

Registration (Fax Reply)

To: ECPE e.V.
Att.: Ingrid Bollens

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Register before **21 September 2010**

Participation fee:

- €530,- * for industry
 - €395,- * for universities/institutes
 - €120,- * for students (shortened seminar 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 (€42,- *).

With the confirmation of the registration you will receive the invoice. (* plus VAT)

In case of cancellation after 21 September 2010 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

Chairman: Dr. Thierry Meynard
University Toulouse -
ENSEEIH - LAPLACE

Industrial
Co-Chairman: Dr. Georgios Demetriades
ABB Corporate Research

Organisation: Ingrid Bollens, ECPE e.V.
+49 (0)911 / 81 02 88 – 10
ingrid.bollens@ecpe.org

Venue: Aros Congress Center
Munkgatan 7
72109 Västerås; Sweden



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

Announcement



**ECPE European Center for
Power Electronics e.V.**

ECPE Workshop

Advanced Multilevel Converter Systems

28 - 29 September 2010

Västerås, Sweden

in cooperation with



Introduction

ECPE Workshop Advanced Multilevel Converter Systems

28 - 29 September 2010
Västerås, Sweden

In recent years, 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 multilevel solutions and topologies, as well. The increasing number of levels even allows using low voltage MOSFET devices to reach the goals of energy efficiency and improved performance. 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.

Multilevel 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 Dr. T. Meynard (University of Toulouse, ENSEEIHT – LAPLACE), Dr. G. Demetriades (ABB Corporate Research Sweden), and J. Koszescha (ECPE). All presentations and discussions will be in English.

List of topics

Tuesday, 28 September 2010

9:30 **Start of Registration**
10:00 **Opening, Welcome Address**

Introduction

- Overview of Multilevel Topologies and the wide-spread area of usage

A) Advanced Multilevel Topologies:

- Voltage source
- Current source

B) Control and Modulation:

- Advanced control algorithms
- Modulation techniques
- Safety and protection concepts

C) Applications:

- Grid connected systems (HVDC, FACTS)
- Battery energy storage (BES) systems
- Variable speed drives (e.g. for marine, traction)
- Electricity generation
- Renewables
- New applications (e.g. automotive, PET)

17:30 **End of 1st Day**

19:30 **Joint Dinner**

List of topics

Wednesday, 29 September 2010

8:30 **Start of 2nd Day**

D) System Integration and Components:

- Power semiconductor devices
- Thermo-mechanics and cooling technologies
- Passive components: inductive, capacitive

E) System Reliability and Fault tolerance performances:

- Smart control techniques for fault tolerant systems
- System performance variations
- System reliability analysis

15:30 **Wrap up, Final discussion**

16:00 **End of Workshop**

Option: Lab tour at ABB Corporate Research