

## Call for Paper, Submission starts on 1st October 2019



<http://opicon.jp/>

### OBJECTIVE

High energy density sciences based on high power lasers have been boosted recently with the mastering of high-power laser chains that deliver ultra-short and PW class laser beams. High energy particles, femtosecond duration mono-energetic electron beams and x-rays produced by the power laser system come to reality to give us new fundamental knowledge and unique instruments both for basic researches and for the industry. Progress of inertial confinement fusion (ICF), ultra-high-energy particle accelerators, and laboratory astrophysics attracts not only experts but also the general public.

Especially in ICF, the alpha-heating regime, where fusion self-heating is the dominant source of neutron yield, was achieved in National Ignition Facility (NIF). One of the crucial problems of the current central ignition scheme is the hot spark mixing with the cold and dense fuel because of significant growth of hydrodynamic instabilities during the implosion. Fast ignition was proposed as an alternative approach to the ICF ignition that avoids the ignition quench caused by the mixing because the hot spark is generated not by the adiabatic compression but by the external energy injection whose timescale is shorter than the hydrodynamic timescale. Prospects of the research in the US, EU, China, and Japan are of particular interest for discussion.

INTERNATIONAL CONFERENCE ON HIGH ENERGY DENSITY SCIENCES 2020 (HEDS2020) is being organized to share information on high energy density sciences and related technologies. The conference will be held at Pacifico Yokohama, Yokohama city, Japan, on April 20- 24, 2020 with the sponsorship of Laser Society of Japan, in cooperation with several academic societies and associations. The HEDS2020 is intended to provide a central forum for the update and review of scientific and technical information on high energy density sciences covering a wide range of fields from fundamental sciences to applications.

### SCOPE

HEDS2020 covers the high energy density sciences with high power lasers and its application in the following major topical fields;

- A. Inertial Confinement Fusion Sciences  
Central Ignition Scheme, Fast Ignition Scheme, Shock Ignition Scheme, Impact Ignition Scheme, Alternative Ignition Scheme, Hydrodynamics, Burning Plasma Physics, Inertial Fusion Energy Power Plant Technology
- B. High Energy Density Sciences  
Atomic Physics, Equation of State, Laboratory Astrophysics, Condensed Matter Physics, Ultra-strong Fields, Kinetic Effects, Plasma Nuclear Sciences
- C. High Intensity Laser Matter (Plasma) interactions  
Relativistic Laser-Matter interactions, Particle Generation and Applications, Radiation Sources and Applications
- D. Diagnostics  
Ultra-Fast Imaging, Optical Diagnostics, Nuclear Diagnostics, X-ray Free Electron Laser

### COMMITTEE MEMBERS

#### Conference Chair

Ryusuke Kodama (Osaka Univ.)

Sebastien Le Pape (Ecole Polytechnique, France)

#### Steering Committee Chair

Shinsuke Fujioka (Osaka Univ., Japan)

#### Steering Committee

Yasunobu Arikawa (Osaka Univ., Japan)

Tomoyuki Johzaki (Hiroshima Univ., Japan)

Alessio Morace (Osaka Univ., Japan)

Yasuhiko Sentoku (Osaka Univ., Japan)

#### Program Committee

Hideo Nagatomo (Osaka Univ., Japan)

#### International Advisory Board

Farhat Beg (University of California, San Diego, USA)

Ryosuke Kodama (Osaka Univ., Japan)

Tammy Ma (LLNL, USA)

Sean Regan (University of Rochester, USA)

Hiroshi Yamada (NIFS, Japan)

Yuji Fukuda (QST, Japan)

Sebastien Le Pape (Ecole Polytechnique, France)

Yoshitaka Mori (GPI, Japan)

Kazuo Tanaka (ELI-NP, Rumania)

Jie Zhang (IOP, China)

## REGISTRATION

### Registration Fees (Membership)

|                      | Before/On April 7, 2020 | After April 7, 2020 |
|----------------------|-------------------------|---------------------|
| Conference (General) | ¥56, 000                | ¥61, 000            |
| (Student, Retiree)   | ¥19, 000                | ¥22, 000            |

### Registration Fees (Nonmember)

|                      | Before/On April 7, 2020 | After April 7, 2020 |
|----------------------|-------------------------|---------------------|
| Conference (General) | ¥66, 000                | ¥71, 000            |
| (Student, Retiree)   | ¥22, 000                | ¥24, 000            |

OPTICS&PHOTONICS International Congress 2020 (OPIC2020) <http://opicon.jp/>

15 international conferences held simultaneously. By registering for this conference, you can participate in all international conferences.

- ALPS - The 9th Advanced Lasers and Photon Sources
- BISC - The 6th Biomedical Imaging and Sensing Conference
- HEDS - International Conference on High Energy Density Science 2020
- ICNN - International Conference on Nano-photonics and Nano-optoelectronics 2020
- IoT-SNAP - IoT Enabling Sensing/Network/AI and Photonics Conference
- LDC - Laser Display and Lighting Conference 2020
- LEDIA - The 8th International Conference on Light-Emitting Devices and Their Industrial Applications
- LSC - Conference on Laser and Synchrotron Radiation Combination Experiment 2020
- LSSE - Laser Solutions for Space and the Earth 2020
- OMC - The 7th Optical Manipulation Conference
- OPTM - Optical Technology and Measurement for Industrial Applications 2020
- OWPT - Optical Wireless and Fiber Power Transmission Conference 2020
- PLD - Pacific Rim Laser Damage 2020
- SLPC - The 4th Smart Laser Processing Conference 2018
- XOPT - International Conference on X-ray Optics and Applications 2020

### Exhibition

OPTICS & PHOTONICS International Exhibition, OPIE'20 will be held simultaneously on April 22-24 at Pacifico Yokohama.

## SUBMISSION OF PAPERS

A 300 word abstract and a contact information form should be submitted to the program committee by e-mail to "heds2020@lie.osaka-u.ac.jp". The abstract and the contact information template will be available through the Web site.

**From October 1st, 2019 and the deadline is no later than January, 28 2020**

## POSTER SESSION

The author(s) of poster presentations will be informed of the size of bulletin board for displaying summary, figures, tables, etc., when selected as poster papers.

## POST DEADLINE PAPERS

A limited number of post deadline papers will be accepted for presentation at post deadline sessions.

## OFFICIAL LANGUAGE

The official language of HEDS2020 is English.

## PLENARY, INVITED TALKS and FURTHER INFORMATION

The speaker and latest information on the conference will be presented on the Web site.

## LOCATION OF CONFERENCE SITE

The HEDS2020 takes place at Pacifico Yokohama, Yokohama city, Kanagawa prefecture, JAPAN. Yokohama city, the center of Kanagawa prefecture is located south of Tokyo. Pacifico Yokohama is conveniently located about 40 min. by Limousine Bus from Haneda Airport and 90 min. from Narita Airport.

### **Pacifico Yokohama**

1-1-1 Minato Mirai, Nishi-ku, Yokohama 220-0012, Japan

<http://www.pacifico.co.jp/english/index.html>

Transportation Guide: TEL +81-45-221-2166

Information: TEL +81-45-221-2155& FAX +81-45-221-2136



Contact address : [heds2020@lie.osaka-u.ac.jp](mailto:heds2020@lie.osaka-u.ac.jp)