Special Issue

Hydraulic Fracturing and Reservoir Simulation Modeling in Shale, Tight, and Ultra-Low Permeability Gas Reservoirs

Message from the Guest Editors

The production of natural gas from shale, tight, and ultra-low permeability reservoirs has significantly increased over the past two decades. This has led to an abundant natural gas supply, positively impacting availability and consumer prices, while also providing environmental benefits through cleaner energy sources. However, the production of gas from such reservoirs strongly relies on hydraulic fracturing techniques to achieve the most economic production, introducing more challenges, uncertainties, and environmental concerns. Considering the recent technological improvements, this Special Issue aims to disseminate the most recent advances in hydraulic fracturing technology and shale gas reservoir modeling. Potential topics of interest include:

- Analytical and numerical modeling for hydraulic fracturing;
- Fracture characterization and monitoring;
- Refracturing and infill well fracturing;
- Imbibition and flow back of fracturing fluid;
- Mathematical modeling of complex fracture networks;
- Numerical simulation and optimization of shale gas reservoirs;
- Geomechanical and geochemical aspects and impacts;
- Economics, safety, and environmental considerations

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Message from the Editor-in-Chief

Energies is an international, open access journal in energy engineering and research. The journal publishes original papers, review articles, technical notes, and letters. Authors are encouraged to submit manuscripts which bridge the gaps between research, development and implementation. The journal provides a forum for information on research, innovation, and demonstration in the areas of energy conversion and conservation, the optimal use of energy resources, optimization of energy processes, mitigation of environmental pollutants, and sustainable energy systems.

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