

CALL FOR PAPERS

ECCE EUROPE 2025, 31 Aug. – 4 Sept. 2025, Birmingham, UK

About the Conference

ECCE Europe is Europe's leading power electronics conference, bringing together up to 1,000 experts globally to address climate and sustainability challenges. **ECCE Europe 2025 in Birmingham** will feature lectures, forums, exhibitions, and technical tours for exchanging insights across academia and industry.

Conference to Journal

IEEE PELS is offering a Conference-to-Journal opportunity for papers accepted to the ECCE Europe conference.

PELS welcomes post-conference papers to be submitted to their journals, including...

- IEEE Transactions on Power Electronics
- IEEE Open Journal of Power Electronics
- IEEE Journal of Emerging and Selected Topics in Power Electronics
- IEEE Transactions on Transportation Electrification



According to IEEE policy, the submitted journal manuscript should include the conference paper as a reference and clarify the new developments and contributions in the journal version.

Organization and Venue

Starting in 2024, IEEE PELS has launched a new partnership with the European Center for Power Electronics (ECPE) for its flagship European conference, **IEEE ECCE Europe**.

The 2025 conference will be held at the International Convention Centre in Birmingham, UK (<https://www.theicc.co.uk>).

All presentations, discussions, and materials will be in English.

For the latest information, visit www.ecce-europe.org.

Paper Digest

Prepare extended digests using the IEEE conference template, with a maximum length of 5 pages. (<https://www.ieee.org/conferences/publishing/templates.html>)

During submission, select up to three topics/sub-topics and indicate a preference for dialogue or lecture format. Final presentation format will be decided by the organizing committee.

The final paper may consist of up to 6 pages.

Paper Submission

<https://www.conftool.org/ecce-europe-2025/>



Important Dates

25 February 2025

Deadline: extended digest

25 April 2025

Notification of acceptance

10 June 2025

Deadline: full paper



Technical papers are solicited on any subject pertaining to the scope of the conference including, but not limited to, the following major topics:

I Converter Components

1. Power Devices, Components and Packaging

- a) Passive Components
- b) Active Devices and Components (Si)
- c) Active Devices and Components (Wide Bandgap and other)
- d) New Materials)
- e) Components and Devices for Specific Applications
- f) System Integration, Packaging & Thermal Management
- g) Gate Drives

2. Power Converters Topologies

- a) Modular Multilevel Converters
- b) Solid State Transformers
- c) Grid-Tie Converters
- d) Resonant Converters
- e) HF Power Converters
- f) Wide-Band Gap Power Electronics
- g) EMI/EMC including HF Phenomena

3. Converter Modelling, Simulation and Design

- a) Converter Design and Optimization
- b) Converter Modelling
- c) Standardized Data Model for Components / Electronic Data Sheets

4. Measurement, Supervision and Control for Power Converters

- a) Advanced Modulation Techniques
- b) Advanced Current / Voltage / Synchronization and Control Techniques
- c) Estimation, Identification and Optimization Methods
- d) Measurement Techniques, Sensors, and State Observers

5. Data Analysis, Artificial Intelligence and Communication

- a) Data Analysis Applied to Power Electronics and Drive Systems
- b) Application of Artificial Intelligence to Power Electronics and Drive Systems
- c) Communication for Power Electronics and Drive Systems
- d) Wireless Control of Power Electronics Systems
- e) Diagnostics of Power Electronics Systems
- f) Digital Twin of Power Electronic Converters and Systems
- g) Big Data and Artificial Intelligence in Energy Conversion

6. Sustainability of Power Converters

- a) Energy and Carbon Footprint Estimation of Converter Manufacturing and Life Cycle Analysis (LCA)
- b) Estimation of Efficiency and Power Losses during Operation
- c) Recycling Capability and Methods
- d) Efficient Use of Material, esp. Rare Materials
- e) Circular Economy
- f) Condition Monitoring, Reliability & Life-Time Prediction

7. Manufacturing

- a) Internet of Things and Cloud Computing Applied to Power Electronics Manufacturing
- b) Additive Manufacturing and the use of Advanced Assembly Robots
- c) Cyber-Physical Systems
- d) More Intelligent Automation and Process Control
- e) Automated Disassembly Techniques for End-of-Life Systems

II Converter Applications

8. Electrical Machines and Drive Systems

- a) Electrical Machines and Actuators
- b) Adjustable-Speed Drives and Converter-Machine Interactions (dv/dt, Bearing Currents)
- c) Design, Optimization and Control of Electrical Drives
- d) Condition Monitoring and Life-Time Prediction of Drives

9. Renewable Energy Power Systems

- a) Wind Energy Systems
- b) Solar Energy Systems
- c) Energy Storage Systems for Renewable Energy
- d) Energy Management Systems
- e) Energy Harvesting
- f) Power-to-X
- g) Other Renewable Energy Systems

10. Power Electronics in Transmission and Distribution Systems

- a) HVDC, FACTS, Solid State Transformers and Hybrid Circuit Breakers
- b) Grid Supporting and Grid Forming Converters
- c) Smart Grids
- d) AC and DC Distribution and Micro Grids, including Fault Coordination and Protection
- e) Power Quality Issues and Power Factor Correction
- f) Stationary Charging Power Stations and Stationary (Ultra) Fast Chargers, Bidirectional V2G
- g) Smart and Energy Efficient Buildings
- h) Real-Time Simulation and Hardware in the Loop

11. E-Mobility and Propulsion Systems

- a) Electric Drive Trains for Passenger and Light Duty Vehicles
- b) Electric Drive Trains for Heavy Duty Vehicles and Buses
- c) Electric Drive Trains for Rail Vehicles
- d) Electric Drive Trains for Aerospace Applications (Aircrafts, Drones)
- e) Electric Drive Trains for Marine Applications (Offshore, Subsea and Ships)
- f) On-Board Chargers (wired)
- g) Wireless Power Transfer Systems
- h) On-Board DC-Voltage Networks
- i) Smart Charging and Vehicle to X (Home, Load) Interaction
- j) Batteries: Management Systems (BMS), Monitoring and Lifetime Prediction (SOC, SOH)
- k) Fuel Cells: Converters, Control, Diagnostics and System Integration
- l) Power Electronics for Vehicle-Integrated PV (VIPV)

12. Power Supplies and Industry-Specific Applications

- a) Stationary Battery Systems, Electrolyzer and Fuel Cells
- b) DC Power Supplies
- c) Distributed Power Supplies
- d) Data Centers
- e) Uninterruptible Power Supplies (UPS)
- f) Solid-State Lighting and Electronic Ballasts
- g) Industry-Specific Applications (Cement, Steel, Paper, Textile, Mining, etc.)
- h) Applications in Physics Research and Related Areas
- i) Home Appliances (Inductive Heating, HVAC and Heat Pumps)
- j) Biomedical Applications
- k) DC-Grids in Industrial Applications
- l) Pulsed Power for Manufacturing

Further information on scientific/program and the organizing committees as well as latest updates on tutorials, program, etc. can be accessed on the conference website.

