

## Special Issue

# Optimization of Electrode Materials for Zinc Ion Batteries

### Message from the Guest Editor

This Special Issue aims to highlight the latest advances in the design, synthesis, and performance enhancement of electrode materials for aqueous and non-aqueous zinc-ion batteries (ZIBs). As the demand for safe, sustainable, and cost-effective energy storage solutions grows, ZIBs have emerged as promising alternatives to lithium-ion batteries, particularly for large-scale applications such as electrified transportation and grids. However, challenges such as their limited electrochemical stability and slow ion diffusion and the structural degradation of electrode materials hinder their practical deployment.

The scope of this Special Issue encompasses cutting-edge research on cathode materials (e.g., layered oxides, vanadium-based compounds, Prussian blue analogs), anode stabilization techniques (dendrite suppression and protective coatings), and electrolyte formulations (aqueous, quasi-solid-state). We aim to highlight advanced characterization techniques, such as in situ spectroscopy and computational modeling, that can be utilized to provide insights into reaction mechanisms, ion transport dynamics and failure modes.

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### Guest Editor

Prof. Dr. Wenyao Zhang

Key Laboratory for Soft Chemistry and Functional Materials of Ministry of Education, Nanjing University of Science and Technology, Nanjing 210094, China

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### Deadline for manuscript submissions

closed (20 January 2026)



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*Materials*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[materials@mdpi.com](mailto:materials@mdpi.com)

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### Message from the Editorial Board

*Materials* (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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### Editors-in-Chief

Prof. Dr. Maryam Tabrizian

1. Department of Biomedical Engineering, Faculty of Medicine and Health Sciences, McGill University, Montreal, QC H3A 2B6, Canada
2. Faculty of Dentistry and Oral Health Sciences, McGill University, 3640 Rue University, Montreal, QC H3A 0C7, Canada

Prof. Dr. Yuguang Ma

State Key Laboratory of Luminescent Materials and Devices, South China University of Technology, Guangzhou 510640, China

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