Topics of each Specialized International Conference

[ALPS'16]

We are delighted to welcome you to the 5th Advanced Lasers and Photon Sources Conference (ALPS ’16) in Yokohama, Japan.

The ALPS aims to provide a fruitful opportunity to exchange information and discuss recent progress in lasers and photon sources, and related basic research and industrial applications. The ALPS conference is organized as part of the OPTICS & PHOTONICS International Congress (OPIC 2016), which consists of eleven optics-related scientific conferences. In the ALPS ’16, we will have 18 excellent invited talks and more than 100 contributed papers from China, Taiwan, Korea, USA, Canada, Germany, Franc, Czech Republic, Ukraine, India, Egypt and Japan. The ALPS ’16 collaborates with the International Conference on X-ray optics, detectors, sources and their applications 2016 (XOPT ’16), and the International Conference on High Energy Density Sciences (HEDS 2016) to hold a special joint session on higher photon energy coherent light and ultra-intense lasers and their applications. In this joint session, we select “a cryo-cooled 100 J, 10 Hz DPSSL system,” in HiLASE from Czech Republic and “Current status of PW laser at CoReLS and applications,” in GIST, Korea as invited talks. The former one covers the HiLASE project aiming to develop lasers for industry and research. In the second one, they will report development of a 4PW laser system for aiming to understand superintense laser matter interactions in the relativistic regime. We also select Petawatt Laser Systems in Lawrence Livermore National Laboratory, High-Light-Extraction Nanophotonic Structure for High-power DUV-LEDs, Compact and ultra-intense laser based soft x-ray lasers, Terahertz Imaging/sensing of Cancer/Critical Components in Human Blood, Laser frequency comb applications, high-speed optical coherence tomography as invited papers.

In addition, the OPTICS & PHOTONICS International Exhibition (OPIE 2016) is held jointly at the congress site. We encourage you to actively participate in all aspects of the Congress and Exhibition and hope that you will find these interactions to be beneficial.

We hope that you enjoy your time at the conference, and that you will also take this opportunity to explore the rest of Yokohama.

[CLES2016]

CLES is a conference specialized in Laser Energy Science, which includes high energy-density science and high power lasers. The main theme of CLES2016 is laser fusion, particularly that of fast ignition scheme. It will be jointly held with the international workshop,

“the 14th International Workshop on High-Field Physics with High-Power Lasers”. The latest achievements will be collected and discussed. 29 invited talks will be presented ranging over fast ignition with electron heating, fast ignition with ion heating, generation of ultra intense fields and its applications, integrated experiments of fast ignition, theory and simulation of those physics, high energy-density physics, and high-power lasers. All the papers will be presented as oral talks in a single session. Intensive discussions are expected.

[LEDIA’16]

In LEDIA'16 up-to-date technologies of light-emitting devices and their industrial applications will be presented and discussed. "Industrial application" sessions will be held on May 18th, in which a couple of invited talks regarding next-generation illuminations and applications for medical and agricultural areas will get together. Some contributed talks are also included, so that fruitful discussions among various engineers and researches are expected. Then material growth sessions and a poster session will be held in the morning and afternoon of May 19th, respectively. In the poster session, many presentations related to oxide semiconductors are planned. On the final day, May 20th, light-emitting device sessions will be held. The latest information related to deep UV-LEDs, a long wavelength red LED, a blue VCSEL, and a plasmonic LED, will be presented in both invited and contributed talks. Finally a tutorial lecture is planned to describe micro displays utilizing LEDs.

[PLD’16]

Pacific-rim Laser damage (PLD) was held as a satellite meeting of SPIE Laser Damage Symposium at Boulder. The purpose of this meeting is the communication between researchers especially in Pacific-rim area in the field of laser damage and related phenomena. Normally, PLD meeting was held biyearly at Shanghai in China, but PLD’14 meeting was held in Yokohama in 2014. At this year, PLD’16 will be held in Japan again as a part of OPIC conference. Since previous PLD meetings were composed by contributions from China, Japan, and USA, but now we are aiming to have contributions from Korea as the Pacific-rim member.

We expect 50 papers from 12 countries in PLD’16. We have chosen 10 invited papers from world famous laser damage researches. We will have report from LLNL for modeling of laser damage and usage in NIF laser facility. Prof. W. Rudolph, the co-chair of PLD’16, will report a new scheme of third-harmonic generation from thin film coating. New results of fabrication of world largest Bimorph deformable mirror using Ion Assist Deposition will be also reported from Okamoto Optical Works in Japan.

[SLPC 2016]

SLPC 2016 deals with science and technology of smart laser materials processing including micro- and macro-processing. Main topics and fields are as follows:

- ・Beam Sources and Components for Smart Laser Processing
- ・Micro & Nano Processing, Ultrashort Pulsed Laser Processing
- ・Additive Manufacturing (Selective Laser Melting, Cladding, Laser Metal Deposition)
- ・Surface Structuring and Modification (Functional Surface Manufacturing, Laser ・Peening and Related Phenomena)
- ・Drilling, Cutting and Welding
- ・Industrial Applications

In plenary keynote and industrial applications sessions, smart laser processing technologies will be given. In the sessions of additive manufacturing and plenary keynote, current metal additive manufacturing will be discussed, and machine tool companies will present their trends. In beam sources, unique high power CO lasers will be introduced, and many applications using ultra-shot pulsed lasers and unique optical technologies will be presented.

[XOPT ’16]

We are pleased to announce the inauguration of the XOPT conference, which is dedicated to focus on state-of-the-art technologies for advanced X-ray applications. As major topics, “X-ray free-electron lasers (XFEL)” and “X-ray imaging” are discussed. In the former, development of sources, optics, detectors, and applications for XFELs is presented, while focusing elements, phase measurements, and various types of X-ray microscopies are discussed in the latter.