

## Special Issue

# New Insights into Lithium-Ion Batteries: Technologies and Challenges

### Message from the Guest Editors

Lithium-ion batteries (LIBs) are pivotal to modern energy storage systems, powering everything from consumer electronics to electric vehicles and grid-scale energy storage solutions. Despite their widespread use and advancements, LIBs still face significant challenges related to safety, performance, cost, and sustainability. This Special Issue invites cutting-edge research and review articles that provide novel insights into the technologies, innovations, and challenges facing LIB development and deployment. This Special Issue will cover, but is not limited to, the following areas: Materials Innovation.

Battery Performance.

Thermal Management.

Mechanics and Degradation.

System-Level Innovations.

Safety and Reliability.

Advanced Diagnostics and Characterization.

Electrochemical and Multiphysics Modeling.

Future Directions and Emerging Technologies.

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### Guest Editors

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### Deadline for manuscript submissions

20 February 2026



## Applied Sciences

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## About the Journal

### Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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### Editor-in-Chief

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