Special Issue

Designing Sustainable Sodium/Zinc Batteries for the Future

Message from the Guest Editors

As the demand for sustainable energy storage solutions grows, batteries based on earth-abundant elements, typically like sodium and zinc, offer promising alternatives to traditional lithium-ion technology. This Special Issue, “Designing Sustainable Sodium/Zinc Batteries for the Future”, seeks to gather groundbreaking research on developing, optimizing, and understanding batteries based on these abundant materials. By addressing key challenges in materials design, interface engineering, electrolyte optimization, and degradation mechanisms, we aim to advance battery systems that are both environmentally friendly and scalable. We welcome studies exploring cathode and anode materials, solid and liquid electrolytes, interface design, advanced characterization, multi-scale modeling, and the use of machine learning for battery aging prediction and recycling optimization. We invite researchers working on sustainable battery technologies with abundant materials to contribute to this Special Issue, aiming to advance eco-friendly and scalable energy storage solutions.

Guest Editors

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Deadline for manuscript submissions

closed (16 July 2025)

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Take the opportunity to publish your original scientific work or a review paper concerning battery materials, battery technology or battery application within this new open access journal. Along with material science, the journal also addresses engineering and multidisciplinary research topics, such as cell and system design or storage system integration. Publishing proffers visibility for the benefit of other experts and facilitates discussion of the research results within the field. You are invited to publish your work, read published papers and to participate in topical discussions.

Editor-in-Chief

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