

**The 2nd High-intensity Laser Facility Shared Promotiom Seminar
Conference on Laser and Synchrotron Radiation Combination Experiment**

LSC'14

Organized by

Institute of Laser Engineering, Osaka University

In cooperation with

The laser society of Japan

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Hiroaki Nishimura (Osaka Univ, Inst. Laser Eng.)

Shin-ichi Kimura (Osaka Univ. Grad Sch Frontier Biosc)

Tuesday, April 22

9:30-12:10 Plenary I Room 301 & 302

Opening

9:30 Opening Remarks of OPIC'14
Sadao Nakai, Organizer Greeting OPIC2014
Organizing Chair, President of Laser Society of Japan, Osaka University Professor Emeritus

Keynote Speeches by Congress Chairs

9:40 VCSEL Photonics -Small and Smart
Kenichi Iga
Tokyo Institute of Technology, Former President

10:10 Accelerator on a Chip and the Path to Coherent X-rays
Robert L. Byer
Stanford University, USA
----- Break (10:40-11:00) -----

11:00 Optical Tweezers as an Engineering Tool
Andreas Ostendorf
Ruhr-University Bochum, Germany

Special Talk

11:30 High-Field Laser and High Energy Physics
Atuto Suzuki
KEK, Director General

----- Lunch Break (12:10-13:30) -----

13:30-15:10 Plenary II

Session A Room 301 & 302

13:30 Advanced laser (ALPS)
Fumihiko Kannari
Keio Univ.

13:50 Optical manipulation (OMC)
Takashige Omatsu
Chiba Univ.

14:10 Laser Damage (PLD)
Takahisa Jitsuno
Osaka Univ.

14:30 Laser Ignition (LIC)
Takunori Taira
IMS

14:50 Bio-imaging (BISC)
Toyohio Yatagai
Utsunomiya Univ.

Session B Room 303

13:30 Industrial Appl. of LED (LEDIA)
Hiroshi Amano (Nagoya Univ.)

13:50 High Energy Density Science(HEDS)
Rysuke Kodama
Osaka Univ.

14:10 Laser & Synchrotron Radiation (LSC)
Hiroshi Azechi
Osaka Univ.

14:30 Laser Processing (SLPC)
Reinhart Poprawe
Fraunhofer Inst. for Laser Tech.

18:00-20:00
OPIC 2014 Conference Banquet Room 501 & 502

Wednesday, April 23

Room 416 & 417

9:00-9:15 Opening

9:00 Opening Remarks

H. Azech, Conference Chair of LSC' 14
Institute of Laser Engineering, Osaka University,
Osaka, Japan

9:15-12:00 LSC1

Chair: Shin-ichi Adachi, Photon Factory, KEK, Japan

**LSC1-1 (Invited) Tracking the chemical reactions with
9:15 combined ultrafast x-ray spectroscopies and
scattering**

Christian Bressler
European XFEL, Germany

**LSC1-2 (Invited) Structural Dynamics in Chemistry
9:45 Investigated by Pulsed, High Flux X-ray
Radiation**

Simone A. Techert
DESY, Hamburg, Germany / MPIIbPC, Germany
----- Break (10:15-10:30) -----

**LSC1-3 (Invited) SR & XFELs' Challenges to Time
10:30 Resolved Structural Visualization of Optical
Recording Process**

Masaki Takata
RIKEN SPring-8 Center, Japan

**LSC1-4 (Invited) Time-resolved X-ray Diffraction
11:00 Experiment on Crystal Lattice Dynamics
Using Optical Laser and Accelerator-based
X-ray Source**

Yoshihito Tanaka
University of Hyogo / RIKEN SPring-8 Center,
Japan

**LSC1-5 (Invited) Towards femtosecond time-resolved
11:30 hard x-ray photoelectron spectroscopy as a
probe of transient electronic states in
condensed matter**

Masaki Oura
RIKEN SPring-8 Center, Japan

----- Lunch Break (12:00-13:00) -----

13:00-18:00 LSC2

**Chair: Kazutaka Nakamura, Tokyo Institute of Technology,
and CREST-JST, Japan**

**LSC2-1 (Invited) Time-resolved X-ray spectroscopy at
13:00 3rd and 4th generation light sources**

Chris Milne
Paul Scherrer Institute, Switzerland

**LSC2-2 (Invited) EUV+IR two-color experiments at
13:30 FELs**

Kiyoshi Ueda
IMRAM, Tohoku University, Japan

**LSC2-3 (Invited) Femtosecond time-resolved X-ray
14:00 absorption spectroscopy using SPring-8
Angstrom Compact Free Electron laser
(SACLA)**

Kazuhiko Misawa

**LSC2-4
14:30**

Tokyo University of Agriculture and Technology,
Japan

**(Invited) Exploring Possible Pathways to
Non-Thermal Sub-Picosecond
Phase-Switching in the Phase Change Alloy
Ge₂Sb₂Te₅ using a Free-Electron Laser**

Kirill Mitrofanov
National Institute of Advanced Industrial Science
and Technology, Japan

----- Break (15:00-15:15) -----

**LSC2-5
15:15**

**(Invited) Picosecond Lattice Deformation in
Ge₂Sb₂Te₅ Revealed by X-ray Free-Electron
Laser**

Eiichiro Matsubara
Dept. Materials Science & Engineering, Kyoto
University, Japan

**LSC2-6
15:45**

**(Invited) Ultrafast lattice dynamics of phase
change materials by coherent phonons**

Muneaki Hase
Institute of Applied Physics, University of
Tsukuba, Japan

**LSC2-7
16:15**

**(Invited) Generation of Kilo-Tesla Magnetic
Field with High-Power Laser for LSC
Experiments**

Shinsuke Fujioka
Institute of Laser Engineering, Osaka University,
Japan

----- Break (16:45-17:00) -----

**LSC2-8
17:00**

**Relaxation of the Surface Photovoltage Effect
on ZnO(0001) Studied by Time-resolved Soft
X-ray Photoemission Spectroscopy**

Ryu Yukawa
ISSP, the University of Tokyo, Japan

**LSC2-9
17:15**

**Optical properties of lanthanide-doped APLF
crystals as neutron scintillators**

Melvin John F. Empizo
Institute of Laser Engineering, Osaka University,
Japan

**LSC2-10
17:30**

**Investigation of the spatial resolution of a ZnO
crystal as a EUV imaging device scintillator**

Ren Arita
Institute of Laser Engineering, Osaka University,
Japan

**LSC2-11
17:45**

**Vacuum ultraviolet (VUV) fluorescence of
KMgF₃ and BaLiF₃ crystals for short
wavelength devices**

Luong Viet Mui
Institute of Laser Engineering, Osaka University,
Japan

Thursday, April 24

Room 416 & 417

9:00-12:15 LSC3

Chair: Shinya Koshihara, CREST, JST and Department of Materials Science, Tokyo Institute of Technology, Japan

LSC3-1 (Invited) Development of an Ultrafast Pump-probe Facility with Multiple Radiations generated by an RF Photogun-based Accelerator and a Femtosecond Laser
9:00 Young U. Jeong
WCI Center for Quantum-Beam-based Radiation Research, KAERI, Korea

LSC3-2 (Invited) Generation of Coherent Synchrotron Radiation by using Laser and Synchrotron
9:30 Masahiro Katoh
Institute for Molecular Science, Japan

LSC3-3 (Invited) Nonlinear ionization of atoms in intense EUV laser fields studied by single-shot photoelectron spectroscopy
10:00 Mizuho Fushitani
Department of Chemistry, Graduate School of Science, Nagoya University, Japan

----- Break (10:30-10:45) -----

LSC3-4 (Invited) Capturing structural dynamics of materials by picosecond X-ray pulses
10:45 Shin-ichi Adachi
Photon Factory, KEK, Japan

LSC3-5 (Invited) Ultrafast X-ray science at synchrotron and XFEL facilities using laser pump X-ray probe experiments
11:15 Shunsuke Nozawa
High Energy Accelerator Research Organization, Japan

LSC3-6 (Invited) Single-shot time-resolved X-ray scattering measurement of structural change of amorphous material under laser-driven compression
11:45 Kouhei Ichiyanagi
Graduate School of Frontier Sciences, The University of Tokyo, Japan

----- Lunch Break (12:15-13:15) -----

13:15-18:15 LSC4

Chair: Nobuhiko Sarukura, ILE, Osaka University, Japan

LSC4-1 (Invited) Ultrabright femtosecond electron diffraction
13:15 German Sciaini
Department of Chemistry, University of Waterloo, Canada

LSC4-2 (Invited) Femtosecond Electron Diffraction Studies
13:45 Masaki Hada
Tokyo Institute of Technology, JST-PRESTO / Max Planck Institute for the Structure and Dynamics of Matter

LSC4-3

(Invited) Role of Ultrafast Structural Dynamics in Photo-Functional Materials Based on Cooperative Effect
14:15 Shin-ya Koshihara
CREST, JST and Department of Materials Science, Tokyo Institute of Technology, Japan

----- Break (14:45-15:00) -----

LSC4-4

(Invited) Chronology of Photocarriers at Surfaces Studied by Time-Resolved Photoemission Spectroscopy
15:00 Iwao Matsuda
The Institute for Solid State Physics, the University of Tokyo, Japan

LSC4-5

(Invited) Synchrotron Radiation and Laser Photoemission Studies of Epitaxial Graphene on SiC
15:30 Kazutoshi Takahashi
Synchrotron Light Application Center, Saga University, Japan

LSC4-6

(Invited) Highly Efficient Deep UV Generation from a Newly Developed Wavelength-conversion β -BaB₂O₄ Device
16:00 Ichiro Shoji
Chuo University, Japan

----- Break (16:30-16:45) -----

LSC4-7

(Invited) Time-resolved vibrational spectroscopy for photo-functional organic materials
16:45 Ken Onda
Tokyo Institute of Technology, PRESTO-JST, Japan

LSC4-8

(Invited) Nondestructive 3D Imaging of Fatigue Cracks inside Engineering Materials by Synchrotron Radiation
17:15 Yuji Sano
Toshiba Corporation, Japan

LSC4-9

Development of measurement system for magneto-optical effect with a vacuum ultraviolet High Harmonic Generation laser
17:45 Shingo Yamamoto
Institute for Solid State Physics, the University of Tokyo, Japan

LSC4-10

Observing carrier dynamics in an n-type epitaxial graphene using time-resolved photoemission spectroscopy
18:00 Takashi Someya
Institute for Solid State Physics, the University of Tokyo, Japan

18:15-18:30 Closing

18:15 Closing Remarks
K. Nakamura, Steering Committee Co-Chair of LSC'14
Tokyo Institute of Technology, and CREST-JST, Japan