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Zn-Ion and Zn–Air Batteries: Materials, Mechanisms and Applications

Guest Editors:

Dr. Jingwen Zhao

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Deadline for manuscript submissions:
closed (10 July 2023)

Message from the Guest Editors

Dear Colleagues,

Zn-based battery technologies that provide the possibility of reconciling the high cost and poor safety of state-of-art Li-ion batteries while retaining high energy and power densities have been long pursued. The first voltaic pile was invented in 1800 and the first Zn–air battery was commercialized as early as 1932. However, to develop practically rechargeable Zn batteries, there are still a lot of obstacles in the metallic Zn anode, cathodes and electrolytes.

The aim of the current Research Topic is to cover promising, recent and novel research trends in the designing reversible Zn anodes, ultra-stable electrolytes and high-performance cathodes for rechargeable Zn-ion and Zn–air batteries. Areas to be covered in this Research Topic may include, but are not limited to, the following:

New-type aqueous/non-aqueous/hybrid electrolytes;
Artificial/in situ protection strategies for Zn anodes;
High-voltage and high-capacity Zn2+-storage electrode materials;
Catalytic cathodes for zinc-air batteries;
Solid-state electrolytes for Zn batteries.

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Editor-in-Chief

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Message from the Editor-in-Chief

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