

Postdoctoral researcher opening in Experimental Geomechanics with application to mineral carbon storage

A postdoctoral position in experimental geomechanics in the Department of Civil, Environmental and Geo-Engineering, University of Minnesota (<https://cse.umn.edu/cege>) is available immediately for a study associated with the *Center for Interacting Geo-processes in Mineral Carbon Storage* (GMCS), funded through the Energy Frontier Research Centers (EFRC) program by the Office of Science, US Department of Energy. The key objective of GMCS is to develop a deep understanding of the key geo-processes, occurring across multiple scales, that is necessary to achieve a successful mineral carbon storage operation. This will require cohorts of engineers and scientists, from across the spectrum of geomechanics, geochemistry, porous media flow, reactive transport, and sensing technologies, to work in concert towards the common mission of fully developing the fundamental science and engineering capability that will lead to realizing the potential for permanent subsurface storage of CO₂ via mineralization.

The postdoctoral fellow will be responsible for implementing a laboratory setup, performing experiments, and analyzing multi-modal sensory data to study the evolving seismic and/or poromechanical properties of mafic rock specimens subjected to the flow of water-dissolved CO₂. The initial appointment is for one year and is renewable for up to four years. The laboratory facilities supporting this work include the Waves & Imaging Laboratory (<https://bojanguzina.org/waves-imaging-lab/>) and the W. David Lacabanne Rock Mechanics Laboratory (<https://cse.umn.edu/cege/research-facilities-civil-engineering-building>).

Successful candidates should have a PhD in Civil Engineering, Earth Sciences, or a related field. An expertise in geomechanics, and more specifically experimental geomechanics, is mandatory; knowledge of geochemistry is preferred but not required. A solid foundation in elastic wave propagation and poromechanics will be considered an asset. Also of importance are communication skills and ability to work effectively with the senior investigators, other post-doctoral researchers, and graduate students.

Applicants should submit a statement of interest, career goals, 2-page CV, and the names and contact information of three references. Inquiries and applications should be sent by email to Bojan Guzina (guzin001@umn.edu), Joseph Labuz (jlabuz@umn.edu), and Peter Kang (pkkang@umn.edu).