



Call for Papers for the Special Session on

INNOVATIVE ENERGY STORAGE FOR DATA CENTER APPLICATIONS

Organized and co-chaired by

Said Al-Hallaj, Founder/CEO NETenergy, Chicago, IL USA

said@netenergytes.com

Mohammad Shadmand, Associate Professor of Electrical Engineering, University of Illinois at Chicago (UIC)

shadmand@uic.edu

Technical Outline of the Session and Topics

This special session will focus on advanced power-electronics and energy storage architectures that:

- Enable fast grid interconnection through peak shaving and demand shaping
- Mitigate high ramp-rate AI load transients
- Integrate battery and thermal storage
- Improve power quality under high-density rack loads
- Reduce grid congestion and infrastructure upgrade requirements
- Support grid services (frequency regulation, voltage support, synthetic inertia)
- Power quality mitigation under ultra-high rack density
- Energy storage sizing and techno-economic optimization

Topics of the session include, but are not limited to:

- Electrical energy storage systems
- Thermal energy storage
- Power electronic converters
- Grid-forming and grid-supporting inverters
- DC microgrids and hybrid AC/DC architectures

Timeline for Authors

All the instructions for paper submission are available on the conference website. Please visit www.iecon2026.org or scan the QR code for the timeline.

