NOTICE OF VACANCY
X-Ray Scientist (Condensed Matter Physics)
for the Dynamic Compression Sector at the
Advanced Photon Source, Argonne, Illinois

Washington State University (WSU) is seeking to hire a strongly self-motivated, talented experimentalist to work with scientists and engineers at a first-of-a-kind experimental user facility: The Dynamic Compression Sector (DCS) at the Advanced Photon Source (APS), Argonne National Laboratory. The DCS constitutes a new paradigm for understanding the dynamic compression and deformation response of materials subjected to extreme conditions on short time-scales. Real-time, atomistic-scale investigations of condensed matter phenomena are undertaken in single event experiments through time-resolved, in-situ measurements utilizing the tunable, high energy X-ray capabilities at the APS.

We are looking to hire an X-ray Scientist, with a strong background in Condensed Matter Physics, who enjoys hands-on work and problem solving in a fast-paced, research environment. The location for this WSU position is the Advanced Photon Source, Argonne National Laboratory, Argonne, IL. The DCS research activities involve state-of-the-art, dynamic compression experiments that utilize x-ray and optical measurements on nanosecond time-scales to understand the response of materials at high dynamic stresses.

Responsibilities include, but are not limited to:

1. Interacting with users to conduct time-resolved dynamic compression experiments using x-ray techniques, such as x-ray diffraction, phase-contrast Imaging (PCI), and small/wide angle x-ray scattering (SAXS/WAXS). This includes setting up and characterizing the x-ray beam for users.

2. Support and maintain the DCS x-ray beamline components including: vacuum systems, a Kohzu high-heat-load x-ray monochromator with a liquid nitrogen cooling system, several large Kirkpatrick-Baez (KB) focusing mirror systems, and x-ray beam choppers and shutters.
3. Design and implement experimental components used on the x-ray beamline and in the experimental end stations.

4. Initiate and participate in research activities, including new types of x-ray measurements and analyses, to advance the DCS scientific objectives.

**Qualifications**

*This position is not an H-1B visa opportunity. Applicants must be a U.S. Citizen or permanent resident.* A background in dynamic compression research is not required for this position. However, strong, hands-on experimental background and skills are essential. The required professional qualifications and personal attributes are:

- A recent Ph.D. in Physics, or a closely related field
- Strong academic and hands-on experimental research background in condensed matter physics
- Experience with one or more x-ray measurement techniques such as diffraction, spectroscopy, or imaging
- Experimental aptitude and temperament to conduct challenging, single-event experiments
- Graduate or post-graduate experience at a U.S. Academic Institution or National Laboratory
- Personal attributes should include critical thinking; excellent communication skills, both verbal and written; sound judgment; clear sense of purpose; attention to detail; ability to work effectively in a team; and accountability
- Must be able to obtain a badge at U.S. Department of Energy National Laboratories to gain access to restricted areas

**Desired Qualifications**

- Work experience at a synchrotron
- Experience in conducting and analyzing dynamic compression experiments

The salary structure is both attractive and nationally competitive. Other benefits include health/dental insurance, vacation/sick leave, and retirement plans.

**Applications**

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

To ensure consideration, please specify the position (X-Ray Scientist) for which you are applying. We will begin reviewing applications immediately and will continue to do so until the position is filled. Please contact Ms. Sheila Heyns with inquiries regarding this position (ispjobs@wsu.edu or 509-335-1861). For more information, please visit https://dcs-aps.wsu.edu/.

Due to the large application volume, we will contact only the applicants 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)
• **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 31,478 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. For more information, please visit [www.wsu.edu](http://www.wsu.edu).

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