



High-Performance Supercapacitors: Advancements & Challenges

Guest Editors:

Dr. Ruizhi Li

The State Key Laboratory of Refractories and Metallurgy, Institute of Advanced Materials and Nanotechnology, College of Materials and Metallurgy, Wuhan University of Science and Technology, Wuhan 430081, China

Dr. Hai Wang

School of Mathematics and Physics, China University of Geosciences, Wuhan 430079, China

Deadline for manuscript submissions:

25 June 2024

Message from the Guest Editors

Dear Colleagues,

Nowadays, the transformation from the combustion engine to electrified vehicles is a matter of fact and tremendously drives the demand for compact, high powder-density supercapacitors. Supercapacitors have many advantages on their fast charge and discharge, high powder density, environmentally friendly and so on. High powder density supercapacitors with good energy density will be applied in more city bus and other electrical vehicles. The future challenges, e.g., decarbonization of the CO₂ intensive transportation sector, will push the need for such high performance supercapacitors even more.

Therefore, this Special Issue addresses the progress in high performance supercapacitors by pushing a missing focus on digitalization, advanced supercapacitor devices production, modeling, and prediction aspects in concordance with progresses in new materials and pack design solutions.

Potential topics include but are not limited to:

- Electrical, thermal, and electrochemical modeling;
- Lifetime estimation of supercapacitors;
- New materials and advanced manufacturing methods in supercapacitor production.





an Open Access Journal by MDPI

Editor-in-Chief

Prof. Dr. Andreas Jossen

Institute for Electrical Energy
Storage Technology (EES),
Technical University München
(TUM), Arcisstrasse 21, 80333
Munich, Germany

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.

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](#), [CAPus / SciFinder](#), and [other databases](#).

Journal Rank: JCR - Q2 (*Electrochemistry*) / CiteScore - Q2 (*Electrochemistry*)

Contact Us

Batteries Editorial Office
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/batteries
batteries@mdpi.com
[X@batteriesmdpi](https://twitter.com/batteriesmdpi)