

CALL for PAPERS



IEEE ENERGY CONVERSION CONGRESS & EXPO



PROVIDENCE, RHODE ISLAND, SEP. 12-16

The Nineteenth Annual IEEE Energy Conversion Congress and Exposition (ECCE 2027) will be held in Providence, Rhode Island, USA, from September 12 to September 16, 2027. ECCE is a pivotal international event on energy conversion. ECCE 2027 will feature both industry-driven and application-oriented technical sessions, as well as an exposition. The conference will bring together practicing engineers, researchers, and other professionals for interactive and multidisciplinary discussions on the latest advances in energy conversion. Technical papers are solicited on any subject pertaining to the scope of the conference, including, but not limited to, the following major topics.

Component, Converter and Subsystem Technologies

- Passive components, magnetics, and innovative materials
- Power conversion topologies, modulation, and control
- Wide- and ultra-wide-bandgap power devices, gate drivers, and integrated circuits
- Power electronic packaging integration, and high-density design
- Reliability, fault tolerance, advanced diagnostics, prognostics, and health management
- Rotating and linear electric machines
- Thermal management and advanced cooling technologies
- Electromagnetic interference, electromagnetic compatibility and insulation coordination
- Cyber-physical security and resilience of power electronic systems
- Digital twins, AI-assisted design, cloud-based tools, and real-time simulation for energy conversion systems
- Solid-state transformers, solid-state circuit breakers, and emerging converter technologies

Digest Submission:

Prospective authors are requested to submit a single-column digest using the provided template. The digest must not exceed five (5) pages, including references, and should summarize the proposed paper. It should include key equations, figures, tables, and references, as appropriate, but must not include author names or affiliations. Digests that do not conform to these requirements may be rejected without review. The digest must clearly state the objectives of the work, its significance in advancing the state of the art, the methods used, and specific results in sufficient detail. All digests will undergo a double-blind peer-review process to ensure a confidential and fair evaluation. Accepted papers that are presented at the conference will be submitted for inclusion in the IEEE Xplore Digital Library. Please refer to the conference website for detailed digest-submission instructions and any updates to the important dates.

IMPORTANT DATES

FEBRUARY
19
Digest
Submission

MAY
14
Author
Notification

JULY
2
Final Paper
with IEEE
Copyright
Forms

2027

Energy Conversion Systems and Applications

- Industrial motor drives and electrified industrial processes
- Medium- and high-voltage power conversion systems, including HVDC, FACTS, MVDC, solid-state transformers, and multi-terminal systems
- Power conversion architectures and high-density power delivery for data centers and AI computing systems
- Grid-interactive, resilient, and sustainable data centers, including onsite generation, energy storage, flexible loads, power quality, and thermal-energy coordination
- Energy storage systems and bidirectional power conversion
- Energy efficiency and electrification for commercial, industrial, agricultural, and transportation applications
- Critical power systems and resilient power infrastructure
- Artificial intelligence, machine learning, and data-driven methods in energy conversion
- Energy conversion for telecommunications and digital infrastructure
- Off-grid, remote, and energy-access systems
- Grid-forming converters, controls, stability, and system integration
- Electric vehicles and charging infrastructure
- Wireless power transfer
- Aerospace energy conversion systems
- Renewable & alternative energy systems
- Medical, IoT, and energy-harvesting applications
- Microgrids, hybrid AC/DC grids, and active distribution networks
- Sustainable design, lifecycle assessment, circularity, reuse, and recycling of power electronics

General Chair

Maryam Saeedifard
Georgia Institute of Technology, USA

General Co-Chair

Navid Zargari
Rockwell Automation, Canada

Technical Programs Co-Chairs

Robert S. Balog
Texas A&M University, USA

Mohammad Shadmand
University of Illinois Chicago, USA

Alireza Safee
Apple, USA

David Diaz Reigosa
University of Oviedo, Spain

Chiara Boccaletti
Sapienza University of Rome, Italy

Xiaonan Lu
Purdue University, USA



www.ieee-ecce.org/2027



ecce2027tpc@gmail.com