



IEEE ENERGY CONVERSION CONGRESS & EXPO PROVIDENCE, RHODE ISLAND, SEP. 12-16

CALL for SPECIAL SESSIONS

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. Special Sessions will highlight emerging technologies, industry-driven challenges, and timely cross-disciplinary topics in energy conversion. The program especially welcomes participation from manufacturers, utilities, government laboratories, standards organizations, start-ups, technology developers, and practicing engineers, together with academic experts.

To encourage broad participation and interactive discussion, Special Session presenters are not required to submit written papers, and presentation materials will not be included in the official conference proceedings. Each Special Session will be scheduled for one or two 90-minute slots, which may be held on the same day or on different days

IMPORTANT DATES

FEBRUARY
15
Proposal
Deadline

MAY
10
Notice of
Acceptance

2027

Session Formats

Proposals may use a variety of formats, including but not limited to:

1. Formal technical or industry presentations
2. Informal talks, with or without slides
3. Interactive question-and-answer panels
4. Moderated panel discussions or debates
5. Demonstrations, case-study roundtables, live polling, virtual tours, or other creative formats

Highly Encouraged Proposal Features

- Strong engagement from industry, government, utilities, standards bodies, or technology users
- A clear focus on emerging, timely, or fast-evolving topics
- Practical applications, deployment experience, demonstrations, or case studies
- Cross-disciplinary collaboration and perspectives beyond a traditional academic session
- Innovative and engaging session formats
- Clear audience value, learning outcomes, and takeaways

Discouraged Elements

- Topics that are not timely or do not offer a distinctive perspective
- Academic-style lecture sessions that duplicate regular technical tracks
- Repeat sessions from prior ECCE programs without substantial new content
- Sessions primarily intended to promote specific products or services
- Proposals with an unclear format, audience, or speaker plan

Suggested Topic Areas (not limited to):

AI, Automation & Digital Engineering

- AI/ML for design, control, diagnostics, and monitoring
- Digital twins, cloud/edge computing, and hardware-in-the-loop
- Robotics and motion control
- Design automation & autonomous manufacturing
- Trustworthy AI and cybersecurity for power electronic systems

Data Centers and Critical Digital Infrastructure

- Power conversion for AI data centers
- Onsite generation, storage, and flexible loads
- DC architectures, UPS, and GPU power delivery

Manufacturing and Industrial Electrification

- High-temperature processing, furnaces, and welding
- Electric and hybrid highway and off-highway equipment
- High-Power Industrial Electrification
- Sustainable manufacturing
- Advanced industrial electric machines

Transportation & Charging Infrastructure

- Megawatt charging for heavy-duty applications
- Bidirectional charging, V2G/V2X, and grid services
- New battery technologies, battery management, second life and recycling
- Dynamic and wireless charging
- Traction motors and condition monitoring

Other Areas

- Standards, regulation, and public policy
- Education and workforce development
- Entrepreneurship, commercialization, and business models
- Cross-Sector innovation ecosystems

Components, Packaging, and Reliability

- Wide- and ultra-wide-bandgap semiconductors
- Advanced passive components and materials
- Packaging, additive manufacturing and cooling
- EMI/EMC, insulation, and high-voltage design
- Reliability, fault tolerance, diagnostics and prognostics

Grid, Storage, and Resilient Energy Systems

- Grid-forming technologies and inverter-dominated grids
- Microgrids, hybrid AC/DC grids and grid resilience
- Energy storage and bidirectional power conversion
- Solid-state transformers and solid-state circuit breakers, MVDC, and HVDC
- Grid-enhancing technologies

Defense, Aerospace & Marine Electrification

- Electric aircraft, eVTOL, and space power systems
- High-power-density converters and machines
- Shipboard and submarine power systems
- UAVs, autonomous platforms, and directed-energy power system

General Chair

Maryam Saeedifard
Georgia Institute of Technology, USA

General Co-Chair

Navid Zargari
Rockwell Automation, Canada

Special Sessions Chairs

Yilmaz Sozer
The University of Akron, USA

Qichen Yang
University of Central Florida, USA

Yunting Liu
The Pennsylvania State University, USA

Special Session Proposal Template

Format: Max 5 pages, US letter or A4 size, 1" margins, single-spaced, Times New Roman, 11–12 pt font. A Word® template will be available on the ECCE 2027 website under "Call for Special Sessions."

For a full list of recommended sections, please visit the website



www.ieee-ecce.org/2027



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**All proposals must follow the posted guidelines and will be reviewed by a panel of experts based on timeliness, technical relevance, audience value, speaker readiness, and overall program fit.*