

## Advanced Transportation Technologies and Symmetries in Intelligent Transportation Systems

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Deadline for manuscript  
submissions:**30 April 2022**

### Message from the Guest Editors

Dear Colleagues,

Intelligent transportation systems (ITSs) are a comprehensive application of mathematics, computer technology, sensor technology, automatic control theory, artificial intelligence, and other technologies in transportation. ITSs can strengthen the connection between vehicles, roads, and drivers, thereby forming a comprehensive transportation system that guarantees safety, improves efficiency, improves the environment, and conserves energy. As new algorithms and applications in ITSs continue to emerge and mature, ITSs have gradually received widespread attention from academia and industry. Some studies have shown that methods such as artificial intelligence, Internet of Things (IoT), symmetry theory, automatic control, digital twins, etc. can theoretically enhance the capabilities of ITSs. A deep understanding of the actual utility and scope of application of these theories is the prerequisite for the improvement of ITS efficiency. The solutions brought by advanced theories are creating breakthrough applications after being applied to the transportation industry. However, many challenges remain due to the complexity and real-time requirements of ITSs...



## Editor-in-Chief

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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.

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