

## NOTICE OF VACANCY

### Research Optical Engineer



WASHINGTON STATE UNIVERSITY  
Institute for Shock Physics

The Institute for Shock Physics, a multidisciplinary research organization within the College of Arts and Sciences, invites applications for a Research Optical Engineer position (Administrative/Professional Staff Member) located at WSU's main campus in Pullman, WA. We are looking to hire a strongly self-motivated and talented individual with a strong, hands-on, experimental aptitude to assist with shock wave experiments that utilize optical measurements.



The Institute's research theme is "Understanding Materials under Extreme Conditions". The research activities involve state-of-the-art experiments to understand the response of materials subjected to elevated temperatures and high dynamic stresses. The individual hired will be responsible for assisting with experiments, operating electro-optic instrumentation, and maintaining/improving the experimental facilities. Many of the experiments performed at the ISP utilize laser-interferometry measurements and other laser-based diagnostics that are integral to characterizing/understanding the shock compressed state of materials. In addition, a wide array of optical detection and analysis approaches are utilized, including fast photodetectors, image intensifiers, and other state-of-the-art electro-optic instrumentation.



The overall responsibilities for this position are as follows:

1. Participate in research experiments, including the design, fabrication and assembly of experimental components and equipment. The experimental responsibilities are strongly hands-on and require an excellent mechanical aptitude in a laboratory setting, including the use of specialized tools to operate the Institute's experimental capabilities.
2. Participate in the design, development, and use of optical equipment and systems, for laser-interferometry measurements and other laser-based diagnostics.
3. Operate and maintain the equipment utilized in the Institute's Impact Facilities to support a broad range of research projects involving high-velocity impacts.
4. Contribute effectively to all aspects of the experimental effort, including guidance and assistance to ISP research faculty, postdoctoral research associates, and graduate students.
5. Conduct regular maintenance activities in the laboratories, order experimental components and supplies, and work effectively in a team setting.
6. Prepare reports and publications as appropriate.

Because of the diverse nature of the research activities and the facilities in the Institute, the above list should be viewed as a representative, but not a complete, list of responsibilities.

## **Qualifications**

**Only applicants who are currently in the U.S.** and meet the following minimum qualifications will be considered for this position.

- A Bachelor's degree in Physics, Mechanical Engineering, Materials Engineering, or an appropriate related scientific or engineering discipline and experience performing professional-level work with scientific or engineering research protocols. Any combination of relevant education and experience may be substituted for the educational requirement on a year-for-year basis. Experimental and analytical skills; understanding and knowledge of research theory; excellent organizational and project management skills.
- Good familiarity with hardware and software required for time-and-spatially resolved optical diagnostics, including lasers and optical detection equipment.
- An excellent mechanical aptitude and demonstrated hands-on experience with design and fabrication of instruments and experimental components.
- Strong academic background and excellent problem-solving skills.
- Good computer skills, including experience with technical/design programs, such as LabView or SolidWorks, and working knowledge of data analysis software.
- Excellent communication skills, both oral and written.
- Personal attributes should include critical thinking, good judgment, clear sense of purpose, attention to detail, ability to work effectively in a team, and accountability.
- Be able to lift up to 50 lbs., because of the need to move and assemble various experimental components and equipment. Must have fine motor skills, be able to climb up and down stairs in the laboratory and move equipment, as necessary.
- Must be able to obtain a badge at U.S. Department of Energy and/or Department of Defense National Laboratories to gain access to restricted areas.

## **Preferred Qualifications**

- Master's Degree in Physics, Electrical Engineering, or related field.
- Good familiarity with experimental methods, instrumentation, and procedures required for single-shot short-duration events.

## **Applications**

To apply, please submit application materials to [WSU Jobs \(Posting 8304\)](#). As a part of the application process, applicants are asked to submit a cover letter to the attention of Ms. Sheila Heyns addressing the required qualifications for this position, 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, [ispjobs@wsu.edu](mailto:ispjobs@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
- [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
- [Applied Sciences Laboratory](#) - Spokane, WA: Transforming science into practical solutions

**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.

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