

## Special Issue

# Advanced Electrocatalytic Materials for Sustainable Energy Conversion and Storage

### Message from the Guest Editor

This Special Issue focuses on groundbreaking developments in electrocatalytic materials for renewable energy technologies, including hydrogen production, CO<sub>2</sub> conversion, fuel cells, and next-generation batteries. We invite contributions on novel catalyst design (nanostructured materials, single-atom catalysts, and hybrid systems), mechanistic studies, and advanced characterization techniques (in-situ/operando spectroscopy and computational modeling) to enhance activity, selectivity, and stability. A special emphasis is placed on scalable synthesis methods and the integration of these materials with renewable energy infrastructure for practical implementation. By bridging fundamental research with industrial applications, this issue aims to address critical challenges in energy conversion and storage, fostering the transition to sustainable energy solutions. We welcome original research, reviews, and perspectives that highlight recent advances and future directions in electrocatalysis, ultimately contributing to a carbon-neutral future.

### Guest Editor

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### Deadline for manuscript submissions

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