Special Issue

Experimental and Numerical Simulation of Coal Mining

Message from the Guest Editors

This Special Issue aims to present cutting-edge research on the synergistic use of experimental data and numerical modeling to address key problems in coal mining. It seeks to foster the development of validated models that enhance the prediction of ground response, optimize design, and improve risk management in both underground and surface coal mines. The topics of interest for publication include, but are not limited to:

- Laboratory and field experiments on coal and rock properties under in situ conditions.
- Novel numerical methods (e.g., DEM, FEM-DEM, CFD) for simulating mining-induced fractures, subsidence, and gas dynamics.
- Coupled process modeling (geomechanics–hydro–gas–thermal) in coal seams.
- Simulation-based design and stability analysis of longwall faces, pillars, and roadways.
- Integration of monitoring data (e.g., microseismic, InSAR) with numerical models for calibration and forecasting.
- Predictive modeling for coal burst, rockburst, and water inrush hazards.
- Environmental impact simulations related to mining, such as groundwater change and surface deformation.

Guest Editors

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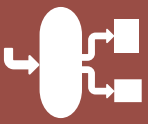

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