

Postdoctoral Researcher Position in X-ray Characterization (Tomography and Diffraction) of Geomaterials at the Johns Hopkins University

A postdoctoral researcher position is available beginning July 1, 2023 in Professor Ryan Hurley's laboratory (<http://hurley.me.jhu.edu>) in the Department of Mechanical Engineering and the Hopkins Extreme Materials Institute at the Johns Hopkins University. The postdoctoral researcher will be expected to work on microstructure characterization and small-scale mechanical testing of rocks (primarily sandstones, with the potential to work on limestones) using *in-situ* laboratory and synchrotron x-ray measurements including x-ray tomography and high energy diffraction microscopy (both near-field and far-field methods). The postdoc will be expected to learn existing, and develop new, image and data analysis techniques for quantifying the microstructural and stress evolution occurring during mechanical deformation of rocks. The researcher will have access to state-of-the-art facilities, including a suite of commercial and custom-built mechanical testing devices, and the Materials Characterization and Processing facility (MCP) which houses electron microscopes, MicroCTs, and other characterization equipment. The researcher will also have the potential to develop new mechanical testing devices and to use these devices to engage in experiments at synchrotron x-ray facilities and neutron imaging facilities. Funding will initially be from a Department of Energy grant, but participation in other projects is possible after several months of satisfactory performance.

Individuals who have the following credentials are strongly encouraged to apply:

- (1) A Ph.D. in Mechanical Engineering, Materials Science, Applied Physics, or a closely related field, with a strong publication record,
- (2) Significant research expertise in experimental mechanics and strong fundamentals in continuum mechanics.
- (3) Prior experience using or developing x-ray tomography, near-field or far-field high energy diffraction microscopy, or other synchrotron or neutron imaging modalities.

Interested and qualified applicants should send a copy of their CV with a list of references and a brief statement of interest to rhurley6@jhu.edu. Applications will be accepted until the position is filled.