

Special Issue

Advanced Functional Materials for Energy: Design, Processing, Mechanisms and Applications

Message from the Guest Editors

This Special Issue, “Advanced Functional Materials for Energy: Design, Processing, Mechanisms and Applications”, aims to compile cutting-edge research and reviews highlighting progress in the design, synthesis, characterization, and application of novel materials for energy technologies. Emphasis will be placed on understanding the fundamental mechanisms that govern structure–property relationships, as well as innovative strategies for tailoring materials toward real-world applications. Topics of interest include, but are not limited to, the following:

- Novel materials for energy conversion (solar cells, thermoelectrics, piezoelectrics, photocatalysts).
- Functional nanomaterials and hybrid systems for energy storage (batteries, supercapacitors, hydrogen storage).
- Processing and fabrication techniques for scalable and cost-effective production.
- Mechanistic insights into charge transport, ion diffusion, and interfacial phenomena.
- Materials for sustainable and renewable energy applications, including fuel cells and hydrogen technologies.
- Emerging applications in flexible, wearable, and next-generation energy devices.

Guest Editors

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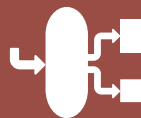
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