

Calibrating and Quantifying Subsurface Risk in CO₂ Storage Projects

Description

This 3-day course/workshop focuses on evaluating subsurface CO₂ storage complexes and risking opportunities within them. **Day One** focuses on those key technical aspects controlling project success and failure with an emphasis on uncertainty and risk. **Day Two** consists of teams evaluating case study posters to understand the real-world challenges in existing CO₂ storage projects. **Day Three** combines the technical, case study and risking learnings in a Capstone exercise that includes a screening stage to identify candidates with the greatest technical potential, followed by a deeper evaluation to identify the candidate with the greatest commercial potential and quantify its risk profile.

Course/Workshop Outline

Day 1: Key Technical Aspects, with an emphasis on uncertainty and risk (lectures with exercises)

- a. Introduction, Global Status and Outlook
- b. Reservoir Properties, Trapping, Storage Resources and Storage Efficiency
- c. Injectivity, Containment and Monitoring
- Day 2: Case Study Posters and Risking/Screening/Staging
 - a. Introduction, including enhanced gas recovery (EGR) & enhanced oil recovery (EOR) basics
 - b. Posters featuring saline aquifers, depleted gas reservoirs, and CO₂ EOR projects
 - c. Compliance, Risk and Uncertainty, Play-based Screening and Project Staging

Day 3: Capstone exercise (in teams)

- a. Analyze static and dynamic technical parameters extracted from maps
- b. Screen and rank CO₂ storage candidates
- c. Quantify storage volumes, injectivity, and the extent of the CO₂ plume and pressure front
- d. Estimate the chances of discovery (Pg) and development (Pd)
- e. Calculate the economics & stress test candidates to determine the best investment option
- f. Conduct a risk assessment of the best candidate

Who Should Attend

This course/workshop is intended for geoscientists, engineers, managers and others who are focused on extracting value from potential subsurface CO₂ storage reservoirs. It is comprehensive, practical, and emphasizes a rigorous treatment of uncertainties to identify, quantify, and mitigate the subsurface risks associated with these projects in order to make good investment decisions.

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