Special Issue

Service Safety, Reliability, and Uncertainty Assessment of Lithium-Ion Battery

Message from the Guest Editors

Recently, due to their wide temperature range, high energy density, low self-discharge rate, and long cycle life, lithium-ion batteries have been widely used in a variety of industries, such as transportation, electronics, portable mobile devices, and aerospace. However, the capacity degradation of lithium-ion batteries can lead to increased internal resistance, accelerated aging, and even a safety risk during long-term use and charge/discharge processing. Moreover, defects in the design stage, harsh service environment, and misuse can also cause serious degradation of the service performance of lithium-ion batteries. Therefore, the service performance assessment of lithium-ion batteries has become a hot topic in theoretical research and engineering applications.

In this Special Issue, we welcome papers or reviews, including simulation studies and experimental studies, on the service performance of battery materials, battery cells, and battery packs, with a focus on safety, reliability, and uncertainty assessment. Furthermore, we also welcome articles on optimized design for lithium-ion battery service safety.

Guest Editors

Prof. Dr. Lijun Zhang

1. National Center for Materials Service Safety, University of Science and Technology Beijing, Beijing 100083, China
2. Research Institute of Macro-Safety Science, University of Science and Technology Beijing, Beijing 100083, China

Dr. Zhimin Xi

Department of Industrial and Systems Engineering, Rutgers University – New Brunswick, Piscataway, NJ 08854, USA

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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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