

Special Issue

Symmetry, Asymmetry, and Anisotropy in the Design and Modeling of Advanced Materials

Message from the Guest Editors

Understanding and controlling symmetry, asymmetry, and anisotropy in advanced materials are increasingly crucial for driving innovation in material science and engineering. These structural attributes not only define intrinsic properties but also open new pathways for optimizing mechanical strength, functional performance, and responsiveness in demanding applications. Recent advances in modeling, design, and characterization techniques have accelerated the ability to tailor materials at multiple scales, yet significant challenges remain.

This Special Issue aims to advance the theoretical and experimental exploration of anisotropic and symmetry-driven phenomena in the development of next-generation materials. Original research articles and comprehensive reviews are welcome. Research areas may include (but are not limited to) the following: the design and modeling of anisotropic materials; the influence of symmetry and asymmetry on material properties; advanced manufacturing techniques; multiscale and computational modeling; experimental characterization methods; and applications in structural, electronic, and multifunctional materials.

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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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