



San Joaquin Geological Society

VIRTUAL MEETING

Date: Tuesday, March 9th, 2021

Time: 6:30 PM Virtual Lecture

Place: Zoom link included in email

Our virtual lecture will be held via Zoom. Meeting link and access code to follow!

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<http://www.SanJoaquinGeologicalSociety.org/>

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Induced seismicity and carbon storage: Improving risk assessment and risk management strategies

Presented by:

Joshua A. White, Lawrence Livermore National Laboratory

Abstract: Geologic carbon storage (GCS) is widely recognized as an important strategy to reduce atmospheric carbon dioxide emissions. Like all technologies, however, sequestration projects create a number of potential environmental and safety hazards that must be addressed. These include earthquakes—from microseismicity to large events—that can be triggered by altering pore-pressure conditions in the subsurface. To date, measured seismicity due to CO₂ injection has been limited to a few modest events, but the hazard exists and must be considered. This presentation will focus on strategies for assessing and mitigating seismic risk, with a key emphasis on maintaining public trust in GCS. We will also highlight research avenues which could have a substantial impact on this subsurface engineering challenge.

Biography: Joshua White is a research scientist at Lawrence Livermore National Laboratory. His research focuses on integrating large-scale computing with geophysical monitoring to improve our understanding of complex geologic systems, with an emphasis on geologic carbon storage and induced seismicity. He received a B.S.E. in Civil and Environmental Engineering from Princeton University, and a M.S. and Ph.D. in Civil and Environmental Engineering from Stanford University. He joined LLNL in 2009. He is a member of the editorial boards of the International Journal for Numerical and Analytical Methods in Geomechanics and Acta Geotechnica. He is also the Induced Seismicity Working Group Lead for the U.S. Department of Energy's National Risk Assessment Partnership.