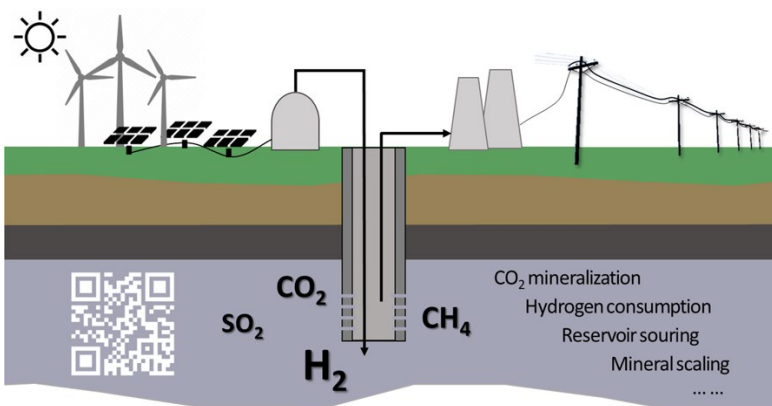


## GEOTECHNICAL PRACTICES IN THE ENERGY AND CLIMATE CONTEXT – A GEOCHEMICAL PERSPECTIVE

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Assistant Professor, Department of Geosciences



September 27, 7:30pm, Earth & Space Sciences 001

While mining and drilling sound like conventional practices to produce fossil fuels, they are also critical in both mitigating climate changes and transitioning to renewable energies. In this talk, I am going to give a tour over a series of geotechnical systems in the context of causing and resolving energy, environmental, and climate issues. In addition to explaining how they work, I will also cover the role of water-rock geochemical interactions in these systems. Systems I am going to cover include hydraulic stimulation, enhanced geothermal systems, geologic CO<sub>2</sub> sequestration, mining of critical materials, and underground hydrogen storage. Through this talk you will get familiarized with these geotechnical settings often covered in the media. This talk also demonstrates that geology, as a traditional major, is important in advancing our transitioning to new energies.



Qingyun Li is an assistant professor in geochemistry at Stony Brook University. She holds a bachelor's degree in environmental sciences and PhD in Energy, Environmental and Chemical Engineering. She utilizes mostly experimental approaches but also modeling tools to study geochemistry reactions in energy and environmental systems from the perspectives of thermodynamics and kinetics. Related systems include but are not limited to geologic carbon sequestration, underground hydrogen storage, and mineral nucleation and precipitation at water-rock interfaces.