Special Issue

Study of Modeling and Simulation of Oil and Gas Reservoirs Engineering

Message from the Guest Editor

This Special Issue seeks to overcome these constraints by advancing highly innovative large-scale experimental methods tailored to unconventional reservoirs. We prioritize studies employing true triaxial fracturing simulation systems to model fracture propagation under realistic stress fields, high-temperature/pressure in situ seepage visualization platforms for pore-scale fluid dynamics analysis, and multi-scale core dynamic damage devices to quantify fracture thresholds under cyclic loading. Submissions integrating micro–nano CT scanning with digital core coupling techniques are encouraged to establish structure–property relationships across scales. Research must demonstrate how these methods resolve heterogeneity, multiphysics coupling, and nonlinear flow challenges, providing transformative experimental frameworks for mechanistic discovery and field applications.

Guest Editor

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Editor-in-Chief

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