

34th IEEE International Symposium on Industrial Electronics (ISIE 2025)

Special Session on

“Robust Battery Management Systems for Safe, Efficient, and Reliable Electrification”

Organized by

Principal Organizer: Dr. Balakumar Balasingam (singam@uwindsor.ca)
Affiliation: University of Windsor

Co-organizer 1: Dr. Sung-Yeul Park (sung_yeul.park@uconn.edu)
Affiliation: University of Connecticut
Co-organizer 2: Dr. Krishna Pattipati (krishna.pattipati@uconn.edu)
Affiliation: University of Connecticut

Call for Papers

Theme: The electric vehicle (EV) battery pack needs to be continuously monitored and managed by a battery management system (BMS) to ensure the safety, performance, and reliability of the battery pack. Research about BMS development remains active and further enhancements to BMS algorithms have the potential to extend range, reduce charging time, and lower the cost of EVs.

Topics of interest include, but are not limited to:

1	Battery characterization techniques to improve the performance of BMS
2	Battery ECM model parameter estimation in the presence of measurement noise and bias
3	Electrochemical Impedance Spectroscopy (EIS) approaches for battery monitoring
4	Strategies for battery thermal management system
5	Analysis of computational efficiency and stability of BMS algorithms
6	BMS algorithms that are tolerant to rounding errors, missing data, noise, and bias
7	Performance analysis of model based, and data-driven BMS algorithms
8	Digital twins and cloud-based approaches to battery management
9	Identification of challenges and solutions to second-life applications of battery packs
10	Performance evaluation of battery management systems

Reviewers:

	Name and Affiliation	Email-address
1	Dr. Alain Bouscayrol, Professor of Electrical Engineering University of Lille	Alain.Bouscayrol@univ-lille1.fr
2	Dr. Ali Bazzi, Professor, University of Connecticut	bazzi@engr.uconn.edu
3	Dr. Billy Wu, Senior Lecturer, Imperial College London	billy.wu@imperial.ac.uk
4	Dr. Daniel Auger, Reader in Electrification, Automation and Control Cranfield University	d.j.auger@cranfield.ac.uk
5	Dr. Ibrahim Dincer, Professor of Mechanical and Manufacturing Engineering, Ontario Tech University	ibrahim.dincer@ontariotechu.ca
6	Dr. Lukas Swan, Professor of Mechanical Engineering Dalhousie University	Lukas.Swan@dal.ca
7	Dr. Martin Agelin-Chaab, Associate Professor of Mechanical and Manufacturing Engineering, Ontario Tech University	martin.agelin- chaab@ontariotechu.ca
8	Dr. Paolo Cicconi, Research Collaborator and Contract Professor Università degli studi Roma TRE	p.cicconi@univpm.it
9	Dr. Saad Mekhilef, Professor in Electrical Engineering, University of Malaya	saad@um.edu.my
10	Dr. Satyam Panchal, Senior Advance Battery System Engineer, FCA Fiat Chrysler Automoblies	satyam.panchal@uwaterloo.ca
11	Dr. Siamak Farhad, Associate Professor in Mechanical Engineering, University of Akron	sfarhad@uakron.edu
12	Dr. Somnath Sengupta, Assistant Professor Indian Institute of Technology	sengupta.s@atdc.iitkgp.ac.in
13	Dr. Stefano Longo, Reader in Automated Vehicles, Cranfield University	s.longo@cranfield.ac.uk
14	Dr. Tazdin Amietszajew, Assistant Professor in Battery Diagnostics, Coventry University	ad2403@coventry.ac.uk
15	Dr. Tedjani Mesbahi, Associate Professor in Electrical Engineering, INSA Strasbourg	tedjani.mesbahi@insa-strasbourg
16	Dr. Tey Kok Soon, Professor in Computer Engineering, University of Malaya	koksoon@um.edu.my
17	Dr. Thomas Hamacher, Professor in Electrical and Computer Engineering, Technical University of Munich	thomas.hamacher@tum.de
18	Dr. Wei Lu, Professor of Mechanical Engineering, University of Michigan	weilu@umich.edu
19	Dr. Yevgen Barsukov, Algorithm Developer, Texas Instruments	e-barsoukov2@ti.com

Submission Procedure:

All the instructions for paper submission are included in the conference website: <https://ieee-isie-2025.org/>

Deadlines:

Full paper submission:	March 31, 2025
Paper acceptance notification:	April 15, 2025
Camera-ready paper submission:	May 14, 2025

Please send this completed document to:

isie2025@icsevents.com