Special Issue

Symmetry and Chirality in Functional Nanomaterials

Message from the Guest Editor

From chiroptical responses and chirality-induced spin selectivity (CISS) to enantioselective recognition and catalysis, chiral motifs and broken symmetries—particularly the absence of inversion symmetry—enable functionalities that are otherwise difficult to realize in achiral, centrosymmetric systems without extrinsic symmetry breaking. For this Special Issue, 'Symmetry and Chirality in Functional Nanomaterials', we invite original research articles, communications, and reviews that advance the science and technology of chiral and symmetry-engineered nanostructures, particularly those that emphasize the fundamental mechanisms, scalable synthesis, in situ and operando characterization, and device-level demonstrations. We welcome contributions that bridge theory, computation, and experimentation, highlight emerging measurement tools, and demonstrate applications across the fields of sensing, electronics, flexible/wearable platforms, photonics, catalysis, energy, and biomedicine. Works that elucidate how symmetry, asymmetry, and handedness govern transport, optical activity, spin and charge dynamics, and interfacial phenomena in nanomaterials are especially encouraged.

Guest Editor

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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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