

Special Issue on
Advanced Battery Technologies and Applications

CALL FOR PAPERS

The emerging concerns over fossil-fuel depletion, global warming, and environmental pollution have brought the renewable energy sources like wind and the sun to the forefront. These renewable energy sources, unfortunately, are highly intermittent and difficult to control. Battery storage systems are the key technology to address the intermittency issue and, thus, facilitate the future penetration of renewables to achieve a stable and consistent power delivery. On the other hand, the battery systems are also playing a key role in the end-user sector electrification. This is evident from the proactive penetration of battery-powered electrical vehicles to pursuit an efficient and low-carbon society.

However, major challenges still exist for the advancement of battery technology. The investigation on high performance, cost-effective, and environmental benign electrode, electrolyte, and membrane is highly desired for next generation battery storage to meet the increasingly rigorous requirements of the users. From the prospect of real application, it is equally important to explore suitable strategies for battery management and control in seeking to enhance the overall safety, reliability, and cost efficiency.

The Special Issue, therefore, seeks to contribute to the battery storage agenda through enhanced scientific and multidisciplinary knowledge related to material, electrochemistry, management, and control. We invite papers on original research articles and reviews that provide critical overview on the state-of-the-art technologies. Related works on both cell level and system level are within the scope. The overarching goal is to present a synergy through an integrated vision that comes from both specialized and interdisciplinary articles.

Potential topics include but are not limited to the following:

- ▶ Battery material/electrochemical investigation: electrode, separator, and electrolyte
- ▶ Reaction mechanisms and transport phenomena in battery
- ▶ Methods for battery performance analysis and material characterization
- ▶ Battery failed mechanism investigation
- ▶ Electrochemical performance optimization
- ▶ Battery system modeling, simulation, and optimization
- ▶ Online condition monitoring for SOC, SOH, SOF, RUL, etc.
- ▶ Optimal charging techniques
- ▶ Battery technology in real applications

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/ijelc/abta/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

Lead Guest Editor

Zhongbao Wei, Nanyang Technological University, Singapore
weizb@ntu.edu.sg

Guest Editors

Shujuan Meng, Beihang University, Beijing, China
mengsj@buaa.edu.cn

Changfu Zou, Chalmers University of Technology, Gothenburg, Sweden
changfu.zou@chalmers.se

Xiaoya Wang, SUNY Binghamton University, New York, USA
xiaoyawa@binghamton.edu

Lin Zeng, Hong Kong University of Science and Technology, Hong Kong
melzengan@ust.hk

Submission Deadline

Friday, 27 July 2018

Publication Date

December 2018