

Postdoctoral Research Associate on Laser Optics

Research Accelerator Division Oak Ridge National Laboratory Oak Ridge, Tennessee

ORNL10-53-RAD

Project Description:

The Research Accelerator Division (RAD) of the Spallation Neutron Source (SNS) at the Oak Ridge National Laboratory invites applications for the position of Postdoctoral Researcher on laser optics. SNS is an accelerator-based neutron source in Oak Ridge, Tennessee, USA. This one-of-a-kind facility provides the most intense pulsed neutron beams in the world for scientific research and industrial development. Research at these facilities will encompass the physical, chemical, materials, biological, and medical sciences and will provide opportunities for up to 2000 researchers each year from industry, research facilities, and universities all over the world. To learn more about Neutron Sciences at ORNL go to: <http://neutrons.ornl.gov>.

Major Duties/Responsibilities:

In recent years, a number of novel technologies based on laser-particle interaction have been developed at SNS. The laser laboratories are equipped with the state-of-the-art laser optics instruments including customized 402.5 MHz/50 ps/1 MW UV laser amplifier, Ti:Sapphire laser, mode-locked fiber laser, high energy Q-switched lasers, UV optics, cavity stabilization electronics, and a variety of high performance measurement devices and control electronics. The RAD has a strong R&D team including scientists, engineers, and technicians who have rich experience in the fields of electronics, mechanics, optics, and software.

Position has responsibility for the laser optics development for the laser-ion beam interaction in the RAD at SNS. Key activities include research and development of beam recycling optical cavity, experiment using Q-switched or mode-locked pulsed lasers, and techniques for laser cavity stabilization using piezo-electrical elements and control electronics. Anticipated focus areas include the optical system design, high energy laser system, UV optics, optical signal detection, control circuit.

Qualifications:

Position requires a Ph.D. in physics, applied physics, electrical/electronic engineering, or a closely related science and engineering discipline. 3+ years experience with experimental optics is important. Previous experience in mode-locked lasers, UV optics, or optical cavity is advantageous. Candidates must have good communication skills, both written and verbal, and enjoy working in a team environment. The successful candidate must also foster and maintain high standards in Environment, Safety, and Health (ES&H) and Quality Assurance for all of the group's activities.

Technical Questions:

Questions regarding the position can be directed to Yun Liu, liuy2@ornl.gov. Please include the requisition number and title when corresponding.

How to Apply:

Qualified applicants must apply online at https://www2.ornl.gov/ORNL_POST/. All applicants will need to register before they can begin the online application. For complete instructions, on how to apply, please see the instructions at <http://www.ornl.gov/orise/edu/ornl/ornl-pdpm/application.htm>.

This appointment is offered through the ORNL Postgraduate Research Participation Program and is administered by the Oak Ridge Institute for Science and Education (ORISE). The program is open to all qualified U.S. and non-U.S. citizens without regard to race, color, age, religion, sex, national origin, physical or mental disability, or status as a Vietnam-era veteran or disabled veteran.