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Call for Papers for the Special Session on

Advanced Multilevel Converters for Green Energy Integration: Topology, Modulation, Control Strategies, and Applications

Organized and co-chaired by

Mohamed Trabelsi, Kuwait College of Science and Technology m.trabelsi@kcst.edu.kw
Hani Vahedi, Delft University of Technology hani.vahedi@ieee.org
Hamza Makhamreh, Özyeğin University hamza.makhamreh@ozyegin.edu.tr

Technical Outline of the Session and Topics

With the increasing demand for green energy solutions, multilevel converters (MLCs) play a crucial role in improving energy efficiency and grid integration of renewable energy sources. The transition from isolated DC sources to voltage-controlled capacitors reduces cost and enhances system reliability. Furthermore, novel modulation and control techniques enable superior energy management for electrified transportation and energy storage applications.

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

- Multilevel converters for renewable energy integration and grid stability
- High-efficiency converter topologies for energy storage systems (ESS) and electric vehicles (EVs)
- Advanced modulation and control techniques for balancing auxiliary capacitors in MLCs
- Hybrid AC/DC microgrids utilizing advanced MLCs
- Electrified transportation applications including traction inverters and onboard chargers
- Multilevel rectifier technologies with improved power quality
- DC-link voltage regulation strategies for floating capacitor-based MLCs
- Multiport converter solutions for hybrid energy sources (solar, wind, battery, and hydrogen systems)
- AI-based control and fault diagnostics in MLCs
- Emerging trends in solid-state transformer-based multilevel converters

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.