

## Special Issue

# Advances in Numerical Computation and Mathematical Modelling for Geotechnical Engineering

### Message from the Guest Editors

With the excavation of geotechnical engineering in deep strata and complex geological environments, a large number of engineering problems, such as groundwater seepage, the dynamic failure of rock mass or soil, geothermal damage to rock mass, and microseismic effects, will strengthen the need for reliable numerical, mathematical, and engineering monitoring methods in engineering analysis, evaluation, and design processes. This Special Issue focuses on the application of advanced numerical computation and mathematical methods in analyzing various geotechnical engineering problems. The research topics covered include, but are not limited to, the following:

- Developing new numerical algorithms or constitutive models that can more accurately reflect the mechanical behavior of the object of concern, including new constitutive models of rock or soil, new metaheuristic algorithms, new numerical methods/means, etc.;
- Exploring advanced numerical or mathematical models for solving complex engineering problems, including dynamic and static models of rock or soil, and coupled computing models of multi-physical fields, etc.

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### Guest Editors

Dr. Jiadong Qiu

Dr. Changtai Zhou

Dr. Yichao Rui

Dr. Fan Feng

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### Deadline for manuscript submissions

closed (31 March 2025)



## 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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