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Mechanical Properties of Rocks under Complex Stress Conditions

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Deadline for manuscript submissions:
closed (20 March 2023)

Message from the Guest Editors

This Special Issue aims to collect new findings on the mechanical properties of rock materials under complex stress conditions, new methods for their characterization and prediction, and new applications in related rock engineering. Potential topics of interest include, but are not limited to, the following:

- Mineral composition and grain/pore-scale texture;
- Physical properties (wave velocity, acoustic emission, electrical conductivity, etc.);
- Mechanical properties (strength, brittleness, energy evolution, permeability, etc.);
- Damage and fracture behavior (fracture toughness, fragmentation, etc.);
- Constitutive model and strength criterion;
- Artificial intelligence and big data methods for rock mechanical properties prediction;
- Coupled thermal–hydrological–mechanical–chemical (THMC) modeling;
- Numerical modeling and calculation methods;
- Laboratory tests and physical simulations;
- Field practice (coal mining, unconventional oil and gas extraction, geothermal development, CO2 geological storage, etc.).

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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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