

International Workshop on Phase Retrieval and Coherent Scattering

COHERENCE-2016

Palais des Congrès Le Grand Large - Saint-Malo, France

June 7th - June 10th, 2016

Programme

Tuesday, June 7th

13:00 - 14:30 Registration
14:30 - 15:00 Welcome & opening introduction by V. Chamard & S. Ravy

Session I – XPCS

Chairperson: V. Chamard

15:00 - 15:40 The MID station at the European XFEL: Plans for coherent scattering and imaging using XFEL radiation
A. Madsen - *European XFEL, Hamburg, Germany*

15:40 - 16:00 Simulations of coherent X-ray scattering from dynamic crystal surfaces
G. Brian Stephenson - *Argonne National Laboratory, Argonne, IL, USA*

16:00 - 16:20 An XPCS study of driven domain dynamics in a ferroelectric single crystal
Mario Reiser - *Universität Siegen, Germany*

16:20 - 16:50 *Coffee break*

Session II - CDI-FEL

Chairperson: G. Beutier

16:50 - 17:30 Studies of nanoscale dynamics and in-situ strain development using coherent X-rays
Hyunjung Kim - *Sogang University, Seoul, Korea*

17:30 - 17:50 Quantitative single-shot 3D imaging of core-shell nanocrystals with elemental specificity
Alan Pryor Jr - *University of California Los Angeles, USA*

17:50 - 18:10 3D merging: Getting more from protein crystallography
Oleksandr M. Yefanov - *DESY, Hamburg, Germany*

19:30 *Welcome Cocktail*

Wednesday, June 8th

Session III - CDI

Chairperson: S. Labat

08:30 - 09:10 Single particle imaging at the linac coherent light source
Andrew Aquila - *SLAC National Accelerator Laboratory, Menlo Park, CA, USA*

09:10 - 09:30 Resolution extension of imperfect crystal diffraction using iterative phasing
Kartik Ayyer - *DESY, Hamburg, Germany*

- 09:30 - 09:50 Multiple defocused CXDI: A method for simultaneous reconstruction of isolated samples and probe using XFELs
Makoto Hirose - *Osaka University and RIKEN SPring-8 Center, Hyogo, Japan*
- 09:50 - 10:10 Coherent X-ray imaging of semi-conductor nano-structures for photonic and electronic applications
Vincent Favre-Nicolin - *ESRF and Université Grenoble Alpes, France*
- 10:10 - 10:30 Multiprojection setup for single-shot imaging
Pablo Villanueva-Perez - *Paul Scherrer Institut, Villigen, Switzerland*
- 10:30 - 11:00 *Coffee break*

Session IV – Other sources

Chairperson: D. Le Bolloc'h

- 11:00 - 11:40 Spectrally resolved imaging with ultra-broadband high-harmonic generation sources
Stefan Witte - *Advanced Research Center for Nanolithography, Amsterdam and LaserLaB, Amsterdam, The Netherlands*
- 11:40 - 12:00 3D stereo single acquisition imaging using high harmonic generation
Remy Cassin - *LIDyL, Gif-sur-Yvette, France*
- 12:00 - 12:40 Progress in electron ptychography
Andrew M. Maiden - *University of Sheffield, UK*
- 12:40 - 13:30 *Lunch*

Session V – Ptychography

Chairperson: S. Ravy

- 13:30 - 14:10 Utilizing Fourier projections to enable flexible three dimensional Bragg CDI and Bragg ptychography approaches
Stephan.O. Hruszkewycz - *Argonne National Laboratory, Argonne, IL, USA*
- 14:10 - 14:30 Soft X-ray coherent scattering and ptychography using BK focusing optics
Di-Jing Huang - *National Synchrotron Radiation Research Center, Hsinchu, Taiwan*
- 14:30 - 14:50 Ptychography in terms of an expansion in elementary signals
Julio Cesar da Silva – *ESRF, Grenoble, France and Paul Scherrer Institut, Villigen, Switzerland*
- 14:50 - 15:00 *Break*

Session VI – CDI

Chairperson: M-I. Richard

- 15:00 - 15:40 Using coherent X-rays to understand the physics of correlated electrons systems
Vincent Jacques - *Laboratoire de Physique des Solides, Orsay, France*
- 15:40 - 16:00 X-ray phase-contrast imaging using near-field speckle techniques
Marie-Christine Zdora - *Diamond Light Source, Didcot and University College London, UK*
- 16:00 - 16:20 Coherent diffractive imaging of thin film bulk heterojunctions for polymer solar cells
Nilesh Patil – *Norwegian University of Science and Technology, Trondheim, Norway*
- 16:20 - 16:50 *Coffee break*
- 16:50 - 19:30 *Poster Session I*

Thursday, June 9th

Session VII - XPCS

Chairperson: M. Sutton

- 08:30 - 09:10 Dynamics of a colloidal glass
Barbara Ruzicka - ISC-CNR, Sapienza Università, Roma, Italy
- 09:10 - 09:30 Anisotropic De Gennes narrowing in confined fluids
Yuriy Chushkin – ESRF, Grenoble, France
- 09:30 - 09:50 Structure beyond pair correlations: Higher-order correlation functions for soft matter systems
Felix Lehmkuhler – DESY, Hamburg, Germany
- 09:50 - 10:10 Structural origin of the anomalous dynamics of metallic glasses
Beatrice Ruta – ESRF, Grenoble, France
- 10:10 - 10:30 New pixel array detector techniques for X-ray photon correlation spectroscopy experiments
Eric Dufresne - Argonne National Laboratory, Lemont, IL, USA
- 10:30 - 11:00 Coffee break

Session VIII - Holographic methods

Chairperson: N. Jaouen

- 11:00 - 11:40 Time-resolved holographic X-ray imaging of magnetic nanostructures
Bastian Pfau - Max-Born-Institut, Berlin, Germany
- 11:40 - 12:00 Probing magnetization dynamics by time-resolved X-ray holography with extended references
Fedor Ogrin – University of Exeter, UK
- 12:00 - 12:20 X-ray holographic imaging of magnetic domains at the Sextants beamline of the Soleil Synchrotron
Horia Popescu – Synchrotron Soleil, Gif-sur-Yvette, France
- 12:20 - 13:30 Lunch

Session IX - Methods

Chairperson: I. Vartaniants

- 13:30 - 14:10 High throughput nanoscale coherent x-ray imaging
Stefano Marchesini - Lawrence Berkeley National Laboratory, Berkeley, CA USA
- 14:10 - 14:30 Near field probe retrieval and imaging at partial coherence conditions
Johannes Hagemann - Georg August University Göttingen, Germany
- 14:30 - 14:50 Phase of the transmitted wave in the dynamical theory and quasi-kinematical approximation
Oleg Gorobtsov - DESY, Hamburg, Germany and Akademika Kurchatova, Moscow, Russia
- 14:50 - 15:00 Break

Session X - CDI
Chairperson: H. Kim

- 15:00 - 15:40 Structural X-ray studies of nanostructures using Bragg CDI at the ID01 beamline
Marie-Ingrid Richard – Aix-Marseille Université and ESRF, Grenoble, France
- 15:40 - 16:00 Imaging of the quantum well in core-shell-shell nanowires
Arman Davtyan - University of Siegen, Germany
- 16:00 - 16:20 Quantitative interior ptychographic nanotomography
Manuel Guizar Sicairos - Paul Scherrer Institut, Villigen, Switzerland
- 16:20 - 16:50 Coffee break
- 16:50 - 19:00 Poster Session II
- 20:00 Conference Dinner at Saint-Malo

Friday, June 10th

Session XI - CDI
Chairperson: O. Thomas

- 08:30 - 09:10 Frontiers of X-ray science developed with coherent X-rays of SACLA
Makina Yabashi - RIKEN SPring-8 Center, Hyogo, Japan
- 09:10 - 09:30 Massive faulting of gold nanocrystals upon alloying with iron
Ana Katrina Estandarte - University College London, and Research Complex at Harwell, Didcot, UK
- 09:30 - 09:50 On the origin of biomimetic CaCO₃ complex morphologies
Thomas Beuvier - ESRF, Grenoble, France
- 09 :50 - 10:10 X-ray coherent diffractive imaging of defects in bio-photonic crystals inside butterfly wing scales
Andrej Singer – University of California-San Diego, La Jolla, USA
- 10:10 - 10:30 Coherent Bragg imaging of crystal defects during in situ indentation
Maxime Dupraz – SIMaP, Grenoble, France and Paul Scherrer Institut, Villigen, Switzerland
- 10:30 - 11:00 Coffee break

Session XII - Ptychography
Chairperson: F. Berenguer

- 11:00 - 11:40 Applications of X-ray ptychography at the Swiss Light Source
Ana Diaz - Paul Scherrer Institut, Villigen, Switzerland
- 11:40 - 12:00 X-ray ptychography: Fast, cold, colorful, and sharp
Chris Jacobsen - Northwestern University, Evanston IL and Argonne National Laboratory, Argonne IL, USA
- 12:00 - 12:20 Dark-field X-ray ptychography: High-resolution imaging of weak-phase objects
Nicolas Burdet - RIKEN SPring-8 Center, Hyogo, Japan
- 12:20 - 12:30 Conclusion