

Special Issue

Symmetry and Asymmetry in Railroad and Highway Engineering

Message from the Guest Editors

Railroad and highway engineering form the backbone of modern transportation infrastructure, focusing on the design, construction, operation, and maintenance of rail and road networks. This field integrates principles from civil engineering, materials science, computer science, management science, and data analytics to ensure the safety, durability, efficiency, and sustainability of transportation systems. Despite the inherent presence of symmetry and asymmetry in these infrastructures, as seen in properties like the tension–compression asymmetry of asphalt pavements, a systematic exploration of these phenomena remains underrepresented. This Special Issue “Symmetry and Asymmetry in Railroad and Highway Engineering” focuses on the methodologies and applications of railroad and highway engineering involving symmetry/asymmetry phenomena. It aims to collect high-quality original studies that investigate the methodologies, applications, and implications of symmetry/asymmetry in both theoretical developments and practical engineering solutions in relevant fields.

Guest Editors

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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.

Editor-in-Chief

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