

## Special Issue

# Physically Data-Driven Research on Symmetry/Asymmetry in Underground Engineering Construction and Maintenance

### Message from the Guest Editors

Researchers and practitioners from various disciplines are encouraged to contribute their latest findings, innovative methods, and case studies to shed light on this important topic. The Special Issue seeks to foster collaboration and knowledge exchange, with the ultimate goal of advancing the state of the art in tunnel and underground engineering. Potential topics of interest include, but are not limited to, the following:

- Fundamental principles of symmetry and asymmetry in underground engineering;
- Physical modeling techniques for assessing symmetry and asymmetry;
- Data-driven analysis of tunnel behavior;
- Advancements in physical modeling;
- Structural integrity and safety;
- Optimization of tunnel design and maintenance;
- Case studies in symmetrical and asymmetrical tunnel design;
- Risk assessment and mitigation;
- Sustainable and resilient tunnel design;
- Future perspectives in tunnel engineering.

---

### Guest Editors

Dr. Jiayao Chen

Dr. Wengui Huang

Dr. Zhongkai Huang

Dr. Wuqiang Cai

---

### Deadline for manuscript submissions

closed (31 December 2024)



## Symmetry

---

an Open Access Journal  
by MDPI

---

Impact Factor 2.2  
CiteScore 5.2



[mdpi.com/si/182612](https://mdpi.com/si/182612)

*Symmetry*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[symmetry@mdpi.com](mailto:symmetry@mdpi.com)

[mdpi.com/journal/  
symmetry](https://mdpi.com/journal/symmetry)





# Symmetry

---

an Open Access Journal  
by MDPI

---

Impact Factor 2.2  
CiteScore 5.2



[mdpi.com/journal/  
symmetry](https://mdpi.com/journal/symmetry)



## 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.

---

### Editor-in-Chief

Prof. Dr. Sergei Odintsov  
ICREA, 08010 Barcelona and Institute of Space Sciences (IEEC-CSIC),  
C. Can Magrans s/n, 08193 Barcelona, Spain

---

### Author Benefits

#### Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

#### High Visibility:

indexed within SCIE (Web of Science), Scopus, CAPlus / SciFinder, Inspec, Astrophysics Data System, and other databases.

#### Journal Rank:

JCR - Q2 (Multidisciplinary Sciences) / CiteScore - Q1 (General Mathematics)