The Mehmani Research Group is seeking to hire one Postdoctoral Scholar to develop novel computational methods for simulating fracture mechanics in porous materials. The prospective candidate will apply their research to important problems related to security and sustainability aspects of subsurface energy production, geologic CO2 and H2 storage, and energy conversion and storage devices such as batteries and fuel cells. They will also have the opportunity to mentor and work closely with graduate students, collaborate closely with experimentalists to identify knowledge gaps, and contribute to theory.

Candidates with very strong quantitative skills in one or more areas of computational solid or fracture mechanics, numerical methods (FVM, FEM, XFEM, DEM, phase field), programming (especially MATLAB), applied mathematics, and high-performance computing are sought for this position. A PhD in engineering, mathematics, geosciences, computer science, environmental science, physics, or a closely related field is required by the date of hire.

Applicants should upload: (1) a current CV; (2) a statement of research interest and experience in the context of the desired qualifications; and (3) a list of three references with their application. Review of applications will begin immediately and continue until the position is filled. This position is funded for one year from the date of hire, with a possibility of renewal upon satisfactory performance. The expected start date will be on or after August 2022.

Yashar Mehmani is an Assistant Professor in the Department of Energy and Mineral Engineering (EME) at The Pennsylvania State University (link). He is also a co-funded faculty in the Institutes of Energy and the Environment (IEE) (link). He received a BSc from Sharif University of Technology, Iran, followed by a PhD from the University of Texas at Austin. He was then a Postdoctoral Fellow and later a Research Scientist at the Energy Resources Engineering Department at Stanford University. His lab focuses on the fundamental physics of fluid flow and mechanical deformation of porous materials with a special emphasis on computing and scale translation. Further information about the lab are found at: www.mehmaniresearchgroup.com.

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