Organisational information

For registration please use the registration form which is available on the ECPE web page: www.ecpe.org
> ECPE Events > ECPE Tutorial: Failure Mechanisms: Insulating Polymer in Power Electronics > Registration Form

www.ecpe.org/ecpe-events

Deadline for registration:

- **20 October 2016**

Participation fee:

- **€ 350,–** * for industry
- € **250,–** * for universities/institutes
- **€ 120,–** * for students/PhD students
  (copy of student ID requested)
  (limited number only)

* plus 19 % German VAT

- The participation fee includes lunch, coffee/soft drinks and handouts.
- With the confirmation of registration by email you are registered for the workshop and the invoice will be sent by post.
- 50 % discount for each participant from ECPE Member Companies.
- 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.
- The number of participants is limited to 35 attendees.

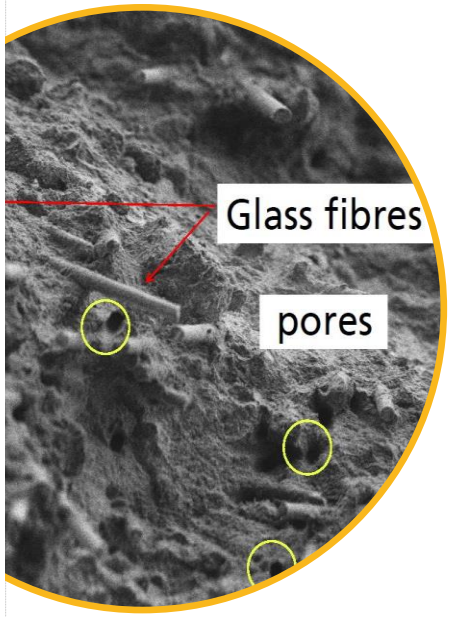
Organisational information

Organiser	ECPE e.V. 90443 Nuremberg, Germany www.ecpe.org
Course instructor	Prof. Dr.-Ing. Albert Claudi University of Kassel
Organisation	Lena Somschor, ECPE e.V. +49 (0)911 / 81 02 88 – 18 lena.somschor@ecpe.org
Venue	University of Kassel Wilhelmshöher Allee 73 34121 Kassel Entrance C Ground Floor Room number: 0315

ECPE
European Center for
Power Electronics e.V.

ECPE Tutorial

Failure Mechanisms: Insulating Polymer in Power Electronics



27 October 2016
University of Kassel
Germany

ECPE Tutorial

Failure Mechanisms: Insulating Polymer in Power Electronic

27 October 2016
Kassel, Germany

The intention of this tutorial is to teach the basics of failure mechanisms of insulating materials in power electronics.

Decreasing size and high operating voltages result in a high stress level for the electrical insulating system of power electronics. Thus, it becomes more important to use highly effective and reliable insulating materials. In order to design the insulation materials an extensive knowledge of the failure mechanisms, which occur, is necessary.

Power electronics, used in outdoor areas, are exposed to environmental conditions. Extended temperature range, humidity and pollution are influencing the insulation characteristics of the materials. Thus, another big topic is the influence of environmental conditions on the failure mechanisms of the insulating material.

All presentations and discussions will be in English language.

The course instructor of the tutorial is

Prof. Dr. Albert Claudi (University of Kassel, Germany)

Co-instructors are:

Dr. Reinhold Bayerer (Infineon Technologies AG, Germany)
Dipl.-Ing. Sebastian Wels (University of Kassel, Germany)
Dipl.-Ing. Sandy Klengel (Fraunhofer Institute for Mechanics of Materials IWM, Germany)
Dipl.-Phys. Julie Paye (Infineon Technologies AG, University of Kassel, Germany)

Programme

Thursday, 27 October 2016

09:00 **Start of Registration**

09:30 **Welcome**
J. Koszescha, ECPE e.V.

Basics

09:45 **Indroduction**
R. Bayerer

10:15 **Failure Mechanisms – Basics**
- Insulation Requirements
- Breakdown Mechanisms of Solids
- Statistical Evaluation
- Influencing Factors

A. Claudi

11:45 **Discussion**

12:00 Lunch

Specifically

13:30 **Failure Mechanisms – Specifically**
- Aging of Insulation
- Erosion Breakdown and Lifetime
- Statistical Evaluation

S. Wels

14:30 Coffee Break

15:00 **Microstructure Diagnostics of insulating Polymers: Methods and influence to Failure Behaviour**
- Analytical Methods for Material Characterization
- Results for Material Characterization of Glass-Fiber Reinforced Thermoplastics and Correlation to their Macroscopic Behavior as Power Module Housing

S. Klengel

16:00 **Failure Mechanisms in Epoxy Mould Compounds**
- Space Charge Model
- Influence of Humidity and Temperature
- Relevance of Partial Discharges

J. Paye

17:00 **Final Discussion, Feedback**

17:30 **End**

Approach

By car:

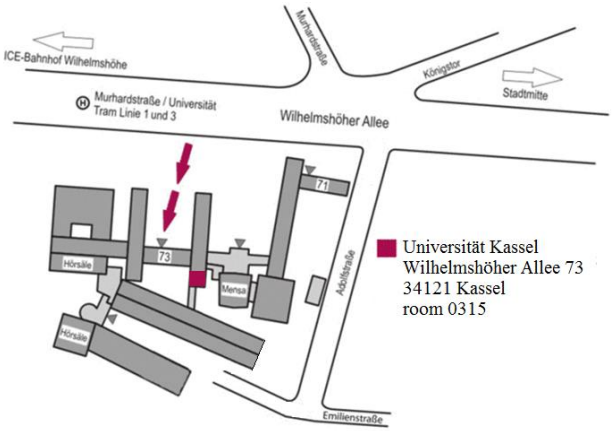
Navigate to: Wilhelmshöher Allee 73
34121 Kassel
Germany

Unfortunately, there are only a few parking spaces available around the university (max. 3 hours). Next car park is located at “Garde-du-Corps-Platz” (360 places, 15 min by foot) or at “Hinter der Komödie” (90 spaces, 10 min by foot).

By train:

From the railway station Kassel-Wilhelmshöhe, take the **tram line 1 or 3** direction *Vellmar*, *Ihringshäuser Straße*, *Holländischer Platz*, *Königsplatz* or *Kaulbachstraße* (departure at the railway station forecourt) and get off at the station "Murhardstraße / Universität" (about 5 minutes travel time).

Timetable information and other information of the Kassel public transport Company Ltd: www.kvg.de



The meeting will take place in seminar room 0315 (entrance C, ground floor).