28th IEEE International Conference on Industrial Technology (ICIT 2027)

Special Session on

Advanced Control, Optimization, and Energy Management for Renewable Energy Systems

Organized by

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Call for Papers

This Special Session focuses on advanced control, intelligent optimization, and automation technologies for sustainable energy generation, conversion, storage, and management, with particular emphasis on renewable and integrated energy systems. It welcomes innovative theoretical, computational, and experimental contributions involving model predictive control, robust and adaptive control, distributed and hierarchical architectures, real-time optimization, artificial intelligence, and data-driven methodologies. The session aims to foster scientific exchange on emerging challenges and solutions that enhance energy efficiency, operational resilience, reliability, flexibility, and sustainability, accelerating the transition toward intelligent, low-carbon, and highly integrated energy infrastructures.

Topics of interest include, but are not limited to:

- Control and optimization of photovoltaic energy systems, including power electronic converters
- Energy management, coordination, and distributed control of renewable-energy microgrids
- Resilient and fault-tolerant operation of wind energy conversion systems
- Control and optimization of electrochemical energy-storage systems
- Hydrogen production, storage, conversion, and management
- Control of solar-thermal and hybrid solar-energy systems
- Control and optimization of bioenergy and waste-to-energy systems
- Model predictive, robust, adaptive, distributed, and learning-based control of renewable energy systems

- Real-time optimization, economic model predictive control, and optimal scheduling
- Data-driven modeling, monitoring, forecasting, and system identification
- Digital twins for renewable generation, storage, and energy-management systems
- Artificial intelligence and reinforcement learning for energy systems
- Fault detection, diagnosis, prognosis, and fault-tolerant control
- Integration and coordinated operation of multi-energy systems
- Experimental validation, hardware-in-the-loop testing, and real-world applications

Submission Procedure:

All the instructions for paper submission are included in the conference website:
https://icit2027.ieee-ies.org/

Deadlines:

- **Special Session Paper Submission Deadline:** November 16, 2026
- **Special Session Acceptance Notification:** December 11, 2026
- **Conference Dates:** March 17–19, 2027