Diffraction Limited Synchrotron Light Sources and Next Generation Free Electron Lasers

762. WE-Heraeus-Seminar

07 March - 11 March 2022
Hybrid
at the Physikzentrum Bad Honnef/Germany

WILHELM UND ELSE
HERAEUS-STIFTUNG

Program

Monday, 7 March 2022

10:00 – 17:00	Registration	
12:30	*LUNCH*	
13:30	Scientific organizers	**Welcome and opening**
14:00 – 14:45	Sakura Pascarelli (online)	**The European XFEL: experimental capabilities and examples of applications**
14:45 – 15:30	Marius Schmidt (online)	**Time-Resolved Crystallography at XFELs**
15:30 – 16:00	**Student Poster talks I**	
16:00 – 16:30	*COFFEE BREAK*	
16:30 – 17:30	**Poster Session I on site**	
17:30 – 18:15	Abbas Ourmazd (online)	**Advanced algorithms to reconstruct the three-dimensional structure of non-stationary objects from random, ultra-low-signal sightings of unknown orientation**
18:15 – 19:00	Alexander Lichtenstein (online)	**Theory of Magnetism and Electronic Correlations**
19:00 – 19:15	Stefan Jorda	**About the Wilhelm and Else Heraeus Foundation**
19:15	*DINNER*	

Program

Tuesday, 8 March 2022

08:00 – 09:00	*BREAKFAST*	
09:00 – 09:45	Anders Nilsson (online)	**X-rays shine light on the mysterious of water**
09:45 – 10:30	Mathias Kläui	**Ultra-fast manipulation of collinar and chiral magnetic order**
10:30 – 11:00	*COFFEE BREAK*	
11:00 – 11:45	Thomas Pfeifer	**Selecting and driving specific electrons: Atoms and molecules in resonance with intense soft-x-ray FEL light**
11:45 – 12:30	Martin Beye	**Science Case for seeded soft X-ray FELs**
12:30	*LUNCH*	
14:00 – 14:45	Harald Reichert	**First science from the first 4th generation high energy synchrotron radiation source ESRF-EBS**
14:45 – 15:30	Claire Donnelly (online)	**Coherent X-ray imaging of three-dimensional magnetic systems**
15:30 – 16:00	**Student Poster talks II**	
16:00 – 16:30	*COFFEE BREAK*	
16:30 – 17:30	**Poster Session II on site**	
17:30 – 18:15	Sarah Köster (online)	**Using focused X-ray beams to study cellular bio-physics**
18:15 – 19:00	Arwen Pearson (online)	**Time-resolved X-ray crystallographic studies of protein function**
19:00	*HERAEUS DINNER at the Physikzentrum* *(cold & warm buffet, with complimentary drinks)*	

Program

Wednesday, 9 March 2022

08:00 – 09:00	*BREAKFAST*	
09:00 – 09:45	Alexandra Pacureanu (online)	**Hard X-ray bioimaging at the nanoscale with fourth generation synchrotron sources**
09:45 – 10:30	Tim Salditt (online)	**High Resolution Phase Contrast X-ray Tomography of Biological Cells and Tissues**
10:30 – 11:00	*COFFEE BREAK*	
11:00 – 11:45	Jan Lüning	**Science case for a 4th soft X-ray storage ring facility**
11:45 – 12:30	Stefan Eisebitt	**Birth, life and death of nanometer-scale spin textures as seen by coherent x-rays**
12:30	*LUNCH*	
14:00 – 14:45	Lucas Schaper	**FLASH2020+: A fully coherent soft xray light source at MHz repetition rate**
14:45 – 15:30	Gianluca Geloni	**Self seeding at hard X-ray FELs**
15:30 – 16:00	**Student Poster talks III**	
16:00 – 16:30	*COFFEE BREAK*	
16:30 – 17:30	**Poster Session III on site**	
17:30 – 18:15	Riccardo Bartolini (online)	**Design Challenges for 4th generation hard X-ray storage ring source PETRA IV**
18:15 – 19:00	Pantaleo Raimondi (online)	**Toward a diffraction limited storage ring based X-Ray**
19:00	*DINNER*	

Program

Thursday, 10 March 2022

08:00 – 09:00	*BREAKFAST*	
09:00 – 09:45	Claudio Masciovecchio (online)	**Potential of Free Electron Laser based Nonlinear Optics Experiments**
09:45 – 10:30	Gerd Schönhense (online)	**New concepts of ToF electron detection**
10:30 – 11:00	*COFFEE BREAK*	
11:00 – 11:45	Curt Preissner (online)	**Fast sample positioning systems with nm precision**
11:45 – 12:30	Josep Nicolas (online)	**Instrumentation issues on modern synchrotron radiation sources**
12:30	*LUNCH*	
14:00 – 14:45	Ana Diaz	**X-ray ptychographic tomography at the Swiss Light Source: method development and**
14:45 – 15:30	Yong Chu (online)	**Current and near-future x-ray microscopy capabilities at NSLS-II**
15:30 – 16:00	**Student Poster talks IV**	
16:00 – 16:30	*COFFEE BREAK*	
16:30 – 17:30	**Poster Session IV online**	
17:30 – 18:15	James Sethian (online)	**Mathematically-based machine learning for understanding scientific experiments**
18:15 – 19:00	**Panel discussion**	
19:00	*DINNER*	

Program

Friday, 11 March 2022

08:00 – 09:00	*BREAKFAST*	
09:00 – 09:45	Heinz Graafsma	**Detector Developments at DESY-Hamburg**
09:45 – 10:30	Bernd Schmitt	**Detector developments for photon science at PSI**
10:30 – 11:00	*COFFEE BREAK*	
11:00 – 11:45	Saša Bajt (online)	**X-ray imaging with multilayer Laue lenses**
11:45 – 12:30	Raymond Barrett (online)	**Optics for Hard X-ray DLSR sources**
12:30 – 12:45	Scientific organizers	**Closing remarks and poster prize**
12:45	*LUNCH*	

End of Seminar / Departure