a fluorescent protein | | | | |
| 10:30 | *Coffee break* | | | | | | | |
|  | **Chair: Adrian Mancuso** | | | | | | | |
| 11:00 | Eriko Nango | | | Toward understanding of enzyme reaction mechanism: serial crystallography using mixing injectors | | | | |
| 11:30 | Andrew Aquila | | | Perspective on Single Particle Imaging | | | | |
| 12:00 | Richard Kirian | | | Phase retrieval algorithms for inter-Bragg diffraction measurements | | | | |
| 12:30  12:40 | *Group photo (depending on weather)*  *Lunch* | | | | | | | |
| 14:00 | *Discussion rounds / Hiking* | | | | | | | |
| 18:30 | *Dinner* | | | | | | | |
|  | **Chair: Loes Kroon-Batenburg** | | | | | | | |
| 20:00 | James Holton | | | Bending the Rules | | | | |
| 20:30 | Discussion round | | | Data quality, analysis, …  Teaser: Karol Nass | | | | |
| **Friday, March 1st, 2019** | | | | | | | | |
| **Chair: Bruce Doak** | | | | | | | |
| 9:00 | | | Salah Awel | Optical guiding of nano-particles to the X-ray focus | | | |
| 9:30 | | | Alexandra Ros | Microfluidic Tools for Serial Crystallography with Proteins | | | |
| 10:00 | | | Michael Heymann | Ultracompact 3D Microfluidics for time-resolved structural biology | | | |
| 10:30 | | | *Coffee break* | | | | |
| **Chair: Sebastien Boutet** | | | | | | | |
| 11:00 | | | Benjamin Stauch | | Rapid determination of GPCR structures | | |
| 11:30 | | | Michael Brown | | Challenges in Time-Resolved Solution X-ray Scattering of Proteins | | |
| 12:00 | | | Valerie Panneels | | Towards rhodopsin dynamics using an XFEL | | |
| 12:30 | | | *Lunch* | | | | |
| **Chair: Kensuke Tono** | | | | | | | | |
| 14:00 | | | Doeke Hekstra | Progress on probing the mechanics of proteins using strong electric fields | | | | |
| 14:30 | | | Michael Thompson | Using temperature-jump and X-ray scattering to study dynamic enzymes | | | | |
| 15:00 | | | Jacques-Philippe Colletier | Insights into the in vivo crystallization pathway and mechanism of toxicity of Cyt1A, a naturally-crystalline mosquitocidal & oncocidal toxin | | | | |
| 15:30 | | | *Coffee break* | | | | | |
| **Chair: Radoslav Enchev** | | | | | | | | |
| 16:00 | | | Tim Grüne | An EIGER X 1M detector turns a Transmission Electron Microscope into an Electron Diffractometer for Chemistry and Biology | | | | |
| 16:30 | | | Emma Beale | Electron diffraction from three-dimensional protein crystals | | | | |
| 17:00 | | | Daniel Asarnow | Towards time-resolved cryo-EM: single-particle dynamics and synchronization | | | | |
| 17:30 | | | Thomas Barends | SFX data and structure quality: standards for nonstandard experiments | | | | |
| 18:00 | | | *Tour of the castle* | | | |
| 18:45 | | | *Conference Dinner* | | | | |
|  | | |  | | | **Chair: Sebastian Günther** | |
| 20:30 | | | Discussion round | | | Sample delivery  Teaser: Takashi Tomizaki | |
| **Saturday, February 2nd, 2019** | | | | | | | | |
| **Chair: Ilme Schlichting** | | | | | | | |
| 9:00 | | | Richard Neutze | | Time-resolved SFX studies of ultrafast motions in photosynthetic reaction centres | | |
| 9:30 | | | Yulia Pushkar | | Biological spectroscopy and Imaging at free electron laser | | |
| 10:00 | | | Raimund Fromme | | Towards Molecular Movies of Biomolecules 'in Action' with X-Ray Free Electron Lasers | | |
| 10:30 | | | Jan Kern | | Structural and spectroscopic studies of intermediates in the water oxidizing reaction of photosystem II using XFELs | | |
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| 11:15 End of meeting, lunch packages if desired | | | | | | | |