

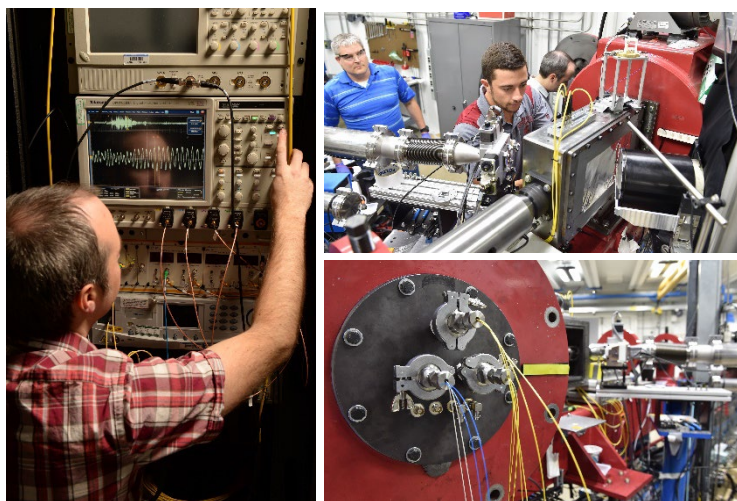
NOTICE OF VACANCY

Optical Physicist for the *Dynamic Compression Sector at the Advanced Photon Source, Lemont, Illinois*

Washington State University (WSU) is seeking 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. 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.



The ideal Optical Physicist 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, Lemont, IL. As such, DCS staff are considered to be “resident users” and must adhere to ANL policies and procedures, including the completion of required training courses.



Many of the experiments performed at the DCS utilize a wide variety of lasers that are integral to the measurement of the shocked state of materials (e.g. pulsed high energy DPSS lasers, CW DPSS frequency doubled lasers, pulsed and CW high power IR and visible fiber lasers, short pulse low energy lasers, and pulsed and CW laser diodes). A wide array of optical detection and analysis apparatus are also utilized, including biased and amplified photodiodes, APD's, image intensifiers, fast framing cameras, ICCD's, streak cameras, and other

state-of-the-art electro-optic instrumentation. The successful candidate, after appropriate training, will be expected to operate and maintain these systems, as well as design new systems, and select appropriate components to advance the capabilities of the DCS.

Responsibilities include, but are not limited to:

1. Take the lead in the design, development, and use of optical equipment and systems, for laser-interferometry measurements and other laser-based diagnostics.
2. Participate in the design and development of research methodologies for a broad range of experimental projects.
3. Independently define and complete experimental projects and tasks.
4. Contribute effectively to all aspects of the research projects including assistance to DCS users; maintenance of the experimental facilities; ordering experimental components, equipment and supplies; and working effectively in a team setting.
5. Conduct and analyze research experiments and prepare reports and publications as appropriate.

Qualifications

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 Ph.D. degree in Physics or a related field with a strong experimental background in optical physics, optics, lasers or optoelectronics (in exceptional cases, a M.S. Degree will be considered).
- Strong hands-on ability with design and fabrication of instruments and experimental components.
- Good familiarity with hardware and software required for photonic based experiments.
- Good computer skills, including experience with technical/design programs, such as LabView and 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.

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

Applications

Applicants should apply online at [WSU Jobs, Job # R-6115](#) by submitting a letter of application 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 Dr. Paulo Rigg.

To ensure consideration, please specify the position (Optical Physicist) for which you are applying. We will begin reviewing applications immediately.

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 - Lemont, 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 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.



WSU is an EO/AA Educator and Employer.