# Special Issue

# Symmetry in Civil Transportation Engineering

**Message from the Guest Editors**

Symmetrical structures have become common in civil transportation engineering. Research on the stability, vulnerability, durability, and other issues of these symmetrical structures or buildings plays an important role in the civil and transportation fields. In the process of underground space construction, many excavation methods also have symmetry. The supporting structures used are also symmetrical. After excavation, the deformation and stress distribution of the surrounding rock surface settlement is symmetrical. The crack propagation mode of rock containing flaws caused by excavation unloading is symmetrical or has central symmetry, and the deformation and stress distribution of maintenance structures and underground structures are also symmetrical. Thus, this symmetry is widely present in civil and transportation engineering. How to develop and utilize symmetrical structures, symmetrical excavation methods, and symmetrical support forms is important for the development of engineering construction in this field. Meanwhile, how to effectively control such symmetrical deformation and settlement is of great significance for disaster prevention and reduction.


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## 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

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