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 May 2011**

Participation fee:
❍ **€480,–** * for industry
❍ € **380,–** * for universities/institutes
❍ **€150,–** * for students/Ph.D.

The fee includes dinner, lunch, coffee/soft drinks and hand-outs.

With the confirmation of registration you will receive the invoice (*plus VAT). 50 % discount for ECPE Member Companies.
In case of cancellation after 24 May 2011 or non-attendance 50 % of the participation fee are payable.

Sender:

Title, given name, name

Company, department

Full address

Phone, fax

E-mail

Date, signature

Organisational information

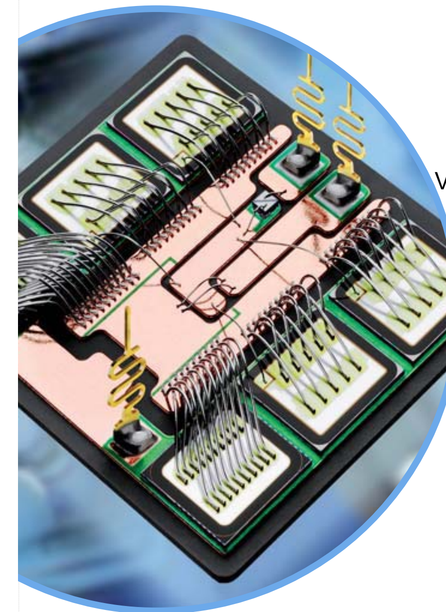
Organiser	ECPE e.V. 90443 Nuremberg, Germany www.ecpe.org
Course chairmen	Prof. Bruno Allard, INSA de Lyon Dr. Uwe Scheuermann Semikron Elektronik
Organisation	Ingrid Bollens, ECPE e.V. +49 (0)911 / 81 02 88 – 10 ingrid.bollens@ecpe.org
Venue	INSA de Lyon 20, avenue Albert Einstein 69621 Villeurbanne/Lyon France

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

ECPE
European Center for Power Electronics e.V.

ECPE Tutorial

Power Electronics Packaging



31 May - 1 June 2011
INSA de Lyon
Villeurbanne/Lyon, France

ECPE Tutorial

Power Electronics Packaging

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In addition to the conventional electronics packaging functions, in Power Electronics one has to deal with further requirements such as handling high voltages and currents and removing the dissipated heat.

After a short introduction to power electronics for non-electrical engineers, the tutorial starts with the presentation of the basic features of power electronics packaging including functions, materials and thermal management as one of the key issues.

The packaging of components and modules as well as the converter level packaging is covered starting from low power discrete and monolithic solutions up to hundreds of kW converters. Power electronics packaging is discussed in a system environment focussing on cooling techniques and thermal interface materials.

Since there is a dominant impact of packaging on the reliability of components and systems, one session is devoted to failure mechanisms and reliability testing.

The current drivers in power electronic systems are power density, manufacturability, reliability and costs. The shortcomings and bottlenecks of state-of-the-art packaging will be discussed and the emerging interconnection and integration technologies that aim to address these challenges will be reviewed.

This tutorial is aimed at engineers who are engaged in power electronics and want to improve their knowledge and understanding of power electronics packaging including ongoing developments and future trends.

The course instructors are Prof. Bruno Allard (INSA de Lyon), Dr. Cyril Buttay, (INSA de Lyon), Dr. Jelena Popovic-Gerber, TU Delft, Dr. Uwe Scheuermann (Semikron) and Dr. Zoubir Khatir (INRETS).
All presentations and discussions will be in English.

Programme

Tuesday, 31 May 2011

9:30	**Start of Registration**
9:45	**Welcome, Introduction** B. Allard, INSA de Lyon T. Harder, ECPE e.V.
Introduction and Basics	
10:00	**Introduction to Power Electronics** U. Scheuermann
10:30	**Power Electronics Packaging – Basics and Functions** B. Allard
11:15	**Basics of Thermal Management** U. Scheuermann
12:00	**Packaging Materials: Electrically Insulating and Conductive Materials** J. Popovic-Gerber
12:45	Lunch
13:45	**Basic Interconnection Technologies (wire bonding, soldering, pressure contact)** U. Scheuermann
Components and Modules	
14:30	**Low Power Packaging: Discrete Power Semiconductor Devices and SIP Integration** B. Allard
15:15	Coffee Break
15:45	**Power Modules** U. Scheuermann
16:45	**Passive Components Packaging** J. Popovic-Gerber
17:15	**Thermal Interface Materials & Applications** J. Popovic-Gerber
17:45	**End of 1st Day**
19:30	Dinner

Programme

Wednesday, 1 June 2011

8:30	**Wrap up 1st Day, Discussion**
Converter Level Packaging	
9:00	**Low and Medium Power Systems (PCB, IMS)** J. Popovic-Gerber
9:45	**High Power Systems** U. Scheuermann
10:30	Coffee Break
Reliability	
11:00	**Failure Mechanisms** Z. Khatir
11.30	**Lifetime and Reliability Testing** U. Scheuermann
12:30	Lunch
Advanced Technologies and System Integration	
13:30	**System Integration (chip level, PCB level, passives and system level)** C. Buttay
14:30	**Advanced Interconnection Technologies** U. Scheuermann
15:00	**Wrap up, Final discussion**
15:30	**End of Tutorial**