



# Compact attosecond X-ray sources and their applications

Notkestraße 85, 22607 Hamburg, Germany

July 19<sup>th</sup> -21<sup>st</sup>, 2015

Bldg. 99, SR I-II



## Sunday, July 19<sup>th</sup>, 2015

16:00 – 18:00: Registration

18:00 – 19:00: Welcome at CFEL Lobby with light snacks and drinks

19:00 – 21:00: **Opening Session: Highlights and overview of compact X-ray sources, instrumentation and applications**

Chair: Henry Chapman

	Topic	Invited people
19:00 – 19:30	THz driven table-top sources	Arya Fallahi
19:30 – 20:00	X-ray optics	Sasa Bajt
20:00 – 20:30	Time-resolved crystallography of photosynthetic systems using FELs	Petra Fromme
20:30- 21:00	X-ray imaging with sparse data	Kartik Ayyer

## Monday, July 20<sup>th</sup>, 2015

7:00 – 8:00: Registration

8:00 – 8:20: Welcome by Edgar Weckert

8:20 – 8:30: Some words on AXSIS/CoAXSA by Principal Investigator Franz X. Kärtner

8:30 – 12:30: **Session I: Compact X-ray Sources I: X-band to THz driven**

Chair: Franz X. Kärtner

	Topic	Invited people
08:30 – 09:00	FELs based on plasma accelerators	Andreas Maier
09:00 – 9:30	X-band driven table-top sources	William S. Graves
9:30 – 10:00	Plasmons, photocathodes, and engineering devices at the sub-10-nm length-scale	Karl Berggren
10:00 – 10:30	<b>Coffee break</b>	
10:30 – 11:00	Limits in conventional RF-accelerators	Sami Tantawi
11:00 – 11:30	SINBAD and its experiments	Ulrich Dorda
11:30 – 12:00	Strong field photoelectron holography	Marc Vrakking
12:00 – 12:30	Mapping atomic motions with ultrabright electrons: towards a reaction mode basis for chemistry and biology	Dwayne Miller
12:30 – 13:30	<b>Lunch</b>	

**13:30 – 18:30:            Session II: Applications in Biology, Chemistry and Physics**

Chair: Petra Fromme

	<b>Topic</b>	<b>Invited people</b>
13:30 – 14:00	From time-resolved Laue crystallography to movies of biomolecules with SFX	Keith Moffat
14:00 – 14:30	Structure based protein dynamics	Marius Schmidt
14:30 – 15:00	SFX of in vivo grown crystals	Dominik Oberthuer
15:00 – 15:30	Ultrafast chemistry – electrons in motion	Jochen Küpper
15:30 – 16:00	X-ray spectroscopy of metal centers in model complexes and biological systems	Yulia Pushkar
16:00 – 16:30	<b>Coffee Break</b>	
16:30 – 17:00	Quantum-coherent electron transfer in photosynthesis: a two-dimensional electronic spectroscopy study	Elisabet Romero
17:00 – 17:30	Exploring the role of electron correlation during strong-field excitation using tabletop XUV spectroscopy	Scott Sayres
17:30 – 18:00	Probing electronic quantum motion with x rays	Robin Santra
18:00 – 18:30	Photo ionization dynamics of small iodine-containing molecules	Kirsten Schnorr

**19:00:                      Workshop reception in CFEL building foyer and poster session**

**Tuesday, July 21<sup>st</sup>, 2015**

**8:30 – 12:30:            Session III: Compact X-ray Sources II: Laser driven**

Chair: Ralph Assmann

	<b>Topic</b>	<b>Invited people</b>
08:30 – 09:00	Efficient THz generation	Xiaojun Wu
09:00 – 10:00	Fifth generation light sources	James Rosenzweig
10:00 – 10:30	Developments of ultracompact synchrotron radiation sources with laser plasma technologies	Igor Andriyash
10:30 – 11:00	<b>Coffee break</b>	
11:00 – 11:30	FELs and X/gamma sources with optical undulators	Andrea Rossi
11:30 – 12:00	Ultracold and ultrashort beams from plasmas	Bernhard Hidding
12:00 – 12:30	Dielectric accelerators and Electron Diffraction	Peter Hommelhoff
12:30 – 13:00	Recent developments in dielectric accelerators	Kenneth Leedle
13:00 – 14:00	<b>Lunch</b>	

**14:00 – 18:30:      Session IV: Instrumentation and Diagnostics**

Chair: Heinz Graafsma

	<b>Topic</b>	<b>Invited people</b>
14:00 – 14:30	Spatiotemporal waveform mapping of THz pulses for accelerator applications using temporal electric-field cross-correlation (TEX)	Nicholas Matlis
14:30 – 15:00	Imaging requirements of X-ray free-propagation imaging techniques for single shot and synchrotron experiments	Pablo Villanueva
15:00 – 15:30	Beamline instrumentation	Dennis Goeries
15:30 – 16:00	Advanced detectors for advanced source	Heinz Graafsma
16:00 – 16:30	<b>Coffee break</b>	
16:30 – 17:00	Fast detectors for soft X-rays	Cornelia Wunderer
17:00 – 17:30	X-ray compound refractive lenses	Christian Schroer
17:30 – 18:00	Ultrafast electron and x-ray beam diagnostics	Christopher Behrens
18:00 – 18:30	Advanced photocathodes	Luis Fernando Velasquez-Garcia

**18:30              Departure to Hamburg harbour**

**19:30:            Workshop dinner with harbour boat tour**

**22:30            Return of boat to harbor and transfer**

**Wednesday, July 22<sup>nd</sup>, 2015**

**9:30 – 14:30:** Closed Session of AXIS PIs with ERC Synergy Program Evaluation Panel  
Bldg. 99, SR IV (O1.111)

Parallel program for CoAXSA participants, visit FLASH, PETRA III and CFEL labs and continue talks with people

Status: July 16, 2015