

## Organization and Venue

The Power Electronics community will gather in Geneva, Switzerland, from 8 to 10 September 2015, to exchange views on research progresses and technological developments in the various topics described hereunder. With its lake, rivers, mountains and vineyards, and a large number of International Organizations, Geneva is more than just a city. It is a whole world on its own, to be discovered within a unique setting. The 17<sup>th</sup> Conference on Power Electronics and Applications (and Exhibition), EPE'15 ECCE (Energy Conversion Congress and Expo) Europe is co-sponsored by the EPE Association and IEEE PELS and will be hosted by CERN (European Organization for Nuclear Research). EPE '15 ECCE Europe will be the opportunity to celebrate the 30<sup>th</sup> Anniversary of EPE Conference.

## Aims of the Conference

EPE is the place for specialists in power electronics, systems and components, to present papers and attend sessions on state-of-the-art technology in this challenging and evolutionary sector. The conference aims to be a meeting forum for researchers, developers and specialists from the industry. Papers are encouraged on all topics described hereunder for interdisciplinary discussions of new ideas, research, development, applications and the latest advances in the field of power electronics and adjustable speed drives.

A characteristic trend from previous EPE ECCE Europe Conferences has been an increasingly large industrial participation, which allows for enhanced exchanges between academia and industry.

## Topics

Europe is a world leader in the field of Power Electronics, with well-known research and industrial companies and many large academic laboratories in all main European countries. Since 1985, the EPE Conference has grown to become the largest in this field, regularly attracting the foremost technical contributors from industry and academia worldwide. In 2011, EPE Association joined the IEEE-PELS society to jointly organise the EPE-ECCE Europe conference.

Power Electronics, as an enabling technology is becoming more and more important and is the basis for many industrial processes, for the rational use of energy, for new technologies in individual and mass transportation, areas that are rapidly growing requiring new concepts in order to fulfil cost, reliability, miniaturization as well as environmental requirements.

The improvements of Power Semiconductors together with new advanced topologies and embedded systems are pushing Power Electronics towards high switching frequency and smaller, cheaper, and more efficient realisations, opening possibilities for new applications. Due to the new rules published by the European Commission on the electrical energy production, transport and distribution, and also to the technical problems arising from the interconnection of different kinds of distributed energy production systems, high precision and reliable controllers are required.

One of the purposes of this Conference is to enable the presentation and discussion of developments in the field of Power Electronics, with attendees coming from all over the world.

### I POWER ELECTRONICS DEVICES AND CONVERTERS

#### Topic 1: DEVICES, PACKAGING AND SYSTEM INTEGRATION

- 1.a. Active components
- 1.b. New materials and active devices
- 1.c. Passive components
- 1.d. Power system integration, packaging & thermal management
- 1.e. Reliability

#### Topic 2: POWER CONVERTERS TOPOLOGIES AND DESIGN

- 2.a. Hard & soft switching techniques
- 2.b. Advanced power converter topologies
- 2.c. Power factor correction techniques

#### Topic 3: MEASUREMENT AND CONTROL

- 3.a. Standard and advanced control techniques for power converters
- 3.b. Application of control methods to electrical systems
- 3.c. Estimation and identification methods

- 3.d. Measurements techniques
- 3.e. Sensors

### II POWER ELECTRONICS APPLICATIONS

#### Topic 4: ELECTRICAL MACHINES AND DRIVE SYSTEMS

- 4.a. Electrical Machines
- 4.b. Adjustable speed drives
- 4.c. High performance drives
- 4.d. Motion control, robotics, special drives

#### Topic 5: RENEWABLE ENERGY POWER SYSTEMS

- 5.a. Wind energy systems
- 5.b. Solar energy systems
- 5.c. Other renewable energy systems
- 5.d. Energy storage systems

#### Topic 6: GRIDS & SMART GRIDS

- 6.a. Power electronics in transmission and distribution systems
- 6.b. HVDC & FACT's
- 6.c. Micro-grids
- 6.d. Smart grids
- 6.e. Power quality issues (including HF phenomena)
- 6.f. Fault coordination and protection of DC grids

#### Topic 7: POWER SUPPLIES

- 7.a. Low voltage DC power supplies
- 7.b. High voltage DC power supplies
- 7.c. Distributed power supplies
- 7.d. Uninterruptible power supplies (UPS)
- 7.e. Electronic ballasts and solid state lighting
- 7.f. Contactless power supply

#### Topic 8: e-MOBILITY

- 8.a. Electric propulsion systems for electric vehicles
- 8.b. Power converters for electric vehicles
- 8.c. Batteries and Management Systems (BMS)
- 8.d. EV's battery chargers: Contact and contactless
- 8.e. Standards and regulations

#### Topic 9: INDUSTRY SPECIFIC ENERGY CONVERSION AND CONDITIONING TECHNOLOGIES

- 9.a. Energy conversion and conditioning technologies in the industry (cement, steel, paper, textile, mining, etc...)
- 9.b. Power electronics in aerospace and space applications
- 9.c. Rail vehicles
- 9.d. Marine applications (offshore and ships)
- 9.e. Energy conversion and conditioning technologies in physics research and related applications

#### Topic 10: EDUCATION IN ELECTRICAL ENGINEERING

- 10.a. Education in electrical engineering
- 10.b. Education policy in Europe

## Presentation of Papers

Contributions to EPE '15 ECCE Europe must be presented either as a lecture presentation or as a dialogue presentation. A manuscript must be submitted in English in both cases for inclusion in the Conference Proceedings (electronic version only). Papers for lecture sessions will be strictly limited and selected on the basis of wide audience appeal, ease of understanding and potential stimulation of broad ranging discussion. Dialogue presentation will take place in the afternoon. No lecture session will be organized during the dialogue sessions.

## Content of Synopses

The synopses should consist of a 3 to 5 pages anonymous summary, including an abstract with no more than 50 words; topic number and indication of the preference for dialogue or lecture presentation; these must be clearly mentioned; key diagrams and a references list. The synopses will be submitted using the host of the conference on the internet. A link to the site will be available from: [www.epe2015.com](http://www.epe2015.com), a link from [www.epe-association.org](http://www.epe-association.org) will be available as well. Detailed

information and guidelines can be downloaded from the site to help you preparing the needed material for submitting a synopsis. The site will be open for upload from 15 October 2014 onwards.

Authors of papers provisionally selected for presentation will receive a notification and can download the instructions for preparing the dialogue papers and/or the lecture papers from the internet site. Final selection will be based on the full paper. The paper will only be included in the Conference Proceedings after receipt of one full registration fee per paper in due terms. Student registration fee is only valid for student participants, not for authors. One single author may not present more than two (2) papers. In that case, the fee to present the two papers will be 150% of the registration fee.

A selection of outstanding conference papers will be published afterwards in the EPE Journal, which is an ISI registered journal.

The papers presented at the conference will also be registered in IEEE Xplore.

## Tutorials – Call for Proposals

Several tutorials will be held prior to the conference. Authors willing to propose a tutorial at EPE '15 ECCE Europe are invited to send a proposal to Brigitte Sneyers at the scientific secretariat (EPE Association, c/o VUB-IrW-EETEC, Pleinlaan 2, B-1050 Brussels, Belgium, e-mail: bsneyers@vub.ac.be) before 15 January, 2015. The proposal will consist of a three-page summary including tutorial title, name and affiliation of the lecturer(s), tutorial objectives and audience, topical outline and provisional schedule of the tutorial.

The tutorials will be organized on Monday 7 September 2015. The location where the tutorials will take place is the Conference Center, CICG (Centre International de Conférences de Genève)

Tutorial proposals are welcome in all topics related to the conference topics.

## Deadlines

Intending authors should note the following deadlines:

Receipt of synopses	15 November 2014
Notification of provisional acceptance	1 March 2015
Receipt of full typescript for final review	1 June 2015

## Working Language

The working language of the conference is English, which will be used for all printed material, presentations and discussions.

## Programme and Registration

The provisional programme and registration form will be available from the Internet site early summer 2015.

Access to the full papers will be given with password to all registered participants, 1 or 2 weeks before the conference to allow attendees to prepare their participation.

Additional information: [www.epe2015.com](http://www.epe2015.com)

## Exhibition

There will be an exhibition integrated in the event. If you would like to know more details please go to [www.epe2015.com](http://www.epe2015.com) or contact us via e-mail to [info@epe2015.com](mailto:info@epe2015.com) or [mireille.vankeerberghen@vub.ac.be](mailto:mireille.vankeerberghen@vub.ac.be)

## Venue

The conference will take place at the centrally located International Conference Centre Geneva (CICG). The Conference Center as well as all places of meetings, hotels, banquet, etc. are located downtown and easy to reach, by walking or public transportation. From Geneva Airport, there are only 8 minutes to the City Main Station.

The plenary sessions will be held in the main amphitheatre of the centre (with up to 2'200 seats).

Poster sessions, the industrial exhibit and coffee breaks will be held in the large lobby area on the ground floor.

Wi-Fi access will be free for attendees, everywhere in the congress centre.

## Conference Organizing Committees

Conference Chairperson	Frédéric Bordry CERN, Geneva, Switzerland
Program Chairperson	Philippe Lataire Vrije Universiteit Brussel
Joint Conference Chairperson	Alfred Rufer EPFL, Lausanne, Switzerland
Joint Conference Chairperson	Jean-Paul Burnet CERN, Geneva, Switzerland
Joint Conference Chairperson	Drazen Dujic EPFL, Lausanne, Switzerland

## Members

Ahola Jero	Lappeenranta University of Technology
Bauer Pavol	Delft University of Technology
Benchaib Abdelkrim	Alstom Grid
Blaabjerg Frede	Aalborg University
Bordry Frédéric	C.E.R.N.
Boroyevich Dushan	Virginia Tech
Bouscayrol Alain	L2EP
Cacciato Mario	University of Catania
De Doncker Rik	RWTH Aachen ISEA
Dede Enrique	GH Electrotermia SA
Doppelbauer Martin	Karlsruher Institut für Technologie (KIT)
Ferreira Braham	Delft University of Technology
Galceran Samuel	CITCEA - UPC
Harnfors Lennart	ABB Corporate Research
Katic Vladimir	University of Novi Sad
Kennel Ralph	Technische Universität München
Kjaer Philip Carne	Vestas Wind Systems A/S
Kolar Johann Walter	ETH Zürich
Lataire Philippe	Vrije Universiteit Brussel
Lomonova Elena	Eindhoven Univ of Technology
Lorenz Leo	Infineon
Marchesoni Mario	Università di Genova
Mawby Philip	University of Warwick
Munk-Nielsen Stig	Aalborg University
Nee Hans-Peter	Royal Institute of Technology
Oates Colin	Alstom Grid
Peracaula Juan	Technical University of Catalonia
Peroutka Zdenek	University of West Bohemia in Pilsen
Perriard Yves	Ecole Polytechnique Fédérale de Lausanne (EPFL)
Pyrhönen Juha	Lappeenranta University of Technology
Ribickis Leonids	Riga Technical University
Robyns Benoît	Ecole des Hautes Etudes d'Ingénieur
Rufer Alfred	EPFL-STI-LEI
Schumacher Walter	TU Braunschweig
Semail-Lemaire Betty	University Lille 1
Sudria Antoni	UPC - CITCEA
Sumner Mark	University of Nottingham
Thomas Jean-Luc	CNAM / SUPELEC
Van Mierlo Joeri	Vrije Universiteit Brussel
Weiss Helmut	University of Leoben

## EPE/IEEE-PELS Coordination Committee

The overall management of the Congress is conducted by the Coordination Committee to ensure consistency in strategy, scope and content of the Conferences from year to year. The committee issues a Call for future locations of the Conferences, and forwards its recommendations to the EPE Executive Council as well as to the IEEE-PELS Administrative Committee for final approval.

EPE representative members:

Enrique Dede, Philip C Kjaer, Leo Lorenz, Colin Oates, Yves Perriard, Jean-Luc Thomas

PELS representative members:

Hiro Akagi, Rik De Donker, Uday Deshpande, Braham Ferreira, Ralph Kennel, Pat Wheeler

## Secretariat

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