Special Issue

Efficient Development of Geo-Energy and Carbon Sequestration in Fractal Geo-Systems: New Challenges

Message from the Guest Editors

The efficient development of geo-energy and carbon sequestration in fractal geological systems is an emerging and critical topic in energy and environmental research. First, the fractal geological systems, such as tight sandstones, shales, and fractured carbonates, exhibit multi-scale complexity, spanning from nanopores to macroscopic fractures. Second, the inefficiency of geo-energy development in fractal reservoirs, such as unconventional oil and gas or geothermal energy, presents additional hurdles. Finally, the complexity of carbon sequestration in fractal geological systems further complicates the prediction of sequestration behavior. For example, the migration, dissolution, and mineralization of CO2 within fractal pores require accurate quantitative modeling. The expansion of fracture networks could increase the risk of leakage, and we must understand the evolution of CO2–rock–water interactions in fractal systems.

In this Special Issue, we invite original research articles that propose innovative approaches and findings related to the efficient development of geo-energy and carbon sequestration in fractal geological systems.

Guest Editors

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About the Journal

Message from the Editor-in-Chief

Fractal and Fractional (*Fractal Fract.*) is a scholarly online journal which provides a forum for discussion on new original models and methods in fractals and fractional calculus both from theory and applications. It is a peer-reviewed, open access journal that publishes high quality original research articles, review papers and short communications.

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