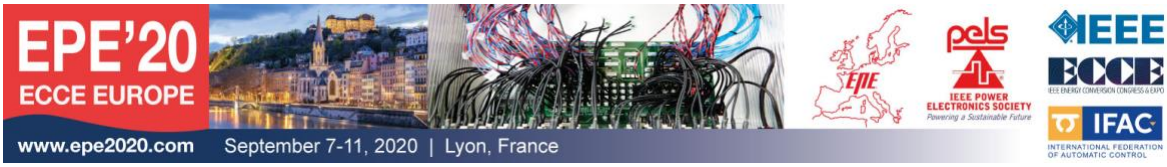


The 22nd European Conference on Power Electronics and Applications
EPE'20 ECCE Europe
FULL VIRTUAL | 7 – 11 September 2020

Register here

NEWSLETTER CONTENTS :

What's important:

- ✓ The **EPE'20 ECCE Europe Full papers** are accessible for the participants who are duly registered to the conference since the 24 August 2020.
- ✓ Not yet familiar with the two platforms : Whova© and Zoom© we will use for the conference? **Click here** for the special attendees guided tour of **Whova**
- ✓ Before the Virtual EPE'20 ECCE Europe Conference, five different **Tutorials** will be organized on Monday 7 September 2020. **Deadline for registration: Wednesday 2 September 2020**
- ✓ An **Industrial Forum-day** will be organized on Friday 11 September with several discussion sessions about technical issues and challenges of three hot topics, discover them: **Click here**

1 EPE'20 ECCE Europe: Full papers accessible On-line

The EPE'20 ECCE Europe Full papers are accessible online via this link:
https://epe-ecce-conferences.com/epe2020/technical-programme/

The participants who are duly registered for EPE'20 ECCE Europe have, since the 24th of August 2020, access to the scientific papers of the EPE'20 ECCE Europe conference. The papers are accessible through the dynamic programme on-line with your EPE conference-login and password.

2 Attendees guided tour of Whova

Due to the COVID-19 pandemic, the conference will take place virtually using two platforms: Whova© and Zoom©.

- **Whova©**, the Event Management System (EMS), will allow attendees to access the program, interact with each other, the speakers and the organizers and also access the live Q&A sessions. In particular, the features offered by Whova are as follows:
  - Accessible on phones (IOS, Android), tablets or laptops (for optimal experience, we strongly advise to use **Chrome**)
  - View the conference **agenda** and plan your schedule
  - Access **Livestreams and Videos (Pre-recorded Presentations)** directly within sessions and use the **session Q&A**
  - Set up **Virtual meet-ups** with your fellow attendees to connect remotely
  - Create and chat through various **Discussion Topics** in the **Community Board**
  - Please check the following guide to know more about Whova©: How-to-guide
- **Zoom©** will be the main videoconferencing software used for the tutorials and Q&A sessions of the conference. To access Zoom© sessions, you will need a meeting link provided for participants in the Whova© application.

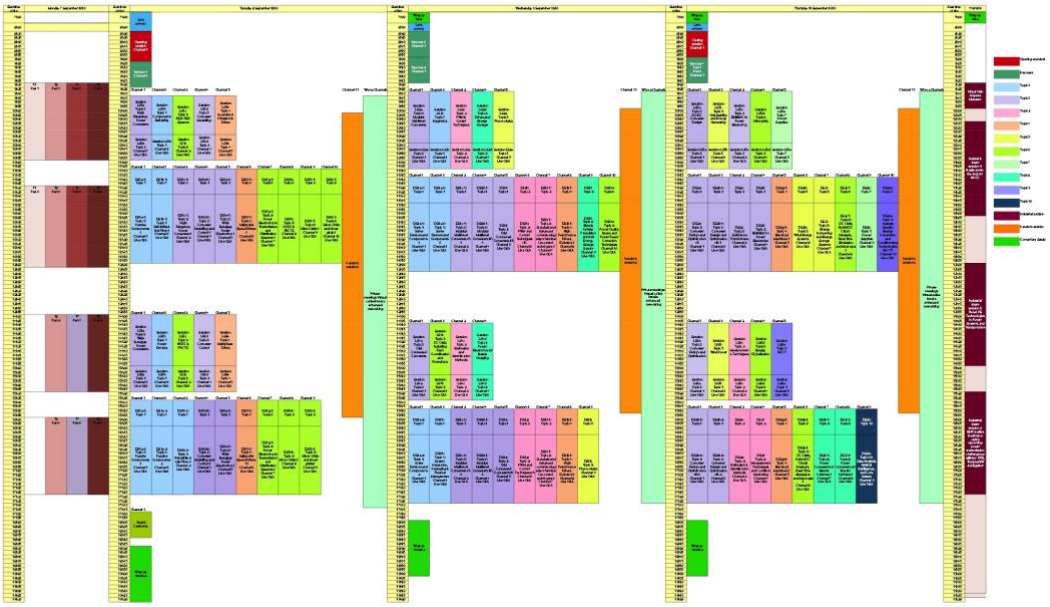
Important!

At the beginning of September each confirmed attendee will receive by email an invitation to connect to the Whova© EPE 2020 platform !

3 EPE'20 ECCE Europe: The Provisional Programme is on-line

Our International Scientific Committee gathered at the beginning of February in Brussels and the Technical Programme Schedule has been defined.

You will find the timetable via this link:
https://epe-ecce-conferences.com/epe2020/technical-programme



4 Industrial Forum

The EPE ECCE Europe conference brings together researchers, engineers, etc. working at the forefront of power electronics technologies. With the objective to exchange and meet fellow professionals and academics and on top of the tutorials, lecture and dialogue sessions, the organising committees **will propose several discussion sessions within the industrial forums on Friday 11 September 2020.**

Hardware-in-the-loop demonstration of non-selective protection systems for meshed HVDC grids

Session 1 | 10:15 – 12:05

This session shows the results of a Hardware-in-the-loop demonstration of non-selective protection systems for meshed HVDC grids which was performed within PROMOTioN Project.
The objective of the WP9 of PROMOTioN project is to demonstrate operation of the DC grid protection systems developed in the project using hardware in the loop real-time methods and in which a plurality of protection methods (or strategies) are tested: A Non-selective fault clearing strategies demonstration tests are carried out at the SuperGrid Institute (France), including Converter Breaker Strategy (CBS) and Full-Bridge MMC-based Strategy (FBS). During this session, live demonstration with pedagogic explanations and video sequences will be provided to restore the different elements of the validation: supervised start-up of the MTDC, fault-clearing strategies, and voltage and power restoration. Also in this session, you will have the opportunity to exchange and ask questions to the **PROMOTioN project members**.

Novel power electronics technologies in power systems and transportation

Session 2 | 13:00 – 15:00

This session which is proposed by SuperGrid Institute will discuss how Power systems and transportation are changing with a significant contribution of power electronics. The power electronics converters are expected to be efficient, reliable and cost effective. The innovations in the domain are ranging from grid architectures, converter topologies and converter technologies. This session will provide some insights from the industry perspective through several presentations and a panel discussion. The session will give the opportunity for the power electronics community to exchange on the experience of the innovative industrial companies such as: **Compagnie Nationale du Rhône (France), ABB Power Grids Research (Sweden), Alstom (France), Siemens AG – Corporate Technology – Power Electronic Systems (Germany), Schneider Electric-Power Systems Center (France) and General Electric – Power Conversion (UK)** and in different areas : Role of power electronics in future power grids and these power network will evolve, Energy management in railways system, DC grids application fields and new structures/topologies in PV power plants**.**

EMT-studies roadmap to tackle upcoming power transmission challenges at utilities - RTE, TransnetBW and Equinor

Session 3 | 15:30 – 17:30

This session will discuss modelling, simulation and studies within R&D activities of TSOs of power systems with more share of power electronic based equipment such as HVDC links, static VAR compensators and wind power plants. The French TSO (Transmission System Operator) RTE has considered electromagnetic transient (EMT) tools which offer detailed modelling HV components and controls while maintaining a good compromise between robustness, accuracy, and flexibility. EMT simulation can be performed in offline and in real-time mode to meet different study objectives. This session will provide an overview on interaction assessment related to VSC-HVDC links and practical experiences for real HVDC projects will be also presented. You will be able to exchange and ask questions to expert from **RTE, TransnetBW and Equinor in subjects such as** : Interaction studies between HVDC-LCC and HVDC-VSC links, Parallel connection of 2 HVDC-VSC links in an islanded grid, Interoperability of multivendor HVDC Systems and Usage of EMT tools during different project phases.

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5 Tutorials

Several tutorials will be organized on Monday 7 September 2020:

TUTORIAL N° 1 – Characterization and impact of SiC and GaN on Power Drive Systems
(Morning)

- Bernardo Cougo, IRT Saint-Exupery (in Toulouse, France)

TUTORIAL N° 3 – Control of Modular Multilevel Converters for Variable-Voltage Variable-Frequency Applications
(Full day)

- Prof. Dr.-Ing. Axel Mertens, Institute for Drive Systems and Power Electronics, Leibniz University Hannover, Hannover, Germany
- Dr.-Ing. Jakub Kucka, Institute for Drive Systems and Power Electronics, Leibniz University Hannover, Hannover, Germany
- Dr.-Ing. Dennis Karwatzki, Siemens AG, Large Drive Applications, Nuremberg, Germany

TUTORIAL N° 4 – Electronic Design Automation and optimization algorithms for the next generation of optimal power converters
(Morning)

- Dr. Ing. Timothe Delaforge, Senior researcher Bern University of Applied Sciences, Switzerland

TUTORIAL N° 5 – Model Predictive Control of Power Electronic Systems
(Full day)

- Tobias Geyer, ABB Corporate Research, ABB Switzerland Ltd., 5405 Baden-Dättwil, Switzerland
- Petros Karamanakos, Faculty of Information Technology and Communication Sciences, Tampere University, 33101 Tampere, Finland

TUTORIAL N° 7 – Reliability-Oriented Thermal Modelling of Power Electronics Systems
(Afternoon)

- Dr. Amir Sajjad Bahman, Center of Reliable Power Electronics (CORPE), Aalborg University, Denmark
- Prof. Francesco Iannuzzo, Center of Reliable Power Electronics (CORPE), Aalborg University, Denmark

6 Convenient Sessions

For our Asian and American participants, “Convenient Sessions” are planned during the main conference days at the following moments:

- Tuesday 8 September 2020 – 18:20-19:30 CET: Wrap-up America (Channel 1)
- Wednesday 9 September 2020 – 07:00-08:00 CET: Wrap-up Asia (Channel 1)
- Wednesday 9 September 2020 – 18:00-19:00 CET: Wrap-up America (Channel 1)
- Thursday 10 September 2020 – 07:00-08:00 CET: Wrap-up Asia (Channel 1)
- Thursday 10 September 2020 – 18:00-09:00 CET: Wrap-up America (Channel 1)
- Friday 11 September 2020 – 07:00-08:00 CET: Wrap-up Asia (Channel 1)

Our Asian, American, and other interested participants can then & there discuss what was presented during the previous sessions, which they might have missed because of the time shift…

7 Our Keynotes

Tuesday 8 September 2020

Keynote 1 (09:00 – 09:30 – Channel 1)

“ Roadmap for DC ”
By **Prof.Dr. eng. Pavol Bauer,** Delft University of Technology

Wednesday 9 September 2020

Keynote 2 (08:30 – 09:00 – Channel 1)

“ Thomas Edison vindicated – the resurgence of DC in MV and HV power grids ”
By **Colin Davidson**, Consulting Engineer – HVDC, at GE Grid Solutions HVDC Activity

Keynote 3 (09:00 – 09:30 – Channel 1)

“ Integration of Electric Mobility in the French public electricity distribution network ”
By **Anne-Sophie Cochelin** , ENEDIS

Thursday 10 September 2020

Keynote 4 – Part 1 (09:00 – 09:30 – Channel 1)

“ A critical role for R&I for clean energy for the EU green and digital recovery ”
By **Hélène Chraye**, European Commission, Head of Unit – Clean Energy Transition

Keynote 4 – Part 2 (09:00 – 09:30 – Channel 1)

“ The role of collaborative research to support innovation for clean energy transition ”
By **Hubert de La Grandière**, SuperGrid Institute

8 Table-Top Students Project Exhibition

Master students and PhD Students are invited to present their latest prototypes in the frame of the EPE ECCE Europe 2020 Exhibition.

Each accepted project will have a virtual booth in the exhibition.

E-Sense Power: Non-Invasive Condition Monitoring of Power Converters

This project has developed a non-invasive method to measure the on-state voltage of semiconductors based on a filed patent. Compared to existing methods, it reduces the complexity and cost by at least 70% and with enhanced noise immunity. One of the applications for the measured signals is for condition monitoring of power semiconductor devices in power electronic converters.

The current status of the project is:

1) the proof-of-concept laboratory testing has been accomplished; and

2) a more industry-oriented prototype design has been finished, expected to be tested in both laboratory and field testing.

We plan to exhibit a prototype of the proposed measurement circuit, and a converter demonstrator which the measurement circuit is used. By the time of the exhibition, we expect to be able to disclose more details about the invented technology.

More information: https://www.patent.aau.dk/Aktuelle+Teknologier/E-Sense+Power/

SyCCo-Bus: A High Speed Synchronous Control Bus for Modular Converter Systems

The Synchronous Converter Control Bus (SyCCo-Bus) is a field bus tailored to the control of modular converter systems. It enables a fast data exchange and a synchronized control of the modules of modular power electronic systems. With increasing switching frequency, an accurate synchronization of the individual modules and a very low latency are necessary requirements for a control bus. The proposed field bus is based on the 1 GBit Ethernet standard but almost erased the protocol overhead while providing a synchronization accuracy of +/-4ns. In this virtual project stand, application examples of the SyCCo-Bus are shown from the Laboratory of High Power Electronic Systems (ETH Zürich) and the basic working principles are explained.

More information: https://www.hpe.ee.ethz.ch/en/hpe/publications/videos/sycco-bus.html

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Advanced Solid-State Transformers (ASSTRA)

Wide bandgap devices are enabling new application opportunities for Solid-State Transformers, thanks to their superior switching performances. However, the short rise time of their PWM voltage waveforms increases the harmonic content at higher frequencies, which can excite the resonances of Medium-Frequency Transformers (MFTs). This can cause internal overvoltages and failures in the insulation due to unexpectedly high electric field. Therefore, a high-frequency model of a litz wire MFT is developed to predict such overvoltages.

More information: https://www.asstra-itn.eu/

9 Become an exhibitor at EPE'20 ECCE Europe!

Why should your company exhibit at EPE'20 ECCE Europe?

EPE ECCE Europe is the largest Power Electronics event in Europe.

Like no other event, this conference is a unique balance between industry and academia.
It is your opportunity to meet developers and specialists from academia and to be informed of the latest technologies in your fields of expertise (before anyone else).

Do you want to join us? Make sure to complete the exhibitor application on time:

EPE'20 ECCE Europe Sponsorship & Exhibition Opportunities

Already confirmed:

Contributor Sponsors:	**Exhibitors:**
General Electric	AVL France SAS
Mathworks	dSPACE
	EGSTON Power Electronics GmbH
	General Electric
	Mathworks
	Mersen
	Opal-RT Europe
	PCIM Europe
	Speedgoat GmbH
	SuperGrid Institute
	Typhoon HIL

Virtual EPE'20 ECCE Europe-Conference

Let's meet on-line to work on the future!

Register here

Conference Programme:

Monday 7 September:	**Tutorials**	(09:30 – 17:30 CET)
Tuesday 8 September:	**Conference Day 1** *(Keynotes, Lectures, Dialogue Sessions…)*	(08:30 – 17:30 CET)
Wednesday 9 September:	**Conference Day 2** *(Keynotes, Lectures, Dialogue Sessions…)*	(08:30 – 17:40 CET)
Thursday 10 September:	**Conference Day 3** *(Keynotes, Lectures, Dialogue Sessions…)*	(08:30 – 17:40 CET)
Friday 11 September:	**Industrial Forum-Day**	(09:30 – 17:30 CET)

For More Information, visit our website:

EPE'20
ECCE EUROPE
www.epe2020.com

EPE 2020 ECCE Europe Conference Chairman:

- **Abdelkrim BENCHAIB**, SuperGrid Institute / Le Cnam

EPE 2020 ECCE Europe Conference Co-Chairs

- Seddik BACHA – G2ELab – Grenoble
- Michel MERMET-GUYENNET – SuperGrid Institute, Villeurbanne
- Françoise LAMNABHI-LAGARRIGUE – L2S CNRS, Paris Saclay
- Bruno ALLARD, AMPERE-lab, Lyon

Local Scientific Committee Chairman

- Jean-Luc THOMAS, Le Cnam, Paris

Programme Chairman

- Sjoerd BOSGA, ABB Corporate Research, Sweden

Local Organising Committee

- Amiel KAPLAN (Chairman)
- Jing DAI
- Kosei SHINODA

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