

Special Issue

“Coupled Processes for Geo-Energy and Geo-Resources”

Geomechanics and Geophysics for Geo-Energy and Geo-Resources

Aims and Scopes

This Special Issue brings together recent advances in our understanding of the role of coupled thermo-hydro-mechanical-chemical (THMC) processes during subsurface geo-energy and geo-resources activities.

The special issue aims at collecting contributions of studies on coupled processes in geo-energy and geo-resources, including CO₂ sequestration, hydrogen and thermal energy storage, geothermal and hydrocarbon energy production, including issues on induced seismicity associated with such activities. Contributions to this special issue aims also at highlighting the effect of coupled processes, including results from laboratory, field, and numerical studies.

Contributions will be based on selected submissions to CouFrac 2022, the **3rd International Conference on Coupled Processes in Fractured Geological Media: Observation, Modeling, and Application**, which will be held in Berkeley, California on November 14-16 of 2022.

The planned topics of the special issue includes:

- CO₂ sequestration (e.g. storage capacity, caprock integrity, induced seismicity, leakage);
- Hydrogen storage (e.g. coupled processes in porous media storage, salt caverns and lined rock caverns);
- Geothermal (e.g. fractured rock stimulation, production, induced seismicity);
- Underground thermal storage (e.g. porous media and cavern storage coupled processes);
- Hydrocarbon production (e.g. hydraulic fracturing, unconventional/conventional resources);
- Deep wastewater injection (e.g. induced seismicity)
- Induced seismicity related to all geo-energy and geo-resources applications;
- Results from laboratory and in-situ experiments;
- Generic numerical studies on coupled processes;

Instructions for Authors

Authors should follow *Geomechanics and Geophysics for Geo-Energy and Geo-Resources* manuscript requirements: <https://www.springer.com/journal/40948/submission-guidelines>

Acceptance Criteria

Submitted manuscripts will go through the regular peer-review process of the journal, with stringent quality control by the Guest Editors.

Editors for Volume

Antonio Pio Rinaldi, Swiss Seismological Service, ETH, Zurich, Switzerland.

Ki-Bok Min, Seoul National University, Seoul, South Korea.

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Special Issue Timeline

Deadline for manuscript submission: August 1, 2023

Online publication of the last accepted article: February 1, 2024

Publication of the Special Collection: April 1, 2024