



Second Life and Recycling: Perspectives for High-Performance Batteries

Guest Editors:

Dr. Burçak Ebin

Department of Chemistry and
Chemical Engineering, Industrial
Materials Recycling, Chalmers
University of Technology,
Kemivägen 4, 412 96 Göteborg,
Sweden

Dr. Martina Petranikova

Department of Chemistry and
Chemical Engineering, Industrial
Materials Recycling, Chalmers
University of Technology,
Kemivägen 4, 412 96 Göteborg,
Sweden

Dr. Junhua Xu

Circular Economy Solutions,
Geological Survey of Finland,
GTK Mintec, Tutkijankatu 1, FI-
83500 Outokumpu, Finland

Deadline for manuscript
submissions:

16 January 2025



mdpi.com/si/190108

Message from the Guest Editors

Dear Colleagues,

Second-life batteries are either used again or as a combination of their modules or cells. Due to their characteristic dispersion, the elements must be selected and sorted. Performance evolution and battery behavior during their second life must be observed, wherein specific energy management may be needed. This Special Issue invites researchers to contribute original research/review/perspective articles on the development of advanced technologies and alternative solutions for high-performance-battery recycling and second-life applications.

Topics of interest include, but are not limited to, the following:

- The upcycling and recycling of different components of waste lithium-ion batteries (cathodes, anodes, electrolytes, and current collectors);
- Aging characterization during first and second lives;
- Aging, thermal, and electric modeling from first to second life and beyond;
- The optimal design of second-life energy storage systems with respect to their lifetime;
- Electrical and thermal safety issues;
- The application of second-life batteries;
- Life cycle and techno-economic assessment;
- Direct recycling.

Special Issue



an Open Access Journal by MDPI

Editor-in-Chief

Prof. Dr. Karim Zaghib

Department of Chemical and
Materials Engineering, Concordia
University, Montréal, QC H3G
1M8, Canada

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

Journal Rank: JCR - Q2 (Electrochemistry) / CiteScore - Q2 (Electrical and Electronic Engineering)

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](#)