Special Issue

Advanced Characterization Techniques for Batteries

Message from the Guest Editors

This Special Issue focuses on the sophisticated and precise use of characterization techniques to analyze battery materials, interfaces and electrochemical phenomena in unprecedented detail. We therefore welcome contributions that demonstrate how high-resolution analytical tools, applied under challenging conditions or in novel contexts, can reveal critical mechanisms that influence the performance and stability of batteries.

- The high-resolution and depth-sensitive application of characterization methods for analyzing battery surfaces and interfaces.
- Challenging operando and in situ studies to monitor real-time electrochemical processes and interfacial dynamics.
- Advanced and comprehensive analysis to understand the formation and stability of interphases (e.g., solid electrolyte interphase (SEI) and cathode electrolyte interphase (CEI)) in various battery systems.
- The characterization of interfaces in solid-state and liquid electrolyte-based batteries, including lithium, sodium, and potassium chemistries.
- Metrology-driven studies that address challenges in quantifying battery degradation and performance metrics.
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Guest Editors

Dr. Yundong Zhou

The National Centre of Excellence in Mass Spectrometry Imaging (NiCE-MSI), Chemical and Biological Sciences Department, National Physical Laboratory, Teddington TW11 0LW, UK

Prof. Dr. Anja Henss

1. Institute of Experimental Physics, Justus Liebig University Giessen, Heinrich-Buff-Ring 16, 35392 Giessen, Germany
2. Center for Materials Research (ZfM/LaMa), Justus Liebig University Giessen, Heinrich-Buff-Ring 16, 35392 Giessen, Germany

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

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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.

Editor-in-Chief

Prof. Dr. Karim Zaghib
Department of Chemical and Materials Engineering, Concordia University, Montréal, QC H3G 1M8, Canada

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