

Special Issue

Advances in Metallic Battery Materials

Message from the Guest Editor

This Special Issue aims to highlight recent advances in the design, synthesis, characterization, and application of metallic functional materials for batteries and related electrochemical energy storage devices. Topics of interest include metallic and metal-based electrodes, porous and nanostructured materials, alloy-derived functional materials, interface engineering, electrochemical performance enhancement, and safety-oriented device integration. Particular emphasis will be placed on the relationship between microstructure and electrochemical properties, the underlying mechanisms of ion/electron transport, and innovative material processing strategies such as solidification, corrosion, oxidation, and other scalable fabrication techniques. We seek original research articles and reviews that provide new insights into metallic battery materials, including lithium-ion batteries, sodium-ion batteries, zinc-based batteries, supercapacitors, and hybrid energy storage systems. This Special Issue seeks to promote cross-disciplinary communication and inspire the development of high-performance, durable, and safe metallic materials for next-generation energy storage technologies.

Guest Editor

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About the Journal

Message from the Editor-in-Chief

Metallic materials play a vital role in the economic life of modern societies; contributions are sought on fresh developments that enhance our understanding of the fundamental aspects related to the relationships between processing, properties and microstructure – disciplines in the metallurgical field ranging from processing, mechanical behavior, phase transitions and microstructural evolution, nanostructures, as well as unique metallic properties – inspire general and scholarly interest among the scientific community.

Editor-in-Chief

Prof. Dr. Yong Zhang

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