

HiLASE Centre is focused on development of pulsed diode-pumped solid state lasers (DPSSLs) with high average power for emerging industrial and scientific applications. We are looking for a new team member to ensure the operation and further development of our recently commissioned R&D Centre in Dolní Břežany, Czech Republic.

PHD STUDENT

in the field of

Laser-Matter Interaction, theory and modeling

Job Description:

- In collaboration with an international team of theoreticians and experimentalists, the applicant will be guided to develop a simulation code to describe collective phenomena in multilayered and nanostructured materials based on models currently under development in the HiLASE Centre: two-temperature models (TTM) and Maxwell's simulations (FDTD method).
- The main goal of the PhD position will be in studies of the physics of laser interaction with multi-layered structures combining several materials, and to describe the collective response of the layers as a function of time, space, and laser parameters. Numerous applications can be envisioned in the fields of solar cell nanostructuring, modification of wetting properties of surfaces of various materials, high-intensity laser optics and damage threshold increase.
- The mechanisms of super-regular multilayered nanostructures are also targeted for investigations that can open the possibilities to develop novel applications based on nanostructured thin films with various spatial arrangements.

The PhD position is planned for 4 years in the HiLASE Centre premises and is attached to the CTU Czech Technical University in Prague.

Requirements:

- Master in Physics, Optics, Materials Science or other relevant discipline.
- Good communication level of spoken and written English;
- Scientific curiosity, desire to gain understanding of physics of laser-matter interaction via numerical simulations;
- Ability to work with and/or learn and master various programming languages (Fortran, Python, C, C++);
- Ability to modify existing simulation tools;
- Participating in developing a multi-developer/multi-user code accessible to the scientific community;
- Parallel programming experience would be appreciated

We offer:

- Opportunity to participate in a unique scientific project
- 5 weeks of vacation and other employee benefits
- Work in a pleasant team and environment

If you are interested in this Offer, please send your CV, motivation letter and names/addresses of 1-2 potential referees in English by email to lakoma@fzu.cz

Please, include the following text in your e-mail / letter:

I agree that, according to the decree 101/2000 coll.(Czech Republic), my personal details sent to FZU AV CR, v.v.i., Na Slovance 2, 18221 Praha 8, Czech Republic can be used for the purpose of obtaining employment and management of database of employment candidates. This permission is given for the period of one year and can be at any time withdrawn by giving a notice in writing.

Contact: Ms. Olga Lakomá (HR Assistant)
Tel: (+420) 702 086 170, 314 007 703
e-mail: lakoma@fzu.cz