

## Registration (Fax Reply)

To: Engineering Center for Power Electronics e.V.  
Att.: Ingrid Bollens

**Fax: +49 (0)911 / 81 02 88 - 28**

Register before **October 20<sup>th</sup>, 2004**

**Participation fee:** €480,- \* plus VAT  
€380,- for university members  
The fee includes dinner, lunch  
and coffee/soft drinks, seminar  
handouts. With the confirmation  
of seminar registration you will  
receive the invoice.

No. of participants limited to 110. Register early.

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

Sender:

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title, given name, name

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company, department

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full address

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phone, fax

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e-Mail

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date, signature

## Organisational information

Organiser: ECPE e.V.  
D-90443 Nuremberg  
[www.ecpe.org](http://www.ecpe.org)

Chair of seminar: Prof. Braham Ferreira, TU Delft  
Thomas Harder, ECPE

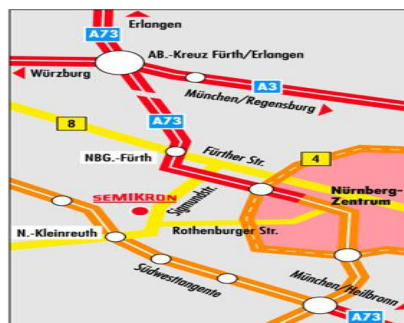
Organisation: Ingrid Bollens, ECPE  
+49 (0)911 / 81 02 88 – 10  
[ingrid.bollens@ecpe.org](mailto:ingrid.bollens@ecpe.org)

Place of seminar: SEMIKRON Elektronik,  
Sigmundstraße 200  
D-90431 Nuremberg

Contact Semikron: Michaela Daniel  
+49 (0)911 / 6559 875

### How to reach SEMIKRON Elektronik GmbH

Airport is Nuremberg. Connecting flights from Munich  
airport (190 km) or Frankfurt airport (220 km) are  
available. It takes about 35 minutes from Nuremberg  
airport to Semikron by underground (U2) and public bus  
or taxi. See [www.vgn.de](http://www.vgn.de). By car: see map below.



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



**Engineering Center for  
Power Electronics**

## Power Electronics System Integration Seminar

**November 4<sup>th</sup> – 5<sup>th</sup>, 2004**  
in Nuremberg,  
Germany

**ECPE Seminar  
in cooperation with  
TU Delft  
hosted by  
SEMIKRON Elektronik**

## Introduction

### ECPE Power Electronics System Integration Seminar

November 4<sup>th</sup> – 5<sup>th</sup>, 2004  
Nuremberg, Germany

In recent years we are seeing an increasing trend to introduce new technologies and to pay more attention to the integral design of power electronics systems. The applications market asks for higher power densities, improved reliability and lower costs and in response some new concepts and technologies are being developed. These objectives can not be met by using alternative circuit topologies or better semiconductors devices. We need integrated power electronics. Power electronics does not only involve electrical circuits, but also includes mechanic issues, thermal management and electromagnetic components. We need to integrate a complex system and therefore we talk about system integration instead of circuit integration. System integration may also include functional aspects such as power management since it affects the overall design. In mobile and automotive applications functional system integration is a technology driver for energy storage.

Power electronics technology, as we know it today, is changing. In this ECPE seminar we are presenting some of these trends including emerging technologies and new design approaches. The goal of the seminar is to offer high level education and information. The presentations include tutorials, where some new issues are discussed in detail, and shorter technical papers that convey state-of-art technical information.

Prof. Braham Ferreira (Delft University of Technology, NL) will chair the seminar together with Mr. Thomas Harder (ECPE). All presentations and discussion will be in English.

## Program

### Thursday, November 4<sup>th</sup>, 2004

- 10:30 Venue and Registration  
11:15 *Light Lunch*  
12:00 Opening  
**T. Harder** (ECPE)  
Welcome address by host organisation  
**T. Stockmeier** (SEMIKRON Elektronik)  
Introduction to seminar  
**J.A. Ferreira** (TU Delft)  
12:30 *A power electronics integration technology at the module level*  
**J.D. van Wyk** (Center for Power Electronics Systems, Virginia Tech, USA)  
14:15 *Coffee break*  
14:45 *A power electronics integration technology at the systems level*  
**D. Boroyevich** (Center for Power Electronics Systems, Virginia Tech, USA)  
16:30 *SEMIKRON factory tour*  
19:30 *Dinner together*

### Friday, November 5<sup>th</sup>, 2004

- Integration concepts of technologies**  
8:30 *Challenges for the development of new integrated power modules*  
**T. Stockmeier** (SEMIKRON Elektronik)  
9:10 *Printed Circuit Board Embedded Passive Integrated Circuits*  
**E. Waffenschmidt** (Philips)  
10:00 *Technologies to enable future power supply on-a-chip circuits*  
**C. O'Mathuna**, T. O'Donnel (NMRC)

## Program

- 10:50 *Coffee break*  
11:20 *Integral electrical, thermal and mechanical design of a power converter*  
**M. Gerber** (TU Delft)  
12:00 *Design and implementation of a high power density unity power factor rectifier*  
**J. Kolar** (ETH Zurich)  
12:30 *Power electronics integration activities in France*  
**B. Allard** (ISP3D)  
13:00 *Lunch*  
**Automotive systems**  
14:00 *Towards an integrated hybrid drive*  
**M. März** (Fraunhofer IISB, Erlangen)  
14:30 *Dealing with power electronics in automotive systems*  
**S. Bolz** (Siemens VDO)  
15:00 *Coffee break*  
**Energy storage: an enabling technology for future mobile/vehicle systems**  
15:30 *Reliability and life cycle issues for chemical energy storage*  
**D.U. Sauer**, R. DeDoncker (RWTHAachen)  
16:00 *Electrochemical double layer capacitors as energy storage device for hybrid electric vehicles*  
**A. Schwake** (EPCOS)  
16:30 *Energy storage with ultracapacitors on board of railway vehicles*  
**M. Steiner** (Bombardier)  
17:00 *End*