Special Issue

Applications Based on Symmetry in Electrochemistry

Message from the Guest Editor

- Symmetry is a core concept in electrochemistry, playing a pivotal role in the reaction mechanisms, material properties, and overall performance of electrochemical systems. Leveraging symmetry has driven notable advancements in energy conversion, storage, and sensing technologies. By understanding symmetry, one can explore electrode interfaces, catalytic efficiencies, and the transport behavior of ions and electrons. Symmetric molecular designs often result in enhanced stability and efficiency, particularly in applications such as fuel cells, batteries, and supercapacitors. In contrast, symmetry-breaking phenomena provide pathways for selective catalysis and the creation of advanced energy materials.
- This Special Issue highlights the diverse applications of symmetry in electrochemistry, and welcomes theoretical and experimental studies that incorporate symmetry principles to address current challenges in this field. Topics of interest include the influence of symmetry on reaction pathways, the development of symmetric and asymmetric catalysts, and innovative electrode designs for energy and environmental applications.

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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