ELI Beamlines is a part of the ELI (Extreme Light Infrastructure) pan-European project representing a unique tool of support of scientific excellence in Europe. ELI Beamlines aims to operate the world’s most intense laser system.

With ultra-high power 10 PW and concentrated intensities of up to 1024 W/square cm, we offer our users a unique source of radiation and rays of accelerated particles. These beamlines are enable pioneering research not only in physics and material science, but also in biomedicine and laboratory astrophysics and many other fields.

The ELI Beamlines is part of the Institute of Physics of the Czech Academy of Sciences, and it was open in 2015.

**Student Internship**

**Design and development of targets and diagnostics for PW laser-plasma electron accelerator**

**Expected duration:** 300-600 hours

**Abstract:**
Laser-plasma accelerators are the new frontier for compact particle accelerators. By using ultrashort high-power lasers it is possible to accelerate electron beams up to GeV energies in few cm, about 1000 times shorter than the typical km-size particle accelerators based on conventional technology.

The candidate work will be done in the Electron Acceleration Group at ELI-Beamlines and will consist in the design and development of innovative targets and diagnostics for the electron acceleration beamline. The candidate is expected to work in at least one of the following areas: laser propagation modelling, laser-plasma interaction modelling, electron beam diagnostics, ultra-fast laser diagnostics, high-repetition rate data acquisition and processing, laser-plasma interaction optical diagnostics.

No particular software skill is required. This work can be the basis for a Bachelor’s or Master’s Degree thesis.

Interviews will begin immediately and the position will stay open until filled.

Applications should be sent to Mrs. Markéta Pávková via email: marketa.pavkova@beams.eu

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.