

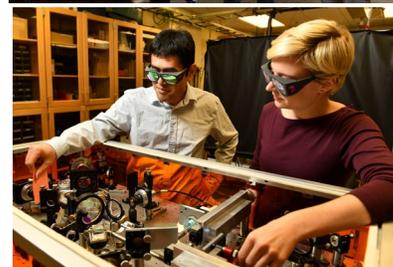
NOTICE OF VACANCY

Postdoctoral Research Position in Condensed Matter Physics

The Institute for Shock Physics (ISP) at Washington State University (WSU) is a multidisciplinary research organization, within the College of Arts and Sciences (CAS), **with a focus on understanding the response of materials under extreme conditions.** WSU and three outstanding academic partners – Princeton University, California Institute of Technology, and Stanford University – conduct substantive research leading to advances/innovations in the field of Dynamic Compression Science. In addition, meaningful and mutually beneficial collaborations are undertaken with scientists at the NNSA Laboratories: Los Alamos, Lawrence Livermore, and Sandia.

ISP researchers use dynamic compression (shock wave and shockless compression) to achieve the most extreme thermodynamic states of matter in the laboratory. The dynamic compression experiments subject materials to unique conditions (very large compressions, high temperatures, and large deformations) on very short time scales (picosecond to microsecond), resulting in a rich array of physical and chemical changes. Research activities related to the dynamic compression of materials are extremely diverse and challenging. As such, the Institute for Shock Physics aims to strengthen ongoing efforts to enhance the long-term intellectual vitality of dynamic compression science, a field uniquely suited for studying/understanding condensed matter response under extreme conditions.

This position would be ideal for an experimentalist with an academic background in condensed matter physics. Prior experience in dynamic compression science is not required. The ISP provides in-depth training in dynamic compression science; however, strong hands-on experimental skills and a temperament to perform single event experiments are essential. WSU graduates and postdoctoral research associates in the field of shock physics have moved on to successful professional careers, particularly at the National Laboratories (NNSA and DoD).



Dynamic Compression of Condensed Matter Research Opportunity:

Understanding structural changes and inelastic deformation mechanisms in solids subjected to high stress dynamic compression. Although a broad range of solids – from single crystals to heterogeneous/architected materials – are of interest, the choice of the particular material to be examined will depend on the academic/research background of the individual hired in this position. The pump/probe experiments are conducted on a timescale which rivals that of the microscopic processes in the material. The near instantaneous transition to a high stress state associated with shock wave compression is probed with time-resolved (ns resolution) laser-interferometry measurements in single event experiments. The analysis of the ns pump/probe experiments provide the basis for understanding the dynamic material response.

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

- A recent Ph.D. degree in Physics, or related field.

- Strong academic and hands-on, experimental research background with excellent problem-solving skills.
- Graduate or post-graduate experience at a U.S. Academic Institution or National Laboratory.
- Ability to work independently and in a team environment, as needed.
- Personal attributes should include critical thinking; excellent communication skills, both oral and written; sound judgment; clear sense of purpose; and attention to detail.

APPLICATIONS

Applicants should submit the following information via [WSU Jobs](#):

- Cover letter explicitly addressing the qualifications for this position and date of availability
- Detailed curriculum vitae
- Contact information for three professional references

We will begin reviewing submissions immediately and will continue to do so until the positions are filled. Please contact Sheila Heyns, Senior Manager of Administration and Operations with questions (ispjobs@wsu.edu, 509-335-5345).

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)
- *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)
- *Applied Sciences Laboratory - Spokane, WA*: Transforming science into practical solutions (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, the Tri-Cities, and Everett. Due to its strong emphasis on excellence in research and education, the Carnegie Classification™ has designated WSU as R1/Tier 1: Doctoral University – Highest Research Activity. Current enrollment is approximately 31,600 undergraduate, graduate, and professional students. The University offers 98 majors, 86 minors, and 100+ in-major specializations for undergraduates, 78 master's degree programs, 65 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; Medicine; Nursing; Pharmacy and Pharmaceutical Sciences; and Veterinary Medicine) and a Graduate School. For more information, please visit wsu.edu.



WSU is an EO/AA Educator and Employer.