



CALL FOR PAPERS Special Issue on New Advances in Lithium-ion Battery Safety

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Special Issue on New Advances in Lithium-ion Battery Safety

Battery safety has attracted attention worldwide due to current trends in communication and mobilization brought about by rapidly evolving versions of smartphones, tablets, laptops, and other electronic devices, as well as the continuing increase in the number of electric vehicles. The milestone safety issues, such as short circuit and thermal runaway, can be triggered by mechanical abusive loading, low/high ambient temperature as well as electric abusive usage (e.g. fast charging). Such catastrophic events are highly nonlinear and strong multiphysics-coupled problems should involve more research efforts to better illustrate safety behavior and an understanding of the fundamental mechanisms. Further, safety problems can evolve and exhibit in various ways across the multiscale, i.e. from the active particle level (1 μm) up to the battery pack level (1 m). The achievement of high-level lithium-ion battery safety not only requires breakthroughs in electrochemistry and multiphysics governing theories, but also novel engineering designs along with advanced battery management systems.

In conjunction with this Special Issue, the successful Automotive & Battery Safety Conference (ABSC) 2021 will continue to be organized to discuss these advances. The ABSC 2021 will be held in Ningbo, China on September 27-29, 2021. Contributors and participants of this conference will be invited to contribute to this Special Issue. This Special Issue is envisioned to cover the entire range of electrochemistry research relevant to Li-ion cells, with equal emphasis on experimental, theoretical, and numerical simulation research.

Topic Areas

- Mechanical integrity of lithium-ion battery (LIB)
- Thermal safety behavior of LIB
- Multiphysics safety behavior of LIB
- Safety management of LIB
- Advanced testing/characterization technology and method of LIB safety
- High safety technology of materials, cells and modulus for LIB
- Crash safety of electric vehicle

Publication Target Dates

Paper submission open:	March 15, 2021
Paper submission deadline:	October 30, 2021
Initial review completed:	November 15, 2021
Special Issue publication date:	August 2022

Submission Instructions

Papers should be submitted electronically to the journal at journaltool.asme.org. If you already have an account, log in as author and select **Submit Paper** at the bottom of the page. If you do not have an account, select **Submissions** and follow the steps. In either case, at the **Paper Submittal** page, select the [ASME Journal of Electrochemical Energy Conversion and Storage](#) and then select the Special Issue **New Advances in Lithium-ion Battery Safety**. Papers received after the deadline or papers not selected for inclusion in the Special Issue may be accepted for publication in a regular issue.

Special Issue Editors

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