We seek a PhD student with multi-disciplinary interests and experience in the mechanical and transport properties of rocks and granular media, earthquake physics, ultrasonics, and machine learning – or subsets of these interests/skills. The research involves understanding active and passive ultrasonic/seismic signatures of frictional failure at the laboratory scale to unravel the physics of rocks and earthquakes. The ideal candidate will be able to design and conduct experiments including ultrasonic data acquisition and processing, interpret results and conceive and develop conceptual models defining physical mechanisms from observations. The work will be linked to various projects funded by DOE (Geothermal Energy) and NSF. These projects involve an interdisciplinary team of faculty at Penn State (Engineering Science and Mechanics, Geosciences and Energy and Mineral Engineering). We encourage applications from students with backgrounds in physics, acoustics, mechanical engineering, civil engineering, geophysics.

Apply by sending a letter of interest and a CV to Jacques Rivière (riviere@psu.edu). Inquiries about the position can be sent to Jacques Rivière (riviere@psu.edu). Follow these links for additional information about Penn State’s Ultrasoneics Lab and Rock Mechanics Lab.