

Special Issue

Material Synthesis, Manufacturing and Electrochemical Modelling for Lithium-Ion Batteries in Electric Vehicle

Message from the Guest Editors

Lithium-ion batteries will play a pivotal role in advancing electrification in the automotive industry and achieving our net zero goals. Nevertheless, lithium-ion batteries are facing challenges in existing electric vehicles, e.g., limited driving range, slow charging rate and unreliable temperature performance. These issues hinder the further wide adoption of electric vehicles and their complete replacement of internal combustion engine vehicles. This Special Issue focuses on the latest progress in the development of lithium-ion batteries, including but not limited to:

- Electrode material synthesis (new material discovery, synthesis route optimisation, etc.);
- Electrode manufacturing and structure optimisation;
- Battery modelling (degradation, SEI, temperature, particle cracking, etc.);
- Testing metrology;
- Battery characterisation;
- Lithium-ion battery cell and pack design;
- Life cycle assessment;
- Lithium and beyond (various types of metal-ion batteries).

Guest Editors

Dr. Pengcheng Zhu

Dr. Bo Dong

Dr. Yongxiu Chen

Deadline for manuscript submissions

31 August 2025



World Electric Vehicle Journal

an Open Access Journal
Published by MDPI

Impact Factor 2.6
CiteScore 5.0



mdpi.com/si/188406

World Electric Vehicle Journal
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
wevj@mdpi.com

mdpi.com/journal/

[wevj](https://wevj.mdpi.com)





World Electric Vehicle Journal

an Open Access Journal
Published by MDPI

Impact Factor 2.6
CiteScore 5.0



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



About the Journal

Message from the Editor-in-Chief

The *World Electric Vehicle Journal* is the official journal of the World Electric Vehicle Association (WEVA) and its members the European Association for Electromobility (AVERE), the Electric Drive Transportation Association (EDTA), and the Electric Vehicle Association of Asia Pacific (EVAAP). Since its foundation in 2007, the journal has aimed to provide a publishing platform for the academic and industrial world to share the latest developments and knowledge about electric vehicles. If you are developing Electric, Plug-in Hybrid, Hybrid Electric, or Fuel Cell Vehicles, we cordially invite you to consider us as the place for you to publish your latest results and innovations.

Editor-in-Chief

Prof. Dr. Joeri Van Mierlo

MOBI—Electromobility Research Centre, Department of Electrical Engineering and Energy Technology, Faculty of Engineering Sciences, Vrije Universiteit Brussel, 1050 Brussel, Belgium

Author Benefits

High Visibility:

indexed within Scopus, ESCI (Web of Science), Ei Compendex, and other databases.

Journal Rank:

JCR - Q2 (Engineering, Electrical and Electronic) /
CiteScore - Q2 (Automotive Engineering)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 17.6 days after submission; acceptance to publication is undertaken in 2.9 days (median values for papers published in this journal in the first half of 2025).