

**NOTICE OF VACANCY**  
**Postdoctoral Research Position:**  
**X-ray Measurements in Shock**  
**Compressed Solids**



**Description of Position**

The Institute for Shock Physics (ISP) at Washington State University (WSU) has an immediate opening for a postdoctoral research associate to undertake experimental research (and related analysis) to understand the microscopic response of shock compressed solids using real-time X-ray measurements in single event experiments. Depending on the scientific background, the individual hired will be expected to work on one of two research projects: to examine atomistic mechanisms governing shock wave compression induced phase transformations; or to examine microstructural changes governing shock wave induced elastic-plastic deformation. Time-resolved (ns resolution), multiscale measurements (X-ray diffraction, X-ray imaging, laser-interferometry) are used to probe both the microscopic and continuum response in single event experiments. We are looking for a creative, self-motivated experimentalist who has the ability and interest to pursue challenging, interdisciplinary problems in a fast-paced research environment.



*Advanced Photon Source*

Although this position is located on the WSU Campus in Pullman, WA (for the first 12 – 18 months), this work will involve experiments at the Dynamic Compression Sector (DCS), located at the Advanced Photon Source, Argonne National Laboratory, Argonne, IL. More details about the DCS may be found at [www.dcs-aps.wsu.edu](http://www.dcs-aps.wsu.edu).

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

- A very recent Ph.D. degree in Physics or a closely related field
- Graduate or post-graduate experience at a U.S. Academic Institution or National Laboratory
- Strong academic and research background in condensed matter/materials physics
- Hands-on experimental experience in condensed matter physics and/or materials science with a strong interest to participate in multidisciplinary research
- Experimental aptitude and temperament to conduct single-event experiments
- Ability to work independently and in a team environment, as needed
- Personal attributes should include critical thinking; excellent communication skills; sound judgment; clear sense of purpose; attention to detail; and accountability

Although prior experience in shock wave research is not required, strong hands-on experimental skills relevant to in-depth condensed matter/materials science research and a strong analytic background are essential. Prior experience with X-ray diffraction measurements is desirable but not necessary. Ability and interest to undertake X-ray measurements and analysis is necessary to be successful in this position.



*Impact Laboratory*

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.

### **Application Process**

Applicants should submit a letter of application explicitly addressing the qualifications for this position and date of availability; detailed curriculum vitae; and contact information for three professional references to the attention of Professor Y. M. Gupta via email at [ispsjobs@wsu.edu](mailto:ispsjobs@wsu.edu).

To ensure consideration, please specify the position (Postdoc: X-ray Measurements in Shock Compressed Solids) for which you are applying. We will begin reviewing submissions immediately and will continue to do so until the position is filled.

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

### **The Institute for Shock Physics Overview**

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))



*Shock Physics Building, Pullman, WA*

## **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 RU/VH: Research Universities (very high research activity). Current enrollment is approximately 29,686 undergraduate, graduate, and professional students. The University offers more than 200 fields of study, with 90 majors for undergraduates, 76 master's degree programs, 64 doctoral degree programs, and 3 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; Medical Sciences, Nursing; Pharmacy; Veterinary Medicine) and a Graduate School. WSU has established a medical school with preliminary accreditation received in Fall 2016. For more information, please visit [www.wsu.edu](http://www.wsu.edu).



*Washington State University*

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