Open HEDP-Theory Assistant Scientist Position at the Laboratory for Laser Energetics

The Laboratory for Laser Energetics (LLE) at the University of Rochester is a unique national resource with a premier high-power laser facility for research in inertial confinement fusion (ICF), high-energy-density physics (HEDP), and basic science. The Laboratory is performing ignition-related experiments on its own OMEGA Laser System, as well as the National Ignition Facility (NIF) at Lawrence Livermore National Laboratory (LLNL). Scientists from LLE have been instrumental in the development of experimental techniques and diagnostics while collaborating with scientists at Lawrence Livermore and other national laboratories on the key science campaigns leading to ignition and to better understanding of HEDP.

LLE is home to both the OMEGA and OMEGA EP Laser Systems. OMEGA is a 60-beam solid-state laser system capable of delivering 30-kJ, nanosecond UV pulses to a target. OMEGA EP is a short-pulse laser system capable of delivering up to 1-PW intensities (700 J in 700 fs). Research is conducted for LLE as well as other national laboratories and universities. Information regarding the Laboratory for Laser Energetics can be found at **www.lle.rochester.edu**. The University of Rochester is an equal opportunity employer.

Assistant Scientist in Computational/Theoretical HEDP Research

The HEDP-Theory Group in LLE's Theoretical Division seeks a computational/theoretical physicist to carry out rigorous and high-impact researches in high-energy-density science important to both ICF and basic science. The successful candidate will focus on the development of machine-learning augmented orbital-free non-interacting and exchange-correlation free-energy density functionals for density-functional theory (DFT), software implementation and their applications to matter at warm-dense conditions by means of *ab-initio* molecular dynamics simulations and Kubo-Greenwood approach to characterize the equation of state, transport and optical properties of materials under extreme conditions. This project, funded by NSF, offers a competitive salary which will be commensurate with experience and qualifications. Close collaborations between HED theorists and experimentalists are being actively pursued at LLE. Experience with DFT codes such as Quantum-Espresso/ABINIT/VASP, as well as good interpersonal skills, the willingness to work in a team, and the ability to communicate well in writing are desirable. A Ph.D. in quantum many-body physics, atomic and molecular physics, condensed matter physics, plasma physics, or a related area is required.

This Assistant Scientist position will open in the spring 2023 (with some flexibility), and applications will be considered until the position is filled. The position will be funded for two years. Interested applicants should submit a dossier that includes a cover letter outlining how the applicant sees himself/herself contributing to the research project, CV and a list of publications. All applicants must apply online via http://www.rochester.edu/jobopp, click "Search all jobs" and search by Job ID: 241486, or Job Title: Assistant Scientist in Computational/Theoretical HEDP Research. The applicant should arrange for at least two letters of recommendation to be sent to ssta@lle.rochester.edu.