

Special Issue

Symmetry/Asymmetry in Mechanics of Materials

Message from the Guest Editors

Symmetry and asymmetry as they relate to the mechanics of various materials are ubiquitous in nature and technology. They represent a class of emerging lightweight and/or energy materials referred to as architected because their unique properties or mechanics depend on their internal structure. Examples of advanced materials include composites, metals, polymers, biomaterials, functional materials, metamaterials, porous materials, and so on. The mechanics of materials associated with elasticity, plasticity, fatigue failure, dynamic response and nonlinear behaviours in terms of various structures are vital to current and future industries. Here, different modes of symmetry and asymmetry can occur; exploiting their advantages has always been a focus of engineering applications... This Special Issue aims to explore symmetry and asymmetry in materials mechanics to provide a theoretical basis for improved design and manufacture. Original research studies and review articles related to the engineering applications of emerging materials from a symmetry and asymmetry perspective are encouraged.

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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