Special Issue

Rechargeable Metal–Air Batteries: Status and Prospects

Message from the Guest Editor

Metal–air batteries are characterized by high thermodynamic energy densities, convenient operation using ambient air at the positive electrode, and design flexibility for a variety of applications (ranging from micro-scale to large-scale stationary energy storage systems). The variety of metals that could be utilized (including Al, Fe, Li, Mg, Na, and Zn) provides a very rich research and development space for batteries. Topics of special interest include, but are not limited to, the following:

- Bifunctional electrocatalysis of the oxygen reduction and evolution reactions using cost-effective catalysts;
- Advancements in reversible oxygen electrode engineering and design with emphasis on long-term durability enhancement;
- Electrolytes: aqueous or non-aqueous, and separators for diverse metal–air batteries;
- The electrochemistry of the rechargeable metal electrode: approaches for minimizing parasitic reactions, passivation, and/or dendrite formation;
- Metal slurry-air flow batteries;
- Cell and/or stack modeling and experimental validation;
- Accelerated degradation studies;
- Techno-economic analysis and energy storage system integration.

Guest Editor

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Deadline for manuscript submissions

closed (26 November 2024)

Batteries

an Open Access Journal by MDPI

Impact Factor 4.8
CiteScore 6.6

mdpi.com/si/181517

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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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