Special Issue

Artificial Intelligence for Battery Health Monitoring and Lifetime Prediction

Message from the Guest Editors

The rapid advancement of renewable energy systems and electrified transportation has intensified the demand for reliable, efficient, and sustainable energy storage solutions. Lithium-ion batteries (LIBs), a cornerstone of modern energy storage, require precise health monitoring and accurate lifetime prediction to ensure safety, longevity, and economic viability. However, the inherent complexity of battery degradation mechanisms—spanning electrochemical dynamics, material aging, and operational variability—poses significant challenges for traditional modeling approaches. This Special Issue aims to explore cutting-edge artificial intelligence (AI) methodologies that address these challenges, enabling breakthroughs in battery health management and prognostics.

Guest Editors

Dr. Jiusi Zhang

School of Automation Engineering, University of Electronic Science and Technology of China, Chengdu 611731, China

Dr. Tenglong Huang

College of Mechanical and Electronic Engineering, Northwest Agriculture and Forestry University, Yangling 712100, China

Deadline for manuscript submissions

24 October 2025

Energies

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 7.3

mdpi.com/si/240024

Energies
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
energies@mdpi.com

mdpi.com/journal/energies

Energies

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 7.3

mdpi.com/journal/energies

About the Journal

Message from the Editor-in-Chief

Energies is an international, open access journal in energy engineering and research. The journal publishes original papers, review articles, technical notes, and letters. Authors are encouraged to submit manuscripts which bridge the gaps between research, development and implementation. The journal provides a forum for information on research, innovation, and demonstration in the areas of energy conversion and conservation, the optimal use of energy resources, optimization of energy processes, mitigation of environmental pollutants, and sustainable energy systems.

Editor-in-Chief

Prof. Dr. Enrico Sciubba
Department of Mechanical and Industrial Engineering, University Niccolò Cusano, 00166 Roma, Italy

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), Ei Compendex, RePEc, Inspec, CAPlus / SciFinder, and other databases.

Journal Rank:

CiteScore - Q1 (Control and Optimization)

MDPI