

Newsletter n° 2

February 2023

NEWSLETTER

EPE' **23** ECCE Europe



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EPE Association: Join EPE or renew your membership



- ✓ Be part of a network of recognized experts
- ✓ Online access to EPE (ECCE) Conference Proceedings
- ✓ Online access to EPE-PEMC Conference Proceedings
- ✓ Reduced registration fees for EPE Conferences
- ✓ Online access to EPE Journal articles
- ✓ EPE Secretariat service
- ✓ And much more ...

[Join EPE Association](#)

EPE'23 ECCE Europe: Welcome to Aalborg [video]

General Conference Chairman Francesco Iannuzzo invites the Power Electronics Community to come to EPE'23 ECCE Europe in Aalborg, Denmark, September 4 to 8, 2023

**EPE 2023
ECCE Europe**
September 4th – 8th, 2023
Aalborg, Denmark

The 25th European
Conference on Power
Electronics and
Applications

www.epe2023.com

Important dates

- March 2nd, 2023**
Full-paper submission deadline
- April 26th, 2023**
Acceptance notification
- June 1st, 2023**
Final paper submission

0:00 / 2:57

Highlighted Focus Topics

The conference will highlight several Focus Topics. Submissions related to these Focus Topics are especially encouraged. These topics have been selected as follows:

Energy Islands (Tuesday, 5 September 2023)

1. Renewable Energy systems and Power-to-X
2. Energy Islands

Energy Storage (Wednesday, 6 September 2023)

3. Energy-storage technologies
4. Electric Vehicles

Digital world in Energy (Thursday, 7 September 2023)

5. Cyber Security in Power Electronics
6. Reliability and Artificial Intelligence in Power Electronics

EPE'23 ECCE Europe: Mirror website

We experienced some compatibility issues on our official www.epe2023.com website. Should your browser not be working properly, you will find a lightened version on www.epe2023-aalborg.com. The organizing committee will ensure that the contents will always be kept aligned.

EPE'23 ECCE Europe: Call for Papers

Organisation and Venue

Welcome back to the land of wind and green energy! After a successful EPE ECCE Europe conference in 2007, the Power Electronics community will gather again in Aalborg, Denmark, from September 4 to 8, 2023, to exchange views on research progress and technological developments in the various topics described hereunder.

On Monday, September 4th, several tutorials will be organized, and some exciting technical visits are planned for Friday, September 8th.

The 25th Conference on Power Electronics and Applications (and Exhibition), EPE '23 ECCE Europe (Energy Conversion Congress and Expo Europe) is co-sponsored by the EPE Association and the IEEE Power Electronics Society (PELS).

The conference will take place at the AKKC – The Aalborg Congress and Culture Center, in Aalborg, Denmark. (Info at <http://uk.akkc.dk>)

Aims of the conference

The EPE ECCE Europe conference is one of the largest in the world, attracting around eight hundred experts from numerous countries every year. Aiming at exchanging experience among fellow professionals and academics, and bearing in mind the present and future role of power electronics in the big energy transition the world is looking forward to, the EPE ECCE Europe conference is the privileged place to achieve this goal. EPE'23 ECCE Europe in Aalborg will provide the opportunity to discuss hot topics through the lecture- and poster sessions, the exhibition, the industrial forums and the tutorials.

Topics

Electrification of society is progressing fast, also pushed by the recent demands at the environmental level, both in terms of reduction of CO₂ emissions and energy-production sustainability. Novel battery systems are being developed not only for drones, passenger cars and heavy-duty vehicle applications, but also for stationary storage applications. For vehicle applications, high-power charging stations are being developed to reduce charging time. Bidirectional V2X charging systems allow for better grid management and, when combined with smart charging, for an increased share of renewables in the electricity mix. Power electronics interfaces, with their emerg-ing wide bandgap (WBG) technologies, such as SiC and GaN, are a key element in these developments towards high energy-efficiency systems. The reliability aspect has become more

and more crucial in these and many other applications. Alternatives to fossil fuels are being planned in Power-to-X plants where 100's of MW power electronic systems are needed for running the plants. All the above challenges lead to a complex scenario, where expertise at different levels, from materials to management and optimization, are heavily demanded. On top of the tutorials, lecture and dialogue sessions and technical visits, the organising committees will propose several discussion sessions within the industrial forums as well as special sessions of power electronics related trends.

The conference will specifically focus on the following challenging topics:

Tuesday, September 5th: Energy Islands

(Renewable Energy Systems and Power-to-X, Energy Islands)

Wednesday, September 6th: Energy Storage

(Energy-Storage Technologies, Electric Vehicles)

Thursday, September 7th: Digital World in Energy

(Cyber Security in Power Electronics, Reliability and Artificial Intelligence in Power Electronics)

I POWER ELECTRONICS COMPONENTS AND CONVERTERS

Topic 1: DEVICES, COMPONENTS, PACKAGING AND SYSTEM INTEGRATION

- 1.a. Passive Components
- 1.b. Active Devices and Components (Si)
- 1.c. Active Devices and Components (Wide Bandgap and other New Materials)
- 1.d. Components and Devices for Specific Applications, including for Pulsed Power
- 1.e. System Integration, Packaging & Thermal Management
- 1.f. Reliability & Life-Time

Topic 2: POWER CONVERTERS TOPOLOGIES

- 2.a. Modular Multilevel Converters
- 2.b. Solid State Transformers
- 2.c. Grid Connected Converters
- 2.d. Resonant Converters
- 2.e. HF Power Converters
- 2.f. Wide-Band Gap Power Electronics

Topic 3: CONVERTER MODELLING, DESIGN AND LOW-LEVEL CONTROL

- 3.a. Converter Design and Optimisation
- 3.b. Converter Modelling and Low-level Control, including Gate-Drives
- 3.c. EMI/EMC in Power Electronics including HF Phenomena

Topic 4: MEASUREMENT, SUPERVISION AND CONTROL FOR POWER CONVERTERS

- 4.a. Standard and Advanced Modulation Techniques
- 4.b. Standard and Advanced Current / Voltage / Synchronization Control Techniques
- 4.c. Estimation, Identification and Optimisation Methods
- 4.d. Measurement Techniques, Sensors and State Observers
- 4.e. Condition Monitoring and Life-Time Prediction

II POWER ELECTRONICS APPLICATIONS

Topic 5: ELECTRICAL MACHINES AND DRIVE SYSTEMS

- 5.a. Electrical Machines and Actuators
- 5.b. Adjustable-Speed Drives and Converter-Machine Interactions
- 5.c. Design, Optimisation and Control of Electric Drives
- 5.d. Condition Monitoring and Life-Time Prediction

Topic 6: RENEWABLE ENERGY POWER SYSTEMS

- 6.a. Wind-Energy Systems
- 6.b. Solar-Energy Systems
- 6.c. Energy Storage Systems for Renewable Energy

- 6.d. Energy Management Systems
- 6.e. Energy Harvesting
- 6.f. Power-to-X
- 6.g. Other Renewable-Energy Systems

Topic 7: POWER ELECTRONICS IN TRANSMISSION AND DISTRIBUTION SYSTEMS

- 7.a. HVDC, FACTS, Solid State Transformers and Hybrid Circuit Breakers
- 7.b. Smart Grids
- 7.c. AC and DC Distribution and Micro Grids, including Fault Coordination and Protection
- 7.d. Power Quality Issues and Power Factor Correction Techniques
- 7.e. Charging Power Stations, Bidirectional V2G
- 7.f. Energy Harvesting, Energy Storage Systems and Renewable
- 7.g. Smart and Energy Efficient Buildings
- 7.h. Real-Time Simulation and Hardware in the Loop

Topic 8: E-MOBILITY

- 8.a. Electric Drive Trains for Passenger and Light Duty Vehicles
- 8.b. Electric Drive Trains for Heavy Duty Vehicles and Buses
- 8.c. Electric Drive Trains for Rail Vehicles
- 8.d. Electric Drive Trains for Aerospace Applications (Aircrafts, Drones)
- 8.e. Electric Drive Trains for Marine Applications (Offshore, Subsea and Ships)
- 8.f. On-Board Power Converters, WBG Technology as well as
- 8.g. Vehicle Battery Chargers: On-Board (Wired and Inductive) and Stationary (Ultra) Fast Chargers
- 8.h. Smart Charging and Vehicle to Grid Interaction
- 8.i. Batteries: Management Systems (BMS), Monitoring and Life-Time Prediction
- 8.j. Fuel Cells: Converters, Control, Diagnostics and System Integration

Topic 9: POWER SUPPLIES AND INDUSTRY-SPECIFIC APPLICATIONS

- 9.a. Wireless Power Transfer Systems
- 9.b. Applications for Electrolyzers and Fuel Cells
- 9.c. Applications in Hydrogen Storage and Transmission
- 9.d. Low Voltage DC Power Supplies
- 9.e. High Voltage DC Power Supplies
- 9.f. Distributed Power Supplies
- 9.g. Uninterruptible Power Supplies (UPS)
- 9.h. Lighting: Solid-State Lighting and Electronic Ballasts
- 9.i. Industry-Specific Applications (Cement, Steel, Paper, Textile, Mining, etc...)
- 9.j. Applications in Physics Research and Related Areas

Topic 10: DATA ANALYSIS, ARTIFICIAL INTELLIGENCE AND COMMUNICATION

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

Topic 11: FOCUS TOPICS

- 11.a. Renewable Energy Systems and Power-to-X
- 11.b. Energy Islands
- 11.c. Energy-Storage Technologies
- 11.d. Electric Vehicles
- 11.e. Cyber Security in Power Electronics
- 11.f. Reliability and Artificial Intelligence in Power Electronics

Guidelines to submit a Provisional Full Paper

The guidelines to write and submit a Provisional Full Paper for EPE'23 ECCE Europe can be found [HERE](#)
For the submission website, please click [HERE](#)

ONLY Deadline for Submission: **Thursday, the 2nd of March 2023**

For the list of topics of EPE'23 ECCE Europe, please click [HERE](#)

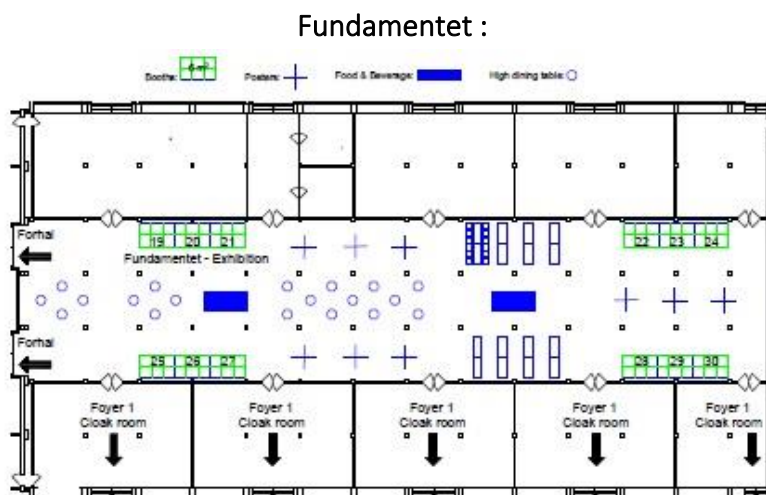
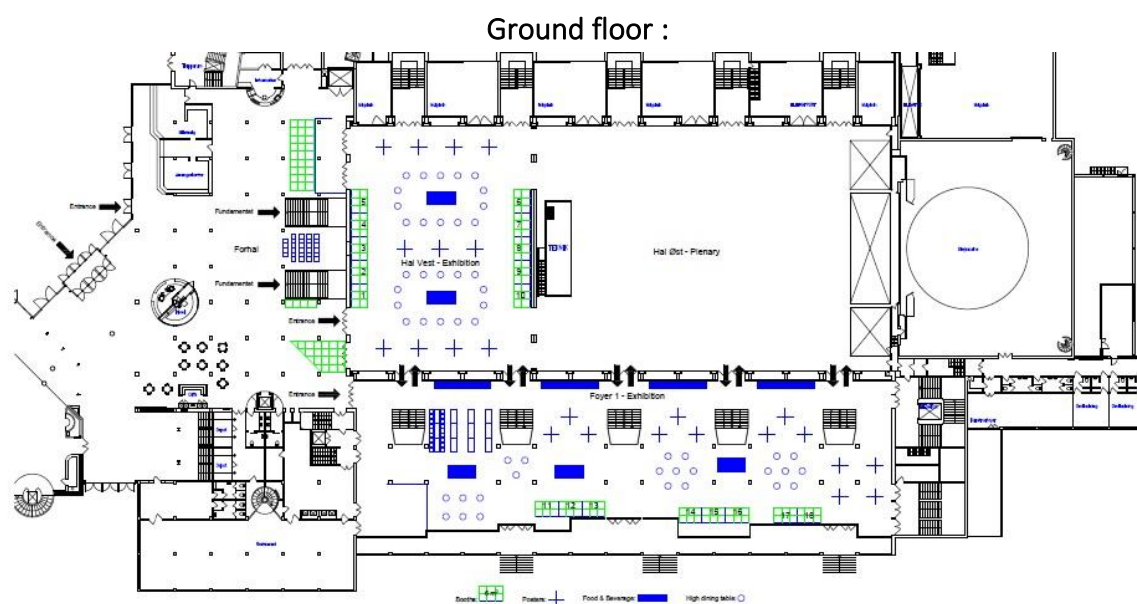
Sponsorship and Exhibition

The EPE'23 ECCE Europe conference will take place in the [AKKC – The Aalborg Congress and Culture Center](#), in Aalborg, Denmark from 4 to 8 September 2023. The exhibition area can host up to 30 booths and has place for standing lunches and breaks to up to 1000 participants. The exhibition will take place on the Ground Floor and in the “Fundamentet” area of the Conference Center.

For the General Information & Tariffs & Packages, please click [HERE](#)

For the Application Files, please click [HERE](#)

Sponsorship & Exhibition contact: Nancy.Langsborg@vub.be





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Exhibitors

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ECPE: Calendar of Events 2022-2023

What?	Where?	When?
ECPE Tutorial: Gate Drivers and Control Circuits of IGBTs and MOSFETs	Milan, Italy	28/02/2023 – 01/03/2023
Hybrid Event ECPE Workshop: Low Voltage DC Grids for Industry and Office	Sindelfingen, Germany	07/03/2023 – 08/03/2023
Hybrid Event ECPE SiC & GaN User Forum: Potential of Wide Bandgap Semiconductors in Power Electronic Applications	Erding/Munich, Germany	28/03/2023 – 29/03/2023
ECPE Tutorial: EMC in Power Electronics	Cambridge, UK	19/04/2023 – 20/04/2023
ECPE Tutorial: High-Precision Power Electronics	Eindhoven, Netherlands	25/04/2023 – 26/04/2023
ECPE Lab Course: EMC Optimised Design (Parasitics in Power Electronics)	Berlin, Germany	22/06/2023 – 23/06/2023



Future & Technically Sponsored Conferences

ICPE 2023

The 11th International Conference on power Electronics – ECCE Asia

ICPE 2023 -  

22 to 25 May 2023

Jeju, Korea

Website: www.icpe-conf.org



EPE'23 ECCE Europe

The 25th European Conference on Power Electronics and Applications



4 to 8 September 2023

Aalborg, Denmark

Website: www.epe2023.com

ECCE 2023

The 15th Annual Energy Conversion Congress and Exposition



IEEE ENERGY CONVERSION CONGRESS & EXPO Nashville, TN | OCT.29-Nov.2

29 Octobre to 2 November 2023

Nashville, TN, USA

Website: <https://www.ieee-ecce.org/2023/>