Special Issue

Recent Trends in Multi-Field Coupling Theory and Technology for Deep Coal Mining and Rock Mechanics

Message from the Guest Editors

Deep mining has become an inevitable trend in order to acquire underground mineral resources. Deep mining faces complex multi-field coupling environments and geological conditions, making traditional rock mechanics theories inadequate to meet the demands of deep mining. In recent years, emerging theories and technologies, such as deep coal and geothermal co-mining, fluidized mining, and underground gasification, have driven the continuous development of theories and technologies for safe and efficient mining. In this Special Issue, we will focus on the multi-field coupling theory of deep coal mining or rock mechanics, particularly on new theories, technologies, and innovative mining methods. Recommended topics: Mechanical properties of deep coal/rock masses and multi-field coupling processes; Experimental and numerical simulation techniques for multi-field coupling in deep rock masses; Theories and technological innovations in deep mineral resource extraction; Coordinated extraction of deep coal and geothermal resources; Fluidized mining of solid mineral resources; Theories and techniques for underground gasification of deep coal; Disaster prevention and control in deep mining.

Guest Editors

Dr. Hongwei Zhang

School of Energy and Mining Engineering, China University of Mining and Technology, Beijing 100083, China

Prof. Dr. Qian Yin

School of Mechanics and Civil Engineering, China University of Mining and Technology, Xuzhou 221116, China

Deadline for manuscript submissions

20 November 2026

Applied Sciences

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.5

mdpi.com/si/235570

Applied Sciences
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
applsci@mdpi.com

mdpi.com/journal/applsci

Applied Sciences

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.5

mdpi.com/journal/applsci

MDPI

About the Journal

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.

Editor-in-Chief

Prof. Dr. Giulio Nicola Cerullo
Dipartimento di Fisica, Politecnico di Milano, Piazza L. da Vinci 32, 20133 Milano, Italy

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), Ei Compendex, Inspec, Embase, CAPlus / SciFinder, and other databases.

Journal Rank:

JCR - Q2 (Engineering, Multidisciplinary) / CiteScore - Q1 (General Engineering)