

## IMPORTANT DATES

**March 2, 2025**

Special Session Proposal Due

**May 25, 2025**

Notice of Acceptance



IEEE ENERGY CONVERSION CONGRESS & EXPO PHILADELPHIA, PA, USA OCT. 19-23



# CALL for SPECIAL SESSIONS



The 17th Annual IEEE Energy Conversion Congress and Exposition (ECCE) will take place at the Philadelphia Convention Center in Pennsylvania, USA, from October 19th to 23rd, 2025. This year's Special Sessions will emphasize emerging technologies and industry-focused topics from non-academic perspectives, including contributions from manufacturers, government research laboratories, start-ups, and industry practitioners. To facilitate broader participation, authors of Special Sessions are not required to submit written papers or materials. Additionally, any materials presented will not be included in the official conference proceedings. Each session will be allocated one or two 100-minute slots, scheduled on the same or different days, subject to the overall conference program.

### Different session formats are solicited:

- >> Formal presentations
- >> Informal talks with or without slides
- >> Full question and answer panel
- >> Panel debates
- >> Creative or hybrid presentation formats

### One or more of the following elements are strongly encouraged in the special session proposals:

- >> Substantial industry or government engagement
- >> Industrial application oriented
- >> Regionally oriented topics
- >> Collaborative cross-disciplinary topics or teams
- >> Innovative, industry-engaging formats

### Factors considered as less attractive to the audience are:

- >> Non-emerging topics
- >> Academic lectures
- >> Repetition of previous ECCE teams and topics
- >> Products-specific promotion

All special session proposals must be submitted through the web portal at <https://www.ieee-ecce.org/2025/call-for-special-sessions>. Submissions must follow posted guidelines and will be reviewed by a panel of subject matter experts.

### Potential topic areas include but are not limited to:

#### Advanced Technologies in Defense and Aerospace

- >> Electric ship propulsion
- >> Radar and laser power systems
- >> Directed energy weapons
- >> Submarine integrated power system (SIP)
- >> Drone and UAV
- >> Maritime electric reliability, quality, and suppression

#### Transportation

- >> All-electric aircraft and E-VTOL
- >> Safety-centric design for autonomous technology
- >> Grid and wireless charging
- >> Battery management and protection

#### Automation, AI, and Robotics

- >> Advances in power electronics and drives for automation.
- >> Electronic and drive fault, safety, and quality inspection.
- >> Battery systems technology for robotics

#### Manufacturing Processes

- >> Electric furnace smelting
- >> Arc welding and electric discharge machining
- >> Hydrogen generation (electrolyzers, fuel cells)

#### Infrastructure

- >> Renewable energy integration
- >> Smart grids, microgrids, and nanogrids
- >> Energy conversion for information technology
- >> Cybersecurity in critical infrastructure

#### Component, Converter, and Subsystems

- >> Ultra wide-bandgap (U-WBG) semiconductor development
- >> Power semiconductor devices, magnetics, capacitances
- >> Electric machines and drives
- >> Packaging, integration, and advanced manufacturing

#### Design

- >> EMI and EMC
- >> High voltage power conversion, including insulation systems
- >> Reliability, diagnostics, prognostics, and health management
- >> Thermal management and advanced cooling technologies
- >> Design automation using machine learning

#### Others

- >> Standards development
- >> Education and career development
- >> Entrepreneurship, technology transfer, and business management
- >> Online education technology innovations



[www.ieee-ecce.org/2025](https://www.ieee-ecce.org/2025)



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Naval Postgraduate School, USA

#### Special Session Chairs

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