

Submission: 16 October 2024 - 18 December 2024

<http://opicon.jp/>

<https://www.ile.osaka-u.ac.jp/heds2025/>



OBJECTIVE

Recent progress in high-power laser technology and the advent of X-ray free electron lasers have energetically advanced our understanding of matter in extreme environments. Materials dynamically compressed by high-power laser irradiation, which reach ultra-high pressure and temperature states or warm dense matter states, are closely related not only to plasma physics and material science but also to earth and planetary science and inertial confinement fusion researches. Since such materials are highly complex systems, they are interdisciplinary research interests where both experimental and computational contributions are essential. In the scientific research area, we recognize that it is beneficial to hold a conference to promote international and interdisciplinary collaboration and overview the current status and prospects of the related fields. Thus, we propose to hold an international conference at the annual HEDS meeting with a topical focus on "Matter in Extreme Conditions". The conference aims to discuss a definite theme with distinguished overseas scientists with experiences in high-pressure science, shock physics, materials science, earth and planetary science, first-principles calculations, high-power lasers, and X-ray free electron lasers, increasing the number of foremost participants in related fields.

INTERNATIONAL CONFERENCE ON HIGH ENERGY DENSITY SCIENCES 2025 (HEDS2025) is organized to share recent advances in science and technology on the matter under extreme high-energy-density conditions. The conference will be held on April 21- 25, 2025, at Pacifico Yokohama.

SCOPE

Fast Dynamics and Transport in High Energy Density States

HEDS covers the high energy density sciences with high power lasers and its application. The primary topics of HEDS2025 is on fast dynamics and transport in high energy density (HED) states.

High intensity lasers open access to fast dynamics in HED states, including phase transitions under high pressure, plasma and field structure formation, and energy transport in non-equilibrium conditions. Understanding these physics is essential for materials science, fusion energy science, astrophysics, and other applications. Novel diagnostics such as XFEL, and laser-driven particle and radiation sources are key to elucidating the physics.

The following categories are considered as specific topics.

- (A) Plasma kinetics
- (B) Warm dense matter and high pressure material
- (C) Strong field and radiations
- (D) Simulation and modeling
- (E) Facility, diagnostics, and other technological advances

COMMITTEE MEMBERS

Conference Chair

Ryosuke Kodama (Osaka Univ.)

Natsumi Iwata (Osaka Univ.)

Steering Committee Chair

Natsumi Iwata (Osaka Univ.)

Organized by



Institute of Laser Engineering,
Osaka University



Contact address : heds2025@lie.osaka-u.ac.jp

REGISTRATION

Registration Fees

		On/Before 7 April 2025	After 8 April 2025
General	Member*	¥75,000	¥82,000
	Non-Member	¥89,000	¥95,000
Student	Member*	¥25,000	¥29,000
	Non-Member	¥29,000	¥32,000

*Member of specialized International Conference Organizations

OPTICS&PHOTONICS International Congress 2025 (OPIC2025) <http://opicon.jp/>

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

- ALPS - The 14th Advanced Lasers and Photon Sources
- BISC - The 11th Biomedical Imaging and Sensing Conference
- FAAP - The Future of Agriculture and Advanced Photonics
- The Fusion of Science and Technology for Sustainable Food Production
- HEDS - International Conference on High Energy Density Science 2025
- ICNNQ- International Conference on Nano-photonics, Nano-optoelectronics and Quantum technology 2025
- LSC - Conference on Laser and Synchrotron Radiation Combination Experiment 2025
- LSSE - Laser Solutions for Space and the Earth 2025
- META - Meta Photonics: Design, Fabrication, Characterization, and Applications
- OMC - The 12th Optical Manipulation and Structured Materials Conference
- OPTM - Optical Technology and Measurement for Industrial Applications 2025
- OWPT - Optical Wireless and Fiber Power Transmission Conference 2025
- SI-Thru - Sensing and Imaging through Scattering and Fluctuating Field in Biology,
Telecommunication, and Astronomy
- TILA-LIC - Tiny Integrated Laser and Laser Ignition Conference 2025
- XOPT - International Conference on X-ray Optics and Applications 2025

SUBMISSION OF PAPERS

A 300-word abstract form should be submitted through OPIC2025 web. If you have anything to ask, please contact to "heds2025@lie.osaka-u.ac.jp". The abstract template will be available through the Web site.

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 HEDS2025 is English.

PLENARY, INVITED TALKS and FURTHER INFORMATION

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

"<https://www.ile.osaka-u.ac.jp/heds2025/>".

LOCATION OF CONFERENCE SITE

The HEDS2025 takes place online and 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

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

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