



## Geotechnical Structure Analysis and Risk Assessment in Tunnel Engineering

Guest Editor:

**Prof. Dr. Jianxiu Wang**

College of Civil Engineering,  
Tongji University, Shanghai  
200092, China

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### Message from the Guest Editor

The main load on the geotechnical structures and construction risk are all based on the interaction between the surrounding rock mass and underground structures. The complex geological materials, geological structures, complex excavation steps and thermal–hydraulic–mechanical–chemical (THMC) coupling environment make the tunneling even more challenging.

Recent advances in deep, large-span, bifurcated, multi-arch tunnels under extremely unfavorable conditions in the rock mass, together with the shield tunnel, immersed tunnel and suspension tunnel in soil, produce lots of history knowledge and experiences. Meanwhile, the progress in numerical and physical analysis and emerging technology represented by artificial intelligence (AI) present us strong theoretical tools to solve the challenges.

All of the above new knowledge is encouraged to be shared and published in our Special Issue in the overlapping fields of:

- Tunneling case history analysis.
- Multi-scale tunnel geological structure analysis.
- Tunnel environment analysis.
- Tunnel structure-surrounding rock interaction.
- Tunnel geotechnical risk mitigation.
- New emerging technology applications.





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**Prof. Dr. Giulio Nicola Cerullo**  
Dipartimento di Fisica,  
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## Message from the Editor-in-Chief

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