

Special Issue

Symmetry and Asymmetry in Mechanical Engineering: Fundamentals, Design, and Applications

Message from the Guest Editors

Symmetry and asymmetry are foundational concepts in mechanical engineering, influencing structural integrity, heat transfer, and fluid flow dynamics across a wide range of applications. Symmetrical configurations are often sought for their inherent balance, structural stability, and uniform flow and thermal distribution, enabling improvements in mechanical performance. On the other hand, asymmetrical designs can also be a powerful design tool that can help the systems with unique advantages.

This Special Issue aims to consolidate cutting-edge research on the role of symmetry and asymmetry in mechanical engineering. We seek original contributions that explore theoretical insights, experimental findings, and computational modeling related to symmetry and asymmetry applied to mechanical engineering problems. Topics of interest include, but are not limited to, the following:

- Fundamental transport phenomena;
- Energy systems and applications;
- Fluid mechanics and multiphase systems;
- Advanced and functional materials;
- Structural mechanics and system behavior;
- Computational and experimental methods.

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.

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