

## Special Issue

# Battery Management and Advanced Energy Storage/Conversion Technologies in Renewable Power Systems: From Batteries to Fuel Cells and Hybrid Solutions

### Message from the Guest Editors

With the rapid development of the social economy, energy security and environmental protection have become urgent issues facing mankind. The usage of renewable energy to generate electricity can alleviate the above problems to a certain extent. In the development and application of renewable power generation systems, new energy storage and energy conversion technologies are vital. The application of battery energy storage can promote the continuous and stable generation of power by renewable energy sources, while reducing wind and solar abandonment rates. The rapid development of battery technology is crucial to the realization of the efficient use of renewable energy, low-carbon and low-emission operation. The Special Issue is focused on the combination of battery management and system integration technologies, suitable for large-scale application and sustainable complex energy systems. The scope of this Special Issue includes, but is not limited to, the following topics:

- Battery energy storage in renewable energy;
- Large-scale battery integration technology;
- Aging of energy storage batteries;
- Battery safety management;
- Battery thermal management.

---

### Guest Editors

Prof. Dr. Xiaogang Wu

School of Electrical Engineering, Hebei University of Technology, Tianjin 300130, China

Dr. Jiu-Yu Du

School of Vehicle and Mobility, Tsinghua University, Beijing 100084, China

---

### Deadline for manuscript submissions

closed (31 January 2026)



## Batteries

---

an Open Access Journal  
by MDPI

---

Impact Factor 4.8  
CiteScore 6.6



[mdpi.com/si/184986](https://mdpi.com/si/184986)

*Batteries*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[batteries@mdpi.com](mailto:batteries@mdpi.com)

[mdpi.com/journal/  
batteries](https://mdpi.com/journal/batteries)





# Batteries

---

an Open Access Journal  
by MDPI

---

Impact Factor 4.8  
CiteScore 6.6



[mdpi.com/journal/  
batteries](https://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 - Q1 (Electrical and Electronic Engineering)