



San Joaquin Geological Society

Date: Tuesday, October 11th, 2022

Time: 6:00 PM Social Hour
7:00 PM Dinner
8:00 PM Lecture

Place: American Legion Hall
2020 H Street, Bakersfield, CA 93302

PSAAPG Members
\$30 with reservation
\$35 without reservation

Non PSAAPG Members
\$35 with reservation

Full-time Students with ID
\$15

*** RSVP ***

**By: noon Monday,
October 10th, 2022**

Register online:
[http://www.SanJoaquinGeological
Society.org/](http://www.SanJoaquinGeologicalSociety.org/)

Pay online or at the door

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Discussion of CO₂ Storage and Sequestration Assessments Presented by: Daniel E. Schwartz

Abstract: National requirements for CO₂ sequestration (Class VI well permit) have been established by the EPA and the Treasury Department provides tax benefits (45Q) for sequestering CO₂. Thus, the door has been opened for operators to assess achieving carbon neutral operations. This presentation covers carbon injection (supercritical CO₂) for sequestration versus storage. Topics include the physics of CO₂ sequestration, CARB performance requirements, USGS site selection criteria, and risk-based site selection with an example from the Kimberlina well (north of Bakersfield). Additionally, concepts of injection, storage, and containment will be discussed along with, monitoring, regulatory authorities, and risk / rating parameters. Examples from oil field sequestration in the west-side fold belt and an east-side aquifer project will be presented. After several assessments, it has become clear that geology, geophysics, petrophysics and reservoir engineering skills and experiences applicable to oil and gas exploration and production are applicable to CO₂ storage and sequestration projects. Multi-discipline teams are a necessity. There is significant data available to characterize reservoir properties with much less available to characterize containment layers. A key element for site characterization is measurements of core from confining layers. Understanding of risk elements for injection and containment layers drives work programs. Detailed evaluation of structure, stratigraphy, and reservoir properties is required to meet regulatory requirements. Early and regular engagement with Regulators is a necessity.

Biography: Dan began his professional career in 1978 with Shell's Bellaire Research Center in Houston, after earning his bachelor's degree from UC Berkeley in 1974 and his PhD at UT Dallas in 1978., and CCUS teams.

Dan's involvement with AAPG has been varied and long-lasting. He has contributed to convention, committees, core workshops and short courses. In 2014 he received the A.I. Levorsen award and in 2018 received the Victor Church award. Working with his wife Cynthia Huggins, he contributed to the expansion and success of the IBA, scholarship, Student Chapter, and YP programs in the Pacific Section; was President-Elect, President, and Past-President of the Pacific Section He worked to improve alignment of the Pacific Section with its Affiliated Societies and to improve communications between the Sections and National AAPG. Dan was elected Vice President, Sections for AAPG (2017-2018), was a member of the AAPG Executive Committee, and represented Pacific Section on over a dozen AAPG committees (education, technical, conventions).

Dan's activities are not limited to AAPG. He established a geological graduate student scholarship fund at University of Texas at Dallas, where he was awarded Alumni of the Year in 2015. He also races vintage sports cars.

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