

**October 21 – 25, 2019**

**ELI Beamlines / Dolní Břežany, Czech Republic**

The **International Conference on Extreme Light (ICEL)** provides a unique opportunity to bring together the international community of users and researchers interested in the many research applications of the Extreme Light Infrastructure (ELI) and the perspectives of ultra-high intensity laser science and technology.

With the ELI Facilities now coming on line and entering initial operations, the **3<sup>rd</sup> ICEL 2019** will offer the possibility not only to exchange on the latest developments about generation and applications of extreme light, but also to discuss user perspectives and future access opportunities at ELI.

**A special session will be devoted to prospective ELI Beamlines users. The session will give an overview of the available technology and support planned for users (lasers, experimental areas, beamlines, end-stations, diagnostics, labs, etc.) and ELI ERIC access procedures.**

### The Extreme-Light-Infrastructure

The **Extreme Light Infrastructure (ELI)** is the world's first truly international laser research facilities. **The ELI Facilities** will provide unique sources of radiation and particle beams and lasers with high peak powers of 1-10 PW (Petawatt) at enhanced repetition rates and focused intensities up above  $10^{22}\text{W}/\text{cm}^2$  with the aim to reach over  $10^{23}\text{W}/\text{cm}^2$  at a later stage. Using these and lower peak power, but high average power lasers, a number of experimental stations and beamlines are constructed to offer new research capabilities with and on secondary sources of x-rays and particles for users.

These beamlines will enable ground-breaking research not only in the fields of fundamental physics and materials science, but also in biology, medicine, and laboratory astrophysics.

The ELI Facilities will be operated as an integrated organisation by the ELI European Research Infrastructure Consortium (ELI ERIC) with international membership.

### Plenary Lectures

**Hamad Ahmed** (Queen's University Belfast)

*Innovative techniques to enhance ion beam energy and quality by high power lasers*

**Masaki Kando** (QST-KPSI, Japan)

*LWFA of electrons toward laser-based XFEL*

**Victor Malka** (LOA, France)

*Manipulating Relativistic Electrons with Intense Laser Pulses*

**Luis Silva** (IST, Portugal)

*Bright gamma-rays and e-e+ pairs in the collision of high density particle beams*

### Invited Lectures

See the list of [all invited speakers](#).

### Conference Topics

- High-power lasers including new concepts for high-peak-power and high-average-power generation
- Laser-driven secondary sources of soft and hard x-rays and their applications in different areas such as bio-medical and materials science
- Attosecond pulse generation and applications
- Laser-driven particle acceleration including high-repetition-rate sources of electrons, protons, higher charged ions and their applications
- Challenging the energy frontiers of particle acceleration with lasers
- Neutron generation using high-power lasers and their future applications
- Ultra-intense laser matter and laser vacuum interaction (high field Physics)
- Laboratory Astrophysics
- Plasma physics
- New societal applications of laser-driven secondary sources (medical imaging and therapy, transmutation, fuel cycles, etc.)

### Early Bird Registration & Payment Deadline

September 10, 2019

### Registration Fees

Full fee / 6 500 CZK (~ 250 €)

Student fee / 4 000 CZK (~ 150 €)

More information available [here](#), and see also the [conference programme](#).

<http://indico.eli-beams.eu/e/ICEL2019>

