# Special Issue

# Fracture Geomechanics—Obstacles and New Perspectives

## Message from the Guest Editors

The geomechanics of fractures finds applications in many subsurface engineering disciplines at the forefront of sustainable fossil-energy extraction and green-energy transition. However, the current understanding is fairly limited, hindering safe and efficient operations in underground mining, hydrocarbon recovery, enhanced geothermal systems, etc. This Special Issue is to disseminate and discuss recent advances in the geomechanics of subsurface fractures. We encourage submissions that address the following topics:

- Hydraulic fracturing and interactions with natural geological discontinuities;
- Hydro-mechanical coupling of fracture and fluid flow;
- Hydromechanical interactions of the fracture network and rock matrix;
- Shear fracturing and seismicity;
- Fracture geomechanics on the structural failure of underground openings (tunnels, boreholes, caves, etc.);
- Impact of geochemical reactions on fracture geomechanics;
- Constitutive behavior of fracture geomechanics;
- Fracture geomechanics in the geothermal environments;
- Monitoring of fracture geomechanical behavior;
- Application of machine learning and probabilistic modeling in fracture geomechanics.

## Guest Editors

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## Deadline for manuscript submissions

closed (15 March 2025)

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# About the Journal

## Message from the Editor-in-Chief

Understanding the Earth's origin and its bio-geological evolution, the multiple implications of the geosciences (as a coherentset of interconnected disciplines), and the sociocultural and ethical interdisciplinary approaches, will be crucial for a better understanding of Nature, and also for undertaking scientifically based political decisions.
We are committed to drive *Geosciences* to a position in which it is recognized for its high-quality, cutting-edge research and scientific influence, and strongly encourage and invite your participation and manuscripts.

## Editor-in-Chief

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