Special Issue

Advances in Thermal Management for Batteries: 2nd Edition

Message from the Guest Editors

Lithium-ion batteries are a promising technology for achieving the goal of reaching net zero. Some of the challenges currently associated with batteries, such as lifetime and safety, are very dependent on operating temperature. A proper pack design and thermal management system can overcome some of these barriers and ensure that batteries operate safely. In this Special Issue, we are looking to collect contributions in the following subject areas:

- Multi-physics modelling of batteries (including the temperature impact);
- Impact of battery internal structure on heat generation;
- Impact of battery ageing on heat generation;
- Impact of battery ageing on battery safety;
- Thermal runaway modelling of a single cell or battery pack;
- Battery pack design for mitigating/delaying thermal propagation;
- Methodologies for manufacturing of faulty cells to trigger thermal runaway;
- Battery heat release rate during thermal runaway for different chemistries/capacities/form factors;
- Novel thermal management technologies specially for fast charging/ sever climate conditions (very cold/hot);
- Battery management system for optimal battery performance;
- Energy harvesting from battery packs.

Guest Editors

Dr. Elham Hosseinzadeh

Department of Electronic Engineering, School of Physics, Engineering and Technology, University of York, York YO10 5DD, UK

Dr. Abbas Fotouhi

Advanced Vehicle Engineering Centre, Cranfield University, Bedfordshire MK41 0HU, UK

Deadline for manuscript submissions

30 June 2025

Batteries

an Open Access Journal by MDPI

Impact Factor 4.6
CiteScore 4.0

mdpi.com/si/221693

Batteries
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
batteries@mdpi.com

mdpi.com/journal/batteries

Batteries

an Open Access Journal by MDPI

Impact Factor 4.6
CiteScore 4.0

mdpi.com/journal/batteries

About the Journal

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.

Editor-in-Chief

Prof. Dr. Karim Zaghib
Department of Chemical and Materials Engineering, Concordia University, Montréal, QC H3G 1M8, Canada

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), Inspec, Ei Compendex, CAPlus / SciFinder, and other databases.

Journal Rank:

JCR - Q2 (Electrochemistry) / CiteScore - Q2 (Electrical and Electronic Engineering)