CALL FOR PAPERS - SPECIAL SESSION
"Advancements and Challenges in Battery Management"
for CODIT 2024
July 01-04, 2023 ▪ Valletta, Malta

Session Co-Chairs:

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Session description:

This special session deals with exploring and discussing cutting-edge advancements, methodologies, and innovations in battery management and control strategies.

Battery management and control strategies play a crucial role in optimizing performance and extending the lifespan of energy storage solutions. The complexity of modern batteries necessitates advanced approaches to effectively monitor and regulate key parameters such as State of Charge (SOC) and State of Health (SOH). Battery management is a multifaceted field crucial for optimizing battery performance. It involves cell balancing to maintain uniform charging, SOC and SOH monitoring for accurate assessment of battery health, and thermal management to prevent overheating. Charge and discharge control algorithms are employed to maximize efficiency and extend battery lifespan. Fault diagnosis and prognosis techniques ensure timely maintenance, while integration into larger systems through Energy Management Systems optimizes overall energy usage. In this dynamic context, research continues to explore new frontiers to further enhance battery management and control strategies, promoting increasingly sustainable and efficient solutions in the global energy landscape.

The goal of this session is to shed light on emerging trends, challenges, and opportunities in this dynamic landscape, offering a platform for insightful discussions and the exchange of ideas.

The topics of interest include but are not limited to

- Advanced Battery Monitoring Techniques (e.g. sensors and monitoring technologies for real-time data acquisition)
- Battery State-of-Charge and State-of-Health Management (e.g. strategies for accurate estimation and prediction of SOC and SOH, proactive measures for mitigating degradation and optimizing battery life)
- Smart Battery Charging and Discharging Algorithms (e.g. algorithms for optimizing charging and discharging cycles, fast-charging technologies)
- Thermal Management of Batteries (e.g. thermal control techniques to prevent overheating and enhance efficiency)
- Fault Detection and Diagnostics (e.g. early detection of battery faults, diagnostic tools)
- Integration of Battery Systems with Renewable Energy Sources (e.g. integrating batteries with solar, wind, and other renewable energy systems, grid integration control)

- Applications (e.g. electric vehicles, power supply in telecommunication infrastructure, aircraft and satellites' on-board power system)

SUBMISSION

Papers must be submitted electronically for peer review through PaperCept by **February 03, 2024:** **http://controls.papercept.net/conferences/scripts/start.pl**. In PaperCept, click on the **CoDIT 2024 link "Submit a Contribution to CoDIT 2024" and follow the steps.**

IMPORTANT: All papers must be written in English and should describe original work. The length of the paper is limited to a maximum of 6 pages (in the standard IEEE conference double column format).

DEADLINES

February 03, 2024: deadline for paper submission

April 14, 2024: notification of acceptance/reject

May 10, 2024: deadline for final paper and registration