ELI Beamlines research centre in Dolní Břežany is a part of pan-European infrastructure ELI (Extreme Light Infrastructure) representing a unique tool of support of scientific excellence in Europe by making available its capacities to the best scientific teams across the world. The aim of ELI Beamlines is to establish the most intensive laser system in the world and to operate it on a long-term basis. Due to ultra-high performances of 10 PW (1 petawatt = 1,000,000,000,000,000 watts) and concentrated intensities of up to 10^{24} W/cm^2, we can offer our users a unique source of radiation and beams of accelerated particles. The so called beamlines will enable ground-breaking research in the area of physics and science dealing with materials, but also in biomedicine and laboratory astrophysics and many other fields. ELI Beamlines is a part of the Institute of Physics of the Czech Academy of Sciences, and it was open in 2015.

The Institute of Physics of the Czech Academy of Sciences is a holder of the HR Excellence in Research Award. It is awarded by the European Commission to institutions which put significant effort into improving their human resources strategy and ensuring professional and ethical working conditions.

The Department 86 of ELI Beamlines is a combination of four teams (ELBA, LUIS, X-ray, HiFI/ERT), dedicated to the laser wakefield electron beam acceleration and generation of the various types of X-ray sources.

The LUIS team of Dept. 86 at the ELI Beamlines develops experimental setups to be used for acceleration of the electron beam with unique parameters, suitable for the incoherent/coherent undulator-photon radiation. This development aims at using a compact Laser Wake Field Accelerator as a driver for the table-top Free Electron Laser. Detailed information about the LUIS development and the research activity is available at the website: https://www.eli-beams.eu/facility/experimental-halls/e5-electron-accelaration-laser-undulator-x-ray-source/lux-beamline/

In the LUIS team we have a position available:

Postdoctoral Fellow - Computational plasma physics (IV-14)

The candidate is supposed to conduct the studies of the problems related to the LUIS program as follows:

- modelling of the high power short pulse laser interaction with plasma targets to provide a theoretical background for the LUIS experimental activity on the laser wake field acceleration in an under-dense plasma

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- participation in the LUIS experimental activity for optimizing the laser-driven electron beam parameters suitable for incoherent and coherent undulator photon radiation
- usage existing plasma simulation tools for novel application
- development of physical models for existing and novel simulation capabilities
- conducting further research aiming at novel charged particle acceleration mechanisms in the high repetition rate high-power laser regimes

Requirements:

- PhD in plasma physics or related field
- experience in modelling of the electron acceleration in the laser-plasma interaction
- good knowledge of spoken and written English is necessary
- team player with good communication skills

Job conditions:

- the opportunity to participate in this unique scientific project
- career growth, professional education
- competitive and motivating salary
- 5 weeks of holiday and other employee benefits

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, +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**

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