

## Special Issue

# Reservoir Geology: From Technological Breakthroughs to Cross-Domain Implementations

### Message from the Guest Editors

This Special Issue aims to explore frontier progress and integrative methodologies in reservoir geology, with a particular emphasis on unconventional resources such as oil shale, shale oil and gas, hydrate, tar-rich coal, coalbed methane, and the characteristics of deep high-temperature, high-pressure reservoirs. As energy exploration and development advance into unconventional resources, deep strata, and deepwater environments, these resources play an increasingly critical role in the global energy landscape, yet their complex geological nature and unique extraction challenges require innovative technological solutions and cross-disciplinary synergies. We invite contributions that address fundamental and applied aspects of reservoir geology, including, but not limited to, novel in situ conversion technologies for unconventional hydrocarbons, advanced characterization techniques for reservoir properties, fine description of trapped hydrocarbons, novel reservoir modification techniques, new generations of enhanced recovery as well as green and efficient exploitation techniques, deep rock mechanics, rock-breaking mechanisms under high temperature and pressure.

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### Guest Editors

Dr. Shaotao Xu

Dr. Yifan Li

Dr. Xiong Cheng

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### Deadline for manuscript submissions

closed (20 May 2026)



## Applied Sciences

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### Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal *Applied Sciences* has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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### Editor-in-Chief

Prof. Dr. Giulio Nicola Cerullo  
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