

## Registration (Fax Reply)

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

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Register before **7 March 2007**

### Participation fee:

- .. **€ 480,-\***
- .. **€ 380,-\*** for university members  
The fee includes dinner, lunch, coffee/soft drinks and seminar handouts.
- .. **€ 120,-\*** for students (shortened seminar package)

With the confirmation of seminar registration you will receive the invoice. (\* plus 19 % VAT)

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

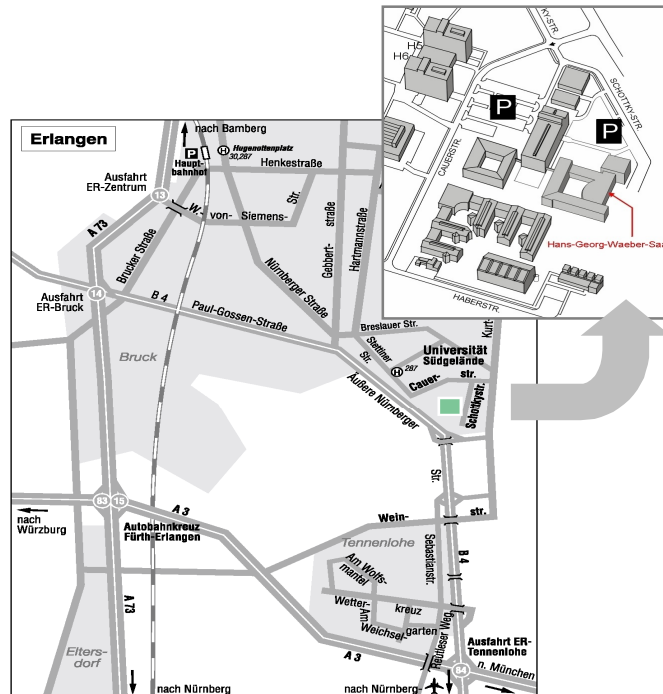
## Organisational information

Organiser: ECPE e.V.  
90443 Nürnberg, Germany  
[www.ecpe.org](http://www.ecpe.org)

Chair of seminar: Martin März,  
Fraunhofer Institute IISB  
Thomas Harder, ECPE e.V.

Organisation: Ingrid Bollens, ECPE e.V.  
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Place of seminar: Fraunhofer Institute IISB  
Schottkystrasse 10,  
91058 Erlangen, Germany



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

## Seminar Sensors in Power Electronics

**14 – 15 March 2007  
Fraunhofer Institute IISB,  
Erlangen, Germany**

**in cooperation with**



**Fraunhofer** Institut  
Integrierte Systeme und  
Bauelementetechnologie

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

## Introduction

### ECPE Seminar Sensors in Power Electronics

14 – 15 March 2007  
Erlangen, Germany

Increasing demands on accuracy, dynamic response and temperature range together with the trend towards reduced mounting space, system integration and cost pressure move sensor components more and more into the focus of interest of power electronics system engineers.

A special challenge are current and position sensors. The seminar provides a comprehensive overview on the state-of-the-art and on innovative new technologies. Cross functional aspects cover high operation temperature, accuracy and reliability of sensors.

The goal of the seminar is to offer high level education and expert discussions. The content is well balanced between basics and application oriented case studies.

All speakers are well-known specialists from industry and research institutes with a long pertinent experience. The seminar will start with an extended presentation from Dr. R.D. Lorenz (University of Wisconsin-Madison/Center for Power Electronics Systems, USA) on sensors in power electronic systems.

Dr. Martin März (Fraunhofer-IISB in Erlangen/Nuremberg) will chair the seminar together with Mr. Thomas Harder (ECPE). All presentations and discussions will be in English.

## Programme

### Wednesday, 14 March 2007

|            |                                                                                                                                                               |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10:00 a.m. | <b>Start of registration</b>                                                                                                                                  |
| 10:20      | <b>Opening, Welcome Address and Introduction</b><br>T. Harder, ECPE, M. März, Fraunhofer-IISB                                                                 |
| 10:40      | <b>Sensors in Power Electronic Systems - Current, Temperature and Motion Sensing</b><br>R.D. Lorenz, Univ. of Wisconsin-Madison (CPES), USA                   |
| 11:50      | <b>Physical Phenomena Used in Current Sensing - Prospect for High Temperature Applications</b><br>W. Koczara, F. Grecki, Warsaw University of Technology (PL) |
| 12:30      | <b>Lunch</b>                                                                                                                                                  |
| 13:45      | <b>Closed-loop Current Sensors with Magnetic Probe</b><br>D. Heumann, Vacuumschmelze (D)                                                                      |
| 14:30      | Case Study I:<br><b>High Current Measurement through Differential B-field Detection using Hall Effect Sensors</b><br>S. Schurt, SSG/Allegro (D)               |
| 15:00      | Coffee Break                                                                                                                                                  |
| 15:30      | <b>Miniaturization and Integration of Current Transducers</b><br>W. Teppan, LEM (CH)                                                                          |
| 16:10      | Case Study II:<br><b>HVDC Application of the Zeroflux Current Measuring System</b><br>K. Bouwknecht, HITEC Power Protection (NL)                              |
| 16:40      | Case Study III:<br><b>Rogowski Current Sensors – Principles and Practicalities</b><br>B. Ray, Power Electronic Measurement (UK)                               |
| 17:10      | Case Study IV:<br><b>Fiber-optic Current Sensor and its Applications in the Electric Power Industry</b><br>K. Bohnert, ABB Switzerland (CH)                   |
| 17:40      | End of 1 <sup>st</sup> Day's Programme                                                                                                                        |
| 19:30      | <b>Dinner</b>                                                                                                                                                 |

## Programme

### Thursday, 15 March 2007

|           |                                                                                                                                                 |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| 8:30 a.m. | <b>Special Aspects on Non-Magnetic Current Sensing Techniques</b><br>M. März, Fraunhofer-IISB (D)                                               |
| 9:10      | Case Study V:<br><b>Current Measurement with Coaxial Shunts</b><br>M. Billmann, Fraunhofer-IISB (D)                                             |
| 9:40      | Case Study VI:<br><b>High Precision and Wide Range Current Measurement with Shunts</b><br>U. Hetzler, Isabellenhütte (D)                        |
| 10:15     | Coffee Break                                                                                                                                    |
| 10:45     | Case Study VII:<br><b>Temperature and Current Sensing Using Power-MOSFET Devices</b><br>M. Scuto, STMicroelectronics (I)                        |
| 11:15     | Case Study VIII:<br><b>Highly Dynamic Magnetoresistive Current Sensors</b><br>E. Schlösser, Sensitic (D)                                        |
| 11:45     | Case Study IX:<br><b>Application of Sensors in Power Modules</b><br>A. Wintrich, Semikron Elektronik (D)                                        |
| 12:15     | <b>Lunch</b>                                                                                                                                    |
| 13:30     | <b>Encoder for Simultaneous Sensing of Position and Speed</b><br>R. Kennel, University of Wuppertal (D)                                         |
| 14:10     | <b>A new Cost Effective Electric Encoder</b><br>V. Netzer, N. Precision Motion Sensors (IL)                                                     |
| 14:50     | Case Study X:<br><b>The DLR Light-Weight Robot - Are so many Sensors necessary?</b><br>N. Sporer, German Aerospace Center (DLR), SENSODRIVE (D) |
| 15:20     | <b>Lab-tour at Fraunhofer IISB (optional)</b>                                                                                                   |
| ca. 16:30 | End of seminar                                                                                                                                  |