

# Preliminary Scientific Programme FEL2006

(22.08.06)

## Monday, Aug 28

### Session 1: Opening Talk & FEL Prize, New Lasing

Chair A. Renieri

- 8:30 Opening of FEL06, E. Jaeschke, BESSY
- 8:35 Opening Address by Staatssekretär H.G. Husung, Berlin, Senatsverwaltung für Wissenschaft, Forschung und Kultur
- 8:50 FEL Prize Lecture, A. Gover, Tel-Aviv University, 2005 FEL Prize Winner  
“Coherent Electron Beam Radiation Sources and FEL – A Theoretical Overview”
- 9:35 W. Colson, NPS (Naval Post Graduate School) “Evolution of FELs during the last 30 years”
- 10:05 E. Schneidmiller, DESY, “Lasing of FLASH at 13 nm”
- 10:15 T. Shintake, SPring-8, “First Lasing at SCSS”
- 10:25 X. Wang, BNL, “First Lasing and Experimental Characterization of a 198 nm Single-pass High Gain FEL at the NSLS SDL”
- 10:35 Break

### Session 2: The Angstrom Challenge

Chair: J. Rossbach

- 11:00 D. Dowell, SLAC, “Status of LCLS”
- 11:30 B. Faatz, DESY, “Results and Lessons from FLASH”
- 12:00 R. Brinkmann, DESY, “The European XFEL”
- 12:30 Z. Huang, SLAC, “Optical Klystron Enhancement to SASE X-Ray FEL”
- 12:45 T. Shintake, SPring-8, “Status of Japanese XFEL and SCSS Test Accelerator”
- 13:00 – 14:30 Lunch
- 14:00 – 16:30 Poster Session: FEL Prize and New Lasing, The Angstrom Challenge, Seeded FELs, FEL Theory

### Session 3: Seeded FELs

Chair C. Bocchetta

- 16:30 A. Meseck, BESSY, “The BESSY Soft X-Ray FEL: A Seeded HHG FEL”
- 17:00 G. de Ninno, ELETTRA, “The Challenges of Seeded FELs”
- 17:30 B. McNeil, University of Strathclyde, “The Use of HHG at 4GLS”
- 18:00 T. Shintake, SPring-8, “Focal Point Laser-Field as Optical Seeder”
- 18:15 L. Giannessi, ENEA Frascati, “Analysis of the Process of Amplification in a Single Pass FEL of High Order Harmonic Generation in a Gas Jet”
- 18:30 End of Session

## Tuesday, Aug 29

### Session 4: Energy Recovery FELs

Chair M. Poole

- 8:30 G. Krafft, Jlab, “Performance Achievements and Challenges for FELs based on ERLs”
- 9:00 J. Clarke, ASTEC, “Future Light Sources: Integration of Lasers, FELs, and Accelerator at 4GLS”
- 9:30 N. Nishimori, JAEA, “The JAEA ERL-FEL”
- 10:00 G. Neil, Jefferson Lab, “On the Design Implications of Incorporating an FEL in an ERL”
- 10:15 K. Liu, PKU/IHIP Beijing, “Optical Design of the Energy Recovery Linac FEL at Peking University”

10:30 LOC Announcements  
10:35 Break

### Session 5: The Challenge of fs-Pulses and Synchronization

Chair R. Bakker

11:00 G. Penn, LBNL, "Prospects of Cascaded HGHG-FELs"  
11:30 J. Kim, MIT, "Femtosecond Timing Distribution and Synchronization"  
12:00 T. Maltezopoulos, DESY, "Cross-Correlation between a VUV-FEL and an Optical Laser"  
12:15 P. Musumeci, INFN-Roma, "Inverse FEL for Advanced Light Sources"  
12:30 N. Javahiraly, FYSIKUM-AlbaNova-Stockholm, "Technical Aspects of the Integration of the Optical Replica Synthesizer for the Diagnostics of Ultra-short Bunches into FLASH at DESY"  
12:45 M. Roehrs, DESY, "Investigations of the Longitudinal Electron Bunch Structure at the FLASH Linac with a Transverse Deflecting RF-Waveguide"  
13:00 End of Session  
13:00 – 14:30 Lunch  
14:00 – 16:30 Poster Session: Energy-Recovery FELs, The Challenge of Femtosecond Pulses and Synchronisation, FEL Oscillators and Long Wavelength FELs, X-Ray Optics and Detectors, New Science at FELs

### Session 6: FEL Oscillators and long Wavelength FELs

Chair M.E. Couprie

16:30 W. van de Zande, Nijmegen University, "Design of a Long Wavelength FEL for Experiments under High Magnetic Fields"  
17:00 P. Michel, FZR, "The Rossendorf IR-FEL ELBE"  
17:30 N. Vinokurov, BINP, "Status of the Novosibirsk High Power Terahertz FEL"  
18:00 S. Krishnagopal, RRCAT-Indore, "FEL Activities in India"  
18:15 J.-Y. Hwang, NSRRC-Hsinchu, "A Femtosecond Electron Beam Injector for Prebunched FEL Experiments" (TBC)  
18:30 End of Session

## Thursday, Aug 31

### Session 7: FEL Theory

Chair B. McNeil

8:30 B. Fawley, LBNL, "Output Bandwidth Effects in Seeded Harmonic Cascaded FELs"  
9:00 G. Geloni, DESY, "Edge Radiation from Undulators"  
9:30 D.C. Nguyen, LANL, "Scalloped Electron Beam FEL"  
9:45 S. Bielawski, PhLAM/CERCLA-Villeneuve d'Ascq Cedex, "Influence of Optical Feedback on the Coherence Properties of FEL Oscillators"  
10:00 Y. Pinhasi, CJS-Ariel, "Space-Frequency Model of Ultra Wide-band Interactions in FELs"  
10:15 L. Serafini, INFN-Milano "Parametric Optimization of a X-Ray FEL Based on a Thomson Source"  
10:30 Break

### Session 8: FEL Technology I

Chair J. Pflüger

11:00 J. Bahrtdt, BESSY, "Undulators for HGHG FELs"

- 11:30 H.-D. Nuhn, SLAC, "Electron Beam Alignment Strategy in the LCLS Undulators"
- 12:00 S. Di Mitri, ELETTRA, "How to Obtain High Quality Electron Bunches in the Presence of Normal Conducting Linac Wakefields"
- 12:30 D. C. Nguyen, LANL, "Stair-step Tapered Wiggler, a Novel Concept for High-efficiency FEL"
- 12:45 J. Welch, SLAC, "Precision Measurement of the Undulator K-Parameter Using Spontaneous Radiation"
- 13:00 LOC announcements
- 13:00 – 14:30 Lunch
- 14:00 – 16:30 Poster Session: FEL Technology

### Session 9: FEL Technology II

Chair S. Werin

- 16:30 B. Schmidt, DESY, "Overview on Diagnostics for X & XUV FELs"
- 17:00 H. Tanaka, SPring-8, "Low Emittance Injector at SCSS"
- 17:30 L. Catani, INFN-Roma II, "Operational Experience with the Emittance-Meter at SPARC"
- 17:45 R. Ganter, PSI-Villigen, "Peak Current Performances from Electron Sources based on Field Emission" (TBC)
- 18:00 End of Session
- 19:00 Conference Dinner

## Friday, Sept 1

### Session 10: X-Ray Optics and Detectors

Chair A. Lumpkin

- 8:30 M. Yabashi, Riken, "X-Ray Optics at SCSS"
- 9:00 H. Graafsma, DESY, "X-Ray Detectors at DESY"
- 9:30 M. Kuhlmann, DESY, "Wavefront Observations at FLASH"
- 9:45 H. Legall, MBI-Berlin, "High Spectral Resolution X-Ray Optics Based on Pyrolytic Graphite"
- 10:00 M. Richter, PTB-Berlin, "Quantitative Detection of Femtosecond X-Ray Pulses" (TBC)
- 10:15 LOC Announcements
- 10:30 Break

### Session 11: New Science at the FELs

Chair E. Jaeschke

- 11:00 J. Schneider, DESY, "Science at Single Pass X-Ray FELs"
- 11:30 M. Meyer, LIXAM, "One- and Two-Colour Photoionization Experiments at FLASH"
- 12:00 H. Chapman, LLNL, "Single-Shot Imaging of Nano/Micro-Structures with FLASH at DESY"
- 12:30 I. Lindau, SLAC, "The Proposed Experimental Program at LCLS"
- 13:00 Closing Remarks
- 13:15 End of Conference