

## NOTICE OF VACANCY

### Postdoctoral Research Position: Spectroscopy for the Study of Chemical Reactions ISP/Applied Sciences Laboratory



#### Description of Position

The Spokane-based Applied Sciences Laboratory (ASL) of the Institute for Shock Physics (ISP) at Washington State University is a contract research organization. We conduct a broad range of applied science and technology projects for government agencies and corporations, including technology transfer for commercial applications. Our research activities span the physical sciences, engineering, and biomedical sciences.

Within the physical sciences, many of our experiments focus on studying chemical reactions using optics and spectroscopy. We utilize a variety of lasers (e.g., pulsed/cw high-energy/power lasers, frequency doubled/tripled/quadrupled lasers, optical parametric amplifiers, femtosecond lasers, cw laser diodes, etc.). We also use a wide array of optical detection and analysis apparatus, including biased and amplified photodiodes, photomultipliers, APD's, image intensifiers, lock-in amplifiers, and other state-of-the-art electro-optic instrumentation.



We have an immediate opening for a postdoctoral research associate to conduct basic and applied research in experimental optics and spectroscopy for the study of chemical reactions in real time. The successful candidate will work on various aspects of the research project, including sensor development, optical characterization of materials, data analysis, and modeling. Occasional travel with access to Department of Energy (DoE) facilities is required. We are looking to hire an experimentalist who enjoys hands-on work and problem-solving in a fast-paced research environment.

Responsibilities include, but are not limited to:

1. Perform a variety of laser-based optical spectroscopy measurements (e.g., Raman, fluorescence, fluorescence lifetime)
2. Independently define and complete experimental projects and tasks
3. Conduct and analyze research experiments, document processes and procedures, and prepare reports and publications as appropriate
4. Take the lead in the design, development, and use of optical equipment and systems for optical measurements and other laser-based diagnostics

## Required Qualifications

A strong, hands-on experimental background is essential for this position. The required professional qualifications and personal attributes are:

- A recent Ph.D. degree in Physics, Optics, Chemistry, or related field with a strong experimental background in optical physics, optical spectroscopy, lasers, or optoelectronics
- Strong academic and research background related to optical and spectroscopy experiments and excellent problem-solving skills
- Hands-on experience with optical spectroscopy techniques, data acquisition, and data analysis
- Graduate or post-graduate experience at a U.S. Academic Institution or National Laboratory
- Good oral and written communication skills (i.e., ability to engage in scientific discussions and clearly express and understand ideas, and ability to summarize research results in a succinct written manner)
- Ability to perform independent research
- Critical thinking, good judgment, clear sense of purpose, attention to detail, and accountability
- Must be able to obtain a badge at U.S. Department of Energy facilities to gain access to restricted areas/information.

## Preferred Qualifications

The ideal candidate will also have experience with:

- Raman spectroscopy
- Nonlinear optics
- Chemometrics, and analysis automation
- Vacuum equipment
- Optical trapping

The salary structure is both attractive and nationally competitive. Other benefits include health/dental insurance, vacation/sick leave, retirement plans, and access to all University facilities. The position is located on the WSU Campus in Spokane, Washington.

## Applications

To apply, please submit applications to [asl.jobs@wsu.edu](mailto:asl.jobs@wsu.edu) . As a part of the application process, applicants are asked to submit a cover letter to the attention of Dr. Hergen Eilers addressing the required and preferred qualifications for this position, a detailed resume, and the names and contact information for three professional references.

Questions may be submitted to Ms. Sheila Heyns, Assistant Director, Administration and External Relations, Institute for Shock Physics, 509-335-5345 [asl.jobs@wsu.edu](mailto:asl.jobs@wsu.edu).

**Due to the large volume of applications, we will contact only those selected for next steps.**

**Additional information about the Institute for Shock Physics and Washington State University follows:**

The Institute has ongoing research activities at the following three locations:

- *Institute for Shock Physics - Pullman, WA:* Combining research innovations and rigorous education ([shock.wsu.edu](http://shock.wsu.edu))
- *Dynamic Compression Sector - Argonne, IL:* Frontier of dynamic compression science (first-of-a-kind worldwide user facility) located at the Advanced Photon Source, Argonne National Laboratory ([dcs-aps.wsu.edu](http://dcs-aps.wsu.edu))
- *Applied Sciences Laboratory - Spokane, WA:* Transforming science into practical solutions ([asl.wsu.edu](http://asl.wsu.edu))

**Washington State University**

Washington State University, one of the two research universities in the state, was founded in 1890 as the state's land-grant institution and is located in Pullman with regional campuses in Spokane, Vancouver and the Tri-Cities. Due to its strong emphasis on excellence in research and education, the Carnegie Classification™ has designated WSU as R1: Doctoral University – Highest Research Activity. Current enrollment is approximately 31,500 undergraduate, graduate, and professional students. The University offers more than 200 fields of study, with 95 majors for undergraduates, 79 master's degree programs, 63 doctoral degree programs, and 4 professional degree programs. Academically, the University is organized into 11 colleges (Agriculture, Human, and Natural Resource Sciences; Arts and Sciences; Business; Communication; Education; Engineering and Architecture; Honors; Medicine; Nursing; Pharmacy; and Veterinary Medicine) and a Graduate School. The Colleges of Medicine, Nursing, and Pharmacy are located on the WSU Health Sciences Spokane campus. For more information, please visit [www.wsu.edu](http://www.wsu.edu).



*WSU is an EO/AA Educator and Employer.*