

**NOTICE OF VACANCY**  
**Postdoctoral Research Position:**  
**Computational Biomechanics**  
**ISP/Applied Sciences Laboratory**



The Spokane-based Applied Sciences Laboratory (ASL) of the Institute for Shock Physics (ISP) at Washington State University is a contract research organization that emphasizes multidisciplinary research activities in the physical sciences, engineering, and biomedical applications to undertake a broad range of applied science and technology projects for government agencies and corporations, including technology transfer for commercial applications. The scientific underpinnings to address the multidisciplinary challenges involve physics, materials science, chemistry, mechanics of materials, and computational modeling and simulations.



We have an immediate opening for a postdoctoral research associate to conduct knee focused biomechanics research. The position will require a candidate with an interest applying machine learning approaches to computational knee model development and related clinical diagnosis, which requires programming skills, critical thinking, and a background in mechanics and data analysis. The successful candidate will work on projects related to expedited processing of medical images for subject-specific computational models of joints and associated classification of structures of interest. We are looking for a creative, self-motivated researcher who has the ability and the drive to pursue challenging, interdisciplinary problems in a fast-paced research environment.

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

- A recent Ph.D. degree in Engineering, Computer Science, or other closely related field that addresses the mechanics and/or image processing of biological structures.
- Strong academic and research background related to simulation of musculoskeletal mechanics and machine learning approaches.
- Hands-on experience and background in programming, including specific experience using Python.
- 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; attention to detail; and accountability.

Preferred qualifications include experience in Physics-based simulation and numerical analysis; specific experience in simulation of joint mechanics; surrogate modeling and/or machine learning techniques; and reliability assessment.

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. The position is located on the WSU Health Sciences Spokane Campus in Spokane, Washington.

### **Application Process**

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

- Cover Letter explicitly addressing the required qualifications for this position and date of availability
- Detailed curriculum vitae
- Contact information for three professional references to the attention of Dr. Jason Halloran via email at [asl.jobs@wsu.edu](mailto:asl.jobs@wsu.edu).

To ensure consideration, please specify the position (Postdoc: Computational Biomechanics) 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 ([asl.jobs@wsu.edu](mailto:asl.jobs@wsu.edu), 509-335-1861).

**Due to the large volume of applications, we will contact only those selected for next steps.**

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

The Institute has ongoing research activities at the following three locations:

- *Applied Sciences Laboratory - Spokane, WA*: Transforming science into practical solutions ([asl.wsu.edu](http://asl.wsu.edu))
- *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))

### **Washington State University**

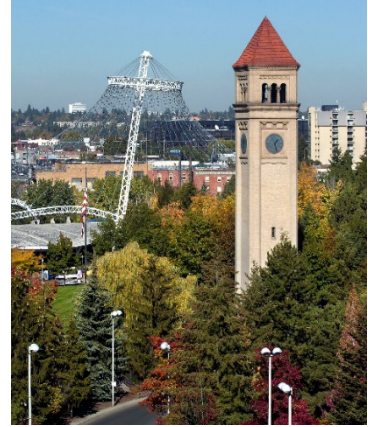
Washington State University, one of the two research universities in the state, was founded in 1890 as the state's land-grant institution and is located in Pullman with regional campuses in Spokane, Vancouver, the Tri-Cities, and Everett. Due to its strong emphasis on excellence in research and education, 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](http://wsu.edu).

## **Spokane**

The Spokane region serves as the business, transportation, medical, industrial and cultural hub of the Inland Northwest, an area that comprises a population of more than 1.4 million people. This region is located on the east side of Washington State, 18 miles west of the Idaho state line and 100 miles south of the Canadian border. Washington State University has a location at the downtown River Point Campus location on the Spokane River with an enrollment of approximately 1,600 students in selected health sciences programs. The WSU Health Sciences Spokane campus is at the center of a vibrant and nationally competitive health care cluster in Spokane that seeks to catalyze strong partnerships between University-based research and innovations in health care, including technology development and commercialization. Eastern Washington University, Gonzaga University and Whitworth College are nearby. The regional economy is incorporating the emergence of new technologies in research and education, health and bio-sciences, while maintaining traditional industries including agriculture, manufacturing, and forestry. For more information on Spokane, please visit: <http://www.visitspokane.com/>.



*WSU is an EO/AA Educator and Employer*