

## Special Issue

# Lithium-Ion Batteries: Aging Mechanisms, Diagnosis Method and Lifetime Assessment

### Message from the Guest Editors

This Special Issue aims to gather cutting-edge research addressing the fundamental and applied aspects of lithium-ion battery aging. Contributions are welcome on physicochemical degradation mechanisms at material, cell and system levels, as well as on advanced characterization techniques, data-driven diagnostics and predictive modeling approaches. Emphasis is placed on linking degradation phenomena to measurable indicators and operational stress factors, including temperature, cycling conditions, fast charging and high-energy-density designs.

The Special Issue also encourages studies that bridge experimental investigation with modeling, artificial intelligence and digital twin approaches for state-of-health estimation and remaining useful life prediction. By integrating multi-scale understanding with advanced diagnostic tools, this collection seeks to support more reliable lifetime assessment frameworks and contribute to safer, longer-lasting and more sustainable lithium-ion battery technologies.

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### Guest Editors

Dr. Silvia Colnago

Department of Generation Technologies and Materials, Ricerca sul Sistema Energetico S.p.A., 20134 Milan, Italy

Dr. Simone Barcellona

Department of Electronics, Information and Bioengineering, Politecnico di Milano, 20133 Milan, Italy

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### Deadline for manuscript submissions

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## Batteries

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*Batteries*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[batteries@mdpi.com](mailto:batteries@mdpi.com)

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## About the Journal

### 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.

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### Editor-in-Chief

Prof. Dr. Karim Zaghib

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

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