

CALL FOR PAPERS

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

Aim of the Conference

Power electronics is at the forefront of addressing humanity's most pressing issues: climate change and sustainability. The electrification of our world is accelerating, and the use of renewable energy will be the fundament of our future energy backbone.

The ECCE series of power electronics conferences are among the largest in the world, and ECCE Europe is the flagship conference in Europe for power electronics, attracting up to 1000 experts from Europe and other regions of the world.

ECCE Europe 2025 is aimed at exchanging ideas and experience among senior professionals, young scientists, PhD candidates and researchers from industry and academia working in all areas of power electronics. During ECCE Europe 2025 in Birmingham there will be opportunities to converse about topics in our fascinating area of work, through lecture- and dialogue sessions, industrial forums and exhibition, technical tours and tutorials.

Tutorials

Several tutorials will be available on Sunday, 31st of August 2025, prior to the conference.

Scholars and experts who are intending to propose a tutorial related to all topics of the conference at ECCE Europe 2025 are cordially invited to send a proposal to tutorials@ECCE-europe.org

The proposal must consist of a summary (maximum of three-pages) including tutorial title, name and affiliation of the lecturer(s), tutorial objectives and audience, topical outline and provisional schedule of the tutorial.

 Please send the proposals until 1 April 2025.

Organization and Venue

Commencing in 2024, IEEE PELS is embarking on a new collaboration with the European Center for Power Electronics (ECPE) for the PELS flagship conference in Europe: IEEE ECCE Europe.

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

The conference language is English in all presentations, discussions, and materials.

Further and up-to-date information can be obtained from the website www.ecce-europe.org/2025

Important Dates

-  **25 February 2025**
Deadline: extended digest
-  **25 April 2025**
Notification of acceptance
-  **10 June 2025**
Deadline: full paper

Presentation of Papers

Extended digests should be prepared using the IEEE conference template available at <https://www.ieee.org/conferences/publishing/templates.html>. The sub-maximum length of the extended digest is limited to 5 pages.

During digest submission, the topic and sub-topic (up to three topics / sub-topics) should be selected. Furthermore, it should be made a preference for dialogue or lecture presentation during the paper upload. However, the final decision is up to the organization committees based upon the final composition of the sessions.

The final paper can consist of up to 6 pages.

General Chairs

Prof. Volker Pickert, Newcastle University
Prof. Pat Wheeler, University of Nottingham



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 New Materials)
 - d) Components and Devices for Specific Applications
 - e) System Integration, Packaging & Thermal Management
 - f) 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.