Special Issue

Advanced Design and Optimization Strategies for Redox Flow Batteries

Message from the Guest Editor

The Special Issue "Advanced Design and Optimization Strategies for Redox Flow Batteries" will present the latest advances in materials, design concepts, and operational strategies for redox flow batteries (RFBs). It aims to highlight both fundamental research and practical applications that enhance the performance, durability, and cost-effectiveness of these energy storage systems. We welcome contributions on innovative design approaches that improve mass transport, reduce polarization losses, and increase energy efficiency through optimized components and stack architecture. Studies on advanced modeling and simulation tools are also encouraged, as they are crucial for developing next-generation RFB technologies. Additionally, we invite research on novel redox-active materials (inorganic or organic), advanced electrolytes, and modified electrodes or membranes. Submissions on emerging cell configurations (e.g., RT-RFBs) or hybrid systems integrating complementary technologies (such as air electrodes or photovoltaics) are of great interest.

Guest Editor

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Message from the Editor-in-Chief

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.

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