Special Issue

Rock Mechanics in Mining and Tunnelling Engineering: Contributions and Challenges

Message from the Guest Editors

This Special Issue explores the pivotal role of rock mechanics in advancing mining and tunnelling engineering. It emphasises the integration of innovative analysis methods, state-of-the-art technologies, and multidisciplinary approaches to address challenges in design, stability, and efficiency. Contributions include theoretical advancements, experimental studies, and case applications that enhance understanding of rock behaviour under complex geological and operational conditions. Key topics include rock failure mechanisms, numerical and analytical modelling, ground support systems, and the use of AI and machine learning for predictive analysis. The challenges section will address the ongoing issues and difficulties faced by researchers and practitioners in the field. These challenges may include the complexity of rock mass behaviour, the unpredictability of geological conditions, the limitations of current technologies and methods, and the need for more sustainable and environmentally friendly mining and tunnelling practices.

Guest Editors

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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

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