

**ELI-HU Research and Development Non-Profit Limited Liability Company is announcing**

**Job openings in Early Stage Researcher and Research Fellow positions in Theoretical and Computational Group of Molecular Structure and Dynamics (TCMSD) Group within the Attosecond and Strong Field Science Division at ELI-HU**

**The Hungarian ELI: the Attosecond Light Pulse Source (ALPS)**

The first civilian large-scale research facility based on high-power lasers, the Extreme Light Infrastructure (ELI), is to be constructed with international cooperation at three locations with a coordinated management and research strategy. The Attosecond Light Pulse Source (ALPS) research centre to be built in Szeged, Hungary will be devoted to study of electron dynamics on the femto-, attosecond scale in atoms, molecules, plasmas and biological samples.

The primary mission of the ELI-ALPS, Szeged is to make a wide range of ultrafast light sources accessible to the user groups of the international scientific community, with special consideration to coherent extreme-ultraviolet (XUV) and X-ray radiations, and to attosecond pulses.

ELI-HU Research and Development Non-Profit Ltd. coordinates the preparation, construction and operation of ELI-ALPS, an international laser research center.

**The projects:**

Major research activities of TCMSD group are:

- i) Investigating the coupled electron and nuclear dynamics induced by attosecond laser pulses and strong electromagnetic fields on small and medium-size molecules;
- ii) Control of chemical dynamics by laser-induced conical intersections (LICs) in medium size molecular systems;
- iii) Coherent electronic excitations and ionizations in controlling fragmentation of neutral and charged molecules.

**The potential candidates profile:**

Applicants are invited for a phd/ postdoctoral positions in theoretical and computational atomic, molecular physics and ultrafast electronic processes in molecules.

The candidate should have background in computations, possibly using advanced electronic structure and/or molecular dynamics methods (must for postdoctoral candidates). Experience in high performance computing is additional advantage. The successful candidate will conduct research in one or more of the following forefront areas: atomic and molecular multiphoton processes in intense laser fields, attosecond electron and nuclear dynamics of small and medium size molecules using high quality electronic structure and molecular dynamics methods.

The TCMSD group is looking forward to highly motivated self-driven candidates. The candidate must have good written and verbal English communication skills. A solid academic foundation in atomic and molecular physics, quantum chemistry, optics and photonics related field is expected. Knowledge of computer programming, previous experience in research using ab initio electronic structure methods are especially advantageous. Familiarity with programming languages Fortran, Python, Mathematica, Matlab etc. would be given due weightage.

1. For *Early Stage Researchers*:

- University students in their last year of an MSc Programme in relevant specialization field (physicist or chemist), assuming that they recently completed/ will complete their studies by 30<sup>th</sup> August, 2016;
- PhD students working in relevant research fields;
- Early stage researchers or engineers without PhD degree.

2. For *Research Fellows*:

- Physicist or chemist with PhD degree or submitted PhD thesis in relevant research field, or at least 2 years of research experience in a related research institute.

**We offer:**

- Competitive salary
- Attractive fringe benefits
- Challenging job with carrier opportunities
- Pleasant working environment in a brand new infrastructure

During the employment the early stage researcher or research fellow may have the opportunity to enroll to a PhD program and work for a PhD degree. The successful candidates may have a duty to do part of their research and development work outside Hungary at contracted collaborators and partners of ELI-HU Non-Profit Ltd., as part of their training and education to their specific task.

**The application must contain:**

- A motivation letter
- A Europass curriculum vitae or detailed scientific curriculum vitae
- Full list of publications – highlighted the list of articles published in refereed journals and containing the following data:
  - h-index
  - cumulative impact factor (calculated by summing of impact factors of journals characteristic for the year of publication each articles)
  - number of citations without self-citations
- The name of two scientific supervisors or professors, who could give expert opinion about candidate's skills
- The candidate's postal address and other contact data (phone, fax, e-mail)

**Schedule:**

- Application deadline: continuous, valid until withdrawn
- Foreseeable date of the interview for selected candidates: within 4-10 weeks of application submission

For further scientific elaboration and informal discussion on this positions please contact Dr. Franck Lepine at [Lepine.Franck@eli-alps.hu](mailto:Lepine.Franck@eli-alps.hu) or Dr. Ágnes Vibók at [Agnes.Vibok@eli-alps.hu](mailto:Agnes.Vibok@eli-alps.hu) with your cv. Please use "Early Stage Researcher: TCMDS" or "Research Fellow: TCMDS" in the subject of your e-mail.

If you are interested in any of these positions and meet the required criteria, please fill in our Career Site with your professional data at <http://www.eli-alps.hu/career/> .