

Special Issue

Smart Battery Systems: Advanced Modeling, State Estimation, Prognostics and Control

Message from the Guest Editor

Batteries are deployed across a wide range of applications, such as portable electronics, electric vehicles, and stationary power storage systems, due to their high energy and power densities and long lifetime. With emerging technology such as artificial intelligence and blockchain technology, smart battery systems that integrate state-of-the-art battery hardware with advanced battery management processes are moving rapidly from a research field to a requirement for technology's functionality. Advanced modeling, state estimation, prognostics, and control are the key parts of smart battery systems and contribute to extending battery lifetime and enhancing battery safety. This Special Issue is a dedicated outlet for up-to-date research on all aspects of advanced modeling, state estimation, prognostics, and control of smart battery systems. Manuscripts from cross-disciplinary fields, such as artificial intelligence, blockchain, electrochemistry, power electronics, and thermal and mechanical technologies are warmly welcome.

Guest Editor

Dr. Haijun Ruan

Centre for E-Mobility and Clean Growth Research, Coventry University,
Coventry CV1 5FB, UK

Deadline for manuscript submissions

closed (31 May 2025)



World Electric Vehicle Journal

an Open Access Journal
Published by MDPI

Impact Factor 2.6
CiteScore 5.0



mdpi.com/si/206421

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).