

## Special Issue

# Advances in Rock Excavation and Underground Construction Technology

### Message from the Guest Editor

Urbanization, resource extraction, energy transition, and resilient infrastructure are driving unprecedented underground space development. Building tunnels, caverns, mines, and deep repositories in challenging rock masses demands constant innovation in excavation and construction. This Special Issue welcomes high-quality contributions on novel techniques and major improvements in mechanized excavation (TBM, Roadheaders), controlled drilling/blasting, and non-explosive rock-breaking. We also invite works on advances in ground support (rock bolting, shotcrete, linings), pre-grouting, ground improvement, and constructing complex structures under high stress or adverse geology (faults, high water ingress, weak rock). Topics integrating automation, robotics, real-time monitoring, AI modeling, digital twins, and enhanced safety protocols are encouraged. Our goal: share breakthroughs that boost efficiency, cut costs, improve safety, reduce environmental impact, and enable ambitious underground projects in complex rock conditions. **Join us in shaping the future of underground engineering—submit your work today!**

### Guest Editor

Dr. Hao Wu

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### Deadline for manuscript submissions

30 August 2026



## Applied Sciences

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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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### Editor-in-Chief

Prof. Dr. Giulio Nicola Cerullo  
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