

Annual Conference of the IEEE Industrial Electronics Society (IECON 2021)

Special Session on

“Improving Battery Management Systems through Signal Processing, Machine Learning, Data Fusion, and Control Algorithms”

Organized by

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Call for Papers

Rechargeable batteries have become ubiquitous in a wide range of applications spanning electric vehicles, consumer electronics, power equipment, household appliances and aerospace equipment. Battery management systems (BMS) are vital to ensure safe, efficient and reliable battery pack. However, present day BMS suffer from many shortcomings: their performance measures vary with temperature; they rely on offline characterizations; they need to be specifically designed for particular battery chemistry, size, and voltage. In this special session, we invite original research that seeks to improve the state of the art in BMS.

Topics of interest include, but are not limited to:

- Systems theory and machine learning (ML) approaches for battery modelling
- State of health models
- Signal processing and ML approaches to battery management
- Thermal-electrical equivalent circuit models and approaches to identify them
- Thermal management in batteries
- Optimized charging algorithms
- Cloud-based approaches for battery management
- Performance evaluation of BMS

Submission Procedure: All the instructions for paper submission are included at the conference website: <https://attend.ieee.org/iecon-2021/>

Deadlines:

Full paper submission: July 1, 2021
Paper acceptance notification: August 6, 2021
Camera-ready paper submission: Aug. 27, 2021

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