



Novel Battery Chemistries beyond Traditional Lithium-Ion Batteries

Guest Editor:

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Message from the Guest Editor

Lithium-ion batteries are successfully applied in portable electronics, electric vehicles, and LIB-based grid storage due to their high energy density over 250 Wh kg^{-1} . However, safety factors and insufficiency on a global scale of lithium resources will strongly limit its further use in large-scale applications. Therefore, it is essential to develop novel energy storage technologies based on cost-effective and earth-abundant materials to meet the requirements of grid-scale and distributed storage applications. We invite papers that highlight the development of next-generation secondary batteries beyond lithium-ion.

Potential topics include, but are not limited to, the following:

- Li metal batteries, Li-S, Li-O, Li-CO₂, Li-organic, etc.
- Li-rich layered cathode materials.
- Li metal engineering.
- Solid-state batteries.
- Sodium batteries, sodium metal, Na-O₂, Na-organic, etc.
- Multivalent batteries including Mg, Zn, Al, and Ca batteries, etc.
- High-performance electrolyte design.
- Electrode/electrolyte interphasial chemistry.
- Multi-model advanced characterization techniques.
- Density-functional-theory method for material design.





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Message from the Editor-in-Chief

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