Organisational Information

For registration please use the registration form which is available on the ECPE web page: www.ecpe.org
> ECPE Events > ECPE Workshops: EMC in Power Electronics > Registration Form

www.ecpe.org/ecpe-events

Deadline for registration:

- **26 April 2017**

Participation fee:

- **€ 595,–** * for industry
- € **445,–** * for universities/institutes
- **€ 150,–** * for students/PhD students
  (copy of student ID requested)
  (limited number only)
  (optional dinner: € 50,-* extra fee)

  *plus 19 % VAT

- The participation fee includes dinner, lunch, coffee/soft drinks and a flash drive with the workshop presentations. Students/PhD students can book the dinner for an extra fee of € 50,-*.
- A printed version of the workshop handout is available on request (€ 50–*).
- With the confirmation of registration by email you are registered for the workshop and the invoice will be sent by post.
- Three participants from each ECPE member company free of charge. Allocation in sequence of registration.
- Further information (hotel list and maps) will be provided after registration and is available on the ECPE web page.
- In case of cancellation later than two weeks before beginning or non-attendance 50 % of the participation fee is payable.

V09_2017_04_27

Organisational Information

Organiser	ECPE e.V. 90443 Nuremberg, Germany www.ecpe.org
Chairmen	Prof. Dr. Eckart Hoene; Fraunhofer IZM (DE) Dr. Luca Dalessandro, Schaffner Group (CH)
Organisation	Ingrid Bollens, ECPE e.V. +49 (0)911 / 81 02 88 – 10 ingrid.bollens@ecpe.org
Workshop venue	NH Hotel Berlin Alexanderplatz Landsberger Allee 26-32 10249 Berlin Germany

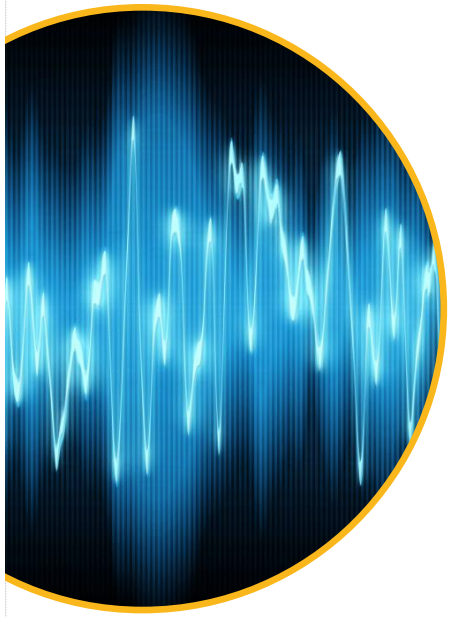
Further information (hotel list and maps) will be provided after registration.

ECPE
European Center for
Power Electronics e.V.

Programme

ECPE Workshop

EMC in Power Electronics: From Harmonics to MHz – Design for EMC and Fast Switching



3 – 4 May 2017
NH Hotel Berlin
Alexanderplatz
Berlin,Germany

In cooperation with

Fraunhofer IZM | SCHAFFNER shaping electrical power

ECPE Workshop

EMC in Power Electronics: From Harmonics to MHz – Design for EMC and Fast Switching

3 – 4 May 2017
Berlin, Germany

The aim of Power Electronics is to convert energy efficiently and this is achieved by switching fast with low losses. Furthermore, switching frequency increase represents the key to shrink power converters, in particular reduce size of passive components, thus resulting in material and cost savings.
The high-power-density power conversion paradigm is further enabled by WBG switching devices which allow a further increase of switching frequencies and reduced switching losses.
Nevertheless, nearly every power converter topology generates undesired interference and noise emission, starting from the grid harmonics frequency range up to hundreds of MHz. The effort to reduce this interference and suppress the noise to an acceptable level is an important parameter for the selection of the converter topology, given the requirements.
This workshop offers an overview on filtering strategies from LV to MV, with focus on recent advances in EMC/EMI filtering technology and design for EMC, and introduces to recent changes in EMC standards, in particular in the 2-150 kHz frequency range. Several practical case-studies will be presented to explain the effect of harmonics, interharmonics and EMC noise and the benefits of the filtering solution.
For WBG and Si semiconductors, the limiting properties to further increase switching speed will be discussed; strategies to expand switching speed and to handle the high frequency issues and parasitic properties will be introduced.

The ECPE Workshop is chaired by Prof. Eckart Hoene, Fraunhofer IZM (DE), and Dr. Luca Dalessandro, Schaffner Group (CH).

All presentations and discussions will be in English language.

Programme

Wednesday, 3 May 2017

9:30	Start of Registration / Welcome Coffee
10:00	**Welcome, Opening** Thomas Harder, ECPE e.V.
10:15	**Harmonic Filtering in Variable Speed Drives** Luca Dalessandro, Schaffner Group (CH)
10:45	**EMC in the Frequency Range of 2 - 150 kHz: Impact of Upcoming Standards on Grid-Connected Converters** Michael Hartmann, Schneider Electric (AT/FR)
11:15	**Comparative Evaluation of Common Mode Choke Designs for EMI Filtering Applications** Szymon Pasko, Schaffner Group (CH)
11:45	**Phenomena Simulated by EMC Testing of Power Drive Systems** Jan Sroka, Warsaw University of Technology (PL)
12.15	Discussion
12:30	Lunch
13:30	**Strategies in Protecting Future Power Grids from Rectifier's Harmonic Emissions (0-150 kHz): Modelling, Prediction and Mitigation** Pooya Davari, Aalborg University (DK)
14:10	**EMC Design Steps for MV Power Electronics Systems** Ilknur Colak, Maschinenfabrik Reinhausen (DE)
14:40	**Power Magnetic Components for Filtering Applications** Bjoern Riemer, Schaffner Group (DE)
15:10	Discussion
15:20	Coffee break
15:50	**Review of PWM Filters for AC Voltage Source Converters and Related Control Problems** Remus Beres, Dantrafo (DK), Marco Liserre, University of Kiel (DE)
16:40	**Using Active Filters to Improve the Compatibility with RCDs in Drive Applications** Michael Vornkahl, Yasin Karinca, EPCOS (DE)
17:20	**Discussion**
17:45	End of 1st Day
19:30	Dinner

Programme

Thursday, 4 May 2017

8:30	Begin of 2nd Day
8.30	**Interactions between Power Electronics Systems and the Grids in the Bandwidth 0-150 kHz** Gerd Griepentrog, TU Darmstadt (DE)
9:10	**Common Mode Currents caused by Power Devices: Do you know where they flow?** Lex de Rijck, Acradac EMC Training and Consultancy (NL)
9:45	**Weight Optimization of a SiC Switching Cell** Jean-Luc Schanen, G2ELab (FR)
10:15	Coffee break
10:45	**Parasitic Inductance – a Problem for EMC** Reinhold Bayerer, Infineon Technologies AG (DE)
11:35	**EMC in Electric and Hybrid Vehicles** Eckart Hoene, Fraunhofer IZM (DE)
12:15	Discussion
12:30	Lunch
13:30	**Automotive High-Voltage Powernet Simulation** Soeren Schoerle, Fraunhofer IZM (DE)
14:00	**Accurate Calorimetric Switching Loss Measurement of Ultra-Fast Power Semiconductors** Mattia Guacci, ETH Zurich (CH)
14:30	**Simultaneous Inductor Design and Pulse Pattern Optimization** Stefan Hoffmann, Fraunhofer IZM (DE)
15:15	**Where are the Speed Limits for Fast Switching?** Eckart Hoene, Fraunhofer IZM (DE)
15:45	Final Discussion
16.00	End of Workshop