

## Special Issue

# Geotechnical and Geological Engineering with Emphasis on Symmetry: Methods, Theories, and Applications

### Message from the Guest Editors

This Special Issue aims to showcase cutting-edge advances in multiphysics modeling and intelligent approaches in geotechnical and geological engineering, with particular emphasis on bridging theoretical innovations, computational methodologies, and practical engineering solutions, with a special focus on symmetry-related phenomena. Topics of interest include, but are not limited to, the following:

- Geotechnical and underground engineering, including tunnels, foundations, slopes and excavation systems.
- Multi-physics coupled numerical methods for analyzing complex geomechanical, hydro-mechanical and thermo-hydro-mechanical behavior.
- Physics data-driven modeling, predictive approaches, and uncertainty quantification for geotechnical systems.
- Machine vision-based intelligent perception, monitoring, and measurement of underground structures and rock masses.
- Rock mechanics and thermo-hydro-mechanical-chemical behavior, including fracture, damage and failure mechanisms.
- Intelligent grouting, seepage control, and stabilization technologies for enhanced geotechnical performance.
- Energy geo storage and underground storage systems, including CO<sub>2</sub>, hydrogen and thermal energy storage.

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### Guest Editors

Dr. Feiyang Wang

Dr. Luyu Wang

Dr. Wanqing Shen

Dr. Wuzhou Zhai

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### Deadline for manuscript submissions

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## Symmetry

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## About the Journal

### Message from the Editor-in-Chief

Symmetry is ultimately the most important concept in natural sciences. It is not surprising then that very basic and fundamental research achievements are related to symmetry. For instance, the Nobel Prize in Physics 1979 (Glashow, Salam, Weinberg) was received for a unified symmetry description of electromagnetic and weak interactions, while the Nobel Prize in Physics 2008 (Nambu, Kobayashi, Maskawa) was received for the discovery of the mechanism of spontaneous breaking of symmetry, including CP symmetry. Our journal is named *Symmetry* and it manifests its fundamental role in nature.

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### Editor-in-Chief

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