

Registration (Fax Reply)

To: ECPE e.V.
Att.: Ingrid Bollens, ingrid.bollens@ecpe.org
Please **e-mail** a scanned copy of the completed form or
send a fax to: +49 (0)911 / 81 02 88 – 28

Register before **24 June 2014**

Participation fee:

- € 530,- * for industry
- € 395,- * for universities/institutes
- € 120,- * for students/PhD's
(shortened workshop package)

The fee includes dinner, lunch, coffee/soft drinks and a CD with the workshop presentations. A printed version of the workshop handout is available on request (€ 50-*)

With the confirmation of registration you will receive the invoice (* plus VAT). In case of cancellation after 24 June 2014 or non-attendance 50 % of the participation fee are payable.

Three participants from each ECPE member company free of charge. Allocation in sequence of registration.

Sender:

Title, given name, name

Company, department

Full address

Phone, fax

E-mail

Date, signature

Organisational information

Organiser ECPE e.V.
90443 Nuremberg, Germany
www.ecpe.org

Chairmen Prof. Thierry Meynard
University Toulouse -
ENSEEIH - LAPLACE
Prof. Johann W. Kolar
ETH Zurich

Jochen Koszescha
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Venue Hotel Palladia
271 Avenue de Grande Bretagne
31300 Toulouse
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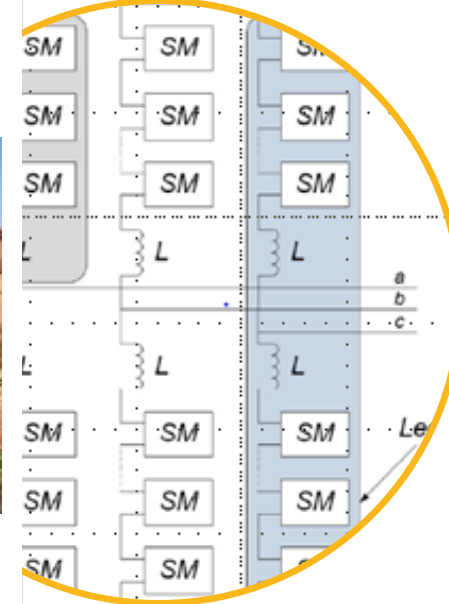
Further information (hotel list and maps) will be provided after registration.



ECPE Workshop Advanced Multicell / Multilevel Power Converters

1 – 2 July 2014
Hotel Palladia
Toulouse, France

in cooperation with



ECPE Workshop

Advanced Multicell / Multilevel Power Converters

1 – 2 July 2014
Toulouse, France

In recent years, multi cell topologies in form of multilevel converters have become standard practice in the field of HVDC grids and Medium Voltage Drives. But lower voltage applications seem to take benefit from the usage of new multi cell solutions and topologies, as well. The increasing number of levels in serial multi cell configuration even allows using low voltage MOSFET devices to reach the goals of energy efficiency and improved performance. In parallel configuration the independent multi cell sub modules allow the increase of energy efficiency in part load conditions very easily. The Neutral Point Clamped topology which started this revolution is now one of several solutions, but there are also improvements.

With this mature technology, switching higher voltages and delivering higher power are not the only benefits, which allow other fields of application. Improved efficiency is a key feature for photovoltaic systems and uninterruptible power supplies, reduced harmonic distortion helps making lighter and more compact onboard systems, increased apparent switching frequency and bandwidth allows suppressing electrolytic capacitors in voltage regulator modules feeding microprocessors.

Multi Cell / Multi Level topologies have changed the world of Power Electronics, and this affects every part of the design of power converters: control and modulation techniques, technological requirements, system-oriented design and reliability issues.

The workshop is chaired by Prof. Thierry Meynard (University of Toulouse, ENSEEIHT – LAPLACE), Prof. Johann W. Kolar (ETH Zurich) and Jochen Koszescha (ECPE).

All presentations and discussions will be in English.

Programme

Tuesday, 1 July 2014

9:30	Start of Registration / Welcome Coffee
10:30	Welcome, Opening Jochen Koszescha, ECPE e.V. Thierry Meynard, University of Toulouse
Introduction / Proven Technology	
10:45	Introduction and Overview on Multi Cell and Multi Level for High Power and High Voltage applications Thierry Meynard, University of Toulouse
11:20	Medium Voltage Inverter for Advanced Industrial Applications Ulrich Schlapbach, ABB Switzerland
11:50	Discussion
12:00	Lunch
Session .	
13:15	Multi Level Inverter Voltage Quality Bounds for Synchronous Nearest Switching Alex Ruderman, Nazarbayev University
13:45	Three-level Neutral-Point-Clamped Quasi-Z-Source Inverter as a New Solution for Renewable Energy Application Oleksandr Husev, University of Tallinn
14:15	Modular Multi Level Direct AC/AC Converters – Topologies and Control Dennis Karwatzki, University of Hannover
14:45	Design Challenges and Implementation Details of MOSFET-based M2C Inverters with increased Switching Frequencies Marek Galek, Siemens
15:15	Discussion
15:30	Coffee Break
Interaction with Power Semiconductor Development	
16:00	Recent Developments in High Voltage IGBT and IGCT Technologies for High Power Applications Munaf Rahimo, ABB Switzerland
16:30	Can Multi Cell / Multi Level and Wide Bandgap profit from each other? Nando Kaminski, University of Bremen
17:00	Figure-of-merits of Today's LV MOSFETs in Comparison to HV MOS and GaN Juan Sanchez, Infineon Technologies Austria
17:30	Discussion
17:45	End of 1st Day
20:00	Dinner

Programme

Wednesday, 2 July 2014

9:00	Start of 2nd Day
Multi Cell / Multi Level based Advanced Power Conversion	
9:00	Benefits of Multi-Cell Solutions for Energy Efficiency Targets Johann W. Kolar, ETH Zurich
9:20	Multi Level / Multi Cell Converters for Low Voltage/High Current Applications: -Issues, Challenges and Limitations- Petar Grbovic, Huawei Technologies
9:50	Modular Lightweight DC/DC Converter for Aerospace Application Alexander Kaiser, Airbus Group Innovations
10:20	Discussion
10:30	Coffee break
11:00	Development of Multi-Level Converters: a SME's approach Didier Ferrer, Cirtem
11:30	98.5% / 1.5kW/dm³ Multi-Cell Telecom Rectifier Module (230VAC/48VDC) Breaking the Pareto Limit of Conventional Converter Approaches Matthias Kasper, Johann W. Kolar ETH Zurich / Gerald Deboy, Infineon Technologies Austria
12:00	Modular Multi Level Converters for Battery Energy Storage Systems Lennart Baruschka, University of Hannover
12:30	Multi Level & Multi Cell Converters for High Bandwidth Power Amplifiers Jose Cobos, Universidad Politécnica de Madrid
13:00	Discussion
13:15	Lunch
Modular Multi Level Converter for Drives Application	
14:30	Advanced Automotive System based on Modular Multilevel Converter Martel Tsirinomeny, EPF Lausanne
15:00	Advanced Control of Modular High Frequency Converter (MHF) Martin Schulz, University BW Munich
15:30	Case Study: Three-phase Modular High Frequency Inverter (MHF3p) – Topology and Control Marcel Lutze, Siemens
15:50	Discussion
16:00	End of Workshop