## Battery Energy Storage Management by Integrating Omni-Channel Information: Battery Physics, Machine Learning, Force/Thermal/Electrical/Gas Sensors

Guest Editors:

**Prof. Dr. Chao Lyu**
School of Electrical Engineering and Automation, Harbin Institute of Technology, Harbin 150001, China

**Dr. Jianing Xu**
School of Electrical Engineering and Automation, Harbin Institute of Technology, Harbin 150001, China

**Dr. Yuchen Song**
School of Electronics and Information Engineering, Harbin Institute of Technology, Harbin 150001, China

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### Message from the Guest Editors

Dear Colleagues,

High reliability and long life have always been the goal of battery energy storage technology. The deepening of battery physics research, the development of new machine learning algorithms and new sensor technologies have provided opportunities for a higher level of battery management system (BMS). State estimation and lifetime prediction can become more accurate and adapt to battery aging and a wider range of temperature and current rate. Fault diagnosis developed by means of big data and multi-source sensor fusion can detect and locate faults more timely and accurately. The identification of battery electrical and thermal abuse boundaries can provide a basis for battery safety and long life scheduling.

To that end, the potential topics of this special issue include but are not limited to:

- Applications of multi-physics modelling in BMS;
- Applications of machine learning methods in BMS;
- Applications of novel force, thermal, electrical, and gas sensors in BMS;
- Optimal design and control of thermal management system;
- Optimal scheduling of energy storage battery system with the goal of extending service life.

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Special Issue

## 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

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