

ELI-Beamlines is a research facility dedicated to using high intensity lasers to drive experiments for users and part of the larger ELI – ERIC research consortium. In order to provide the widest range of experimental opportunities in a single facility, ELI Beamlines has 4 state-of-the-art high power lasers with output peak powers ranging from TW to 10 PW levels. The lasers are at varying stages of development with some nearing completion and others already running experimental campaigns for users. Several technologies are utilized in these lasers such as high power diode pumped solid state laser (DPSSL) technology, Sapphire amplification, optical parametric chirped pulse amplification (OPCPA), Nd:glass amplification, and fiber lasers/amplifiers. A brief summary of the beamlines is provided below:

**L1-Allegro** is a 1 kHz, 50 mJ laser based entirely on thin disk DPSSL pumped picosecond OPCPA. This laser is used regularly for user experiments and is currently being upgraded to have an auxiliary pulse train and a higher output energy of 100 mJ.

**L2-DUHA** is under development and is designed to be a 100 TW, 50 Hz laser for driving a laser wakefield accelerator. This laser based on high energy OPCPA pumped by a cryogenically cooled Yb:YAG multi-slab DPSSL.

**L3-HAPLS** is a 10 Hz, 1 PW laser which was developed by Lawrence Livermore National Laboratory. This laser is currently being used in user experiments and performance ramping of the laser to improve the output parameters has begun.

**L4-Aton** is a kJ-class laser with a design peak power value of 10 PW firing once every 5 minutes and based on amplification via OPCPA and Nd:glass. Commissioning is ongoing with a primary focus on compression of the high energy pulse to 10 PW peak power.

## Laser engineer (126)

### Description:

The successful candidate will contribute to the development/upgrade of a laser as a member of the laser development team. This contribution will consist primarily of laboratory work with high power lasers and their supporting systems.

### Requirements:

A basic knowledge of lasers/optics and previous hands-on experience is ideal, but training will be provided on the specific technologies we are using. At least a bachelor's degree in physics, engineering, or related field is required.

**Duties (training will be provided where necessary):**

- align and optimize optical systems, specifically: laser cavities, multi-pass amplifiers, OPCPA systems, relay imaging telescopes, supercontinuum sources, and diffraction grating-based stretchers/compressors
- install water-cooling, compressed air, and vacuum systems in precision optical setups
- optical fiber splicing, handling, and construction of fiber-based optical subsystems
- diagnosing ultra-fast laser pulses using standard techniques such as FROG, SPIDER, autocorrelation, 3rd order autocorrelation, etc
- handling large optics, crystals, diffraction gratings, and ultra-high vacuum components

**We offer:**

- the opportunity to participate in this unique scientific project
- competitive and motivating salary
- flexible working hours
- nice working environment
- career growth
- meal allowance, pension contribution
- 5 weeks of holidays and 6 sick days
- support of leisure time activities

Applications, containing CV, cover letter, contacts of references, and any other material the candidate considers relevant, should be sent to Mrs. Jana Ženíšková, HR specialist ([jana.zeniskova@eli-beams.eu](mailto:jana.zeniskova@eli-beams.eu), +420 - 601560322).

Information regarding the personal data processing and access to the personal data at the Institute of Physics of the Czech Academy of Sciences can be found on: <https://www.fzu.cz/en/processing-of-personal-data>