Special Issue

Recent Advances in Geothermal Energy Systems and Reservoir Engineering

Message from the Guest Editors

This Special Issue seeks to bridge gaps between geoscience, engineering, data science, and policy, providing a platform for sharing transformative research that addresses critical challenges such as reservoir heterogeneity, energy efficiency, and system scalability.

Scope includes:

- Reservoir Characterization and Engineering: Advances in geophysical exploration, machine learning-driven reservoir modeling, fracture network optimization, and long-term reservoir management strategies.
- Next-Generation Geothermal Technologies: Enhanced geothermal systems (EGSs), closed-loop systems, hybrid configurations (e.g., geothermal/solar/wind integration), and low-enthalpy applications for district heating or industrial use.
- Drilling and Materials Innovation: The development of cost-effective drilling technologies, corrosion-resistant materials for high-temperature environments, and solutions to enhance wellbore integrity and longevity.
- Cross-Disciplinary Approaches: The integration of geothermal systems with energy storage (e.g., thermal batteries), AI/ML applications for predictive modeling, and techno-economic analyses for scalable deployment.

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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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