Registration (Fax Reply)

To: ECPE e.V. Att.: Ingrid Bollens, <u>Ingrid.bollens@ecpe.org</u> Please **e-mail** a scanned copy of the completed form or send a fax to: +49 (0)911 / 81 02 88 – 28

Register before 25 April 2013

Participation fee:

O €530,-* for industry
O €395,-* for universities/institutes
O €120,-* for students (shortened workshop 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 ($\in 50-^*$).

With the confirmation of registration you will receive the invoice (* plus VAT). In case of cancellation after 25 April 2013 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.

Title, given name, name

Company, department

Full address

Phone, fax

E-mail

Date, signature V16_2013_04_15

Organisational information

Organiser	ECPE e.V. 90443 Nuremberg, Germany www.ecpe.org
Chairman	Prof. Andreas Lindemann Otto-von-Guericke-University Prof. Leo Lorenz ECPE e.V. DiplPhys. Thomas Harder ECPE e.V.
Organisation	Ingrid Bollens, ECPE e.V. +49 (0)911 / 81 02 88 – 10 ingrid.bollens@ecpe.org
Venue	Maritim Hotel Munich Goethestrasse 7 80336 Munich Germany



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



Programme

2 – 3 May 2013 Maritim Hotel Munich, Germany

in cooperation with

ECPE SiC & GaN User Forum

Potential of Wide Bandgap Semiconductors in Power Electronic Applications



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VERSITÄT DEBURG



ECPE User Forum

SiC and GaN User Forum -Potential of Wide Bandgap Semiconductors in Power Electronic Applications

2 – 3 May 2013 Munich, Germany

After the previous Silicon Carbide (SiC) or Wide Bandgap Semiconductor User Forums organised by ECPE, new power electronic systems with wide bandgap components and new devices have been reported in research and also commercially on the rapidly moving international market. They use SiC which in the meantime has reached a high level of maturity or, more recently, also GaN (Gallium Nitride) material. Time has thus come to seize on this recent development and to continue the exchange between experts involved in converter and device development.

The 5th ECPE User Forum will focus on typical power electronic systems, the use of wide bandgap semiconductors is highly promising for. Application examples will come from the areas of power supplies including inverters for renewable energy and of electric drives. Additionally, insights in recent SiC and GaN material and device technology - which is the base for future system development - will be given for a deeper understanding. International renowned experts have been invited to give an overview in keynotes, to in depth explain their research and development work in technical presentations and to share their knowledge in discussion forums as an indispensable part of the event.

The SiC & GaN User Forum is this way intended as a platform to share experience and ideas, to discuss and find out which power electronic systems are predestinated for usage of wide bandgap devices and how to appropriately design-in those novel, almost ideal but also challenging components.

The ECPE SiC & GaN User Forum 2013 is chaired by Prof. Andreas Lindemann (Magdeburg University), Prof. Leo Lorenz (ECPE) and Mr Thomas Harder (ECPE).

Programme

Thursday, 2 May 2013

10:15	Start of Registration / Welcome Coffee	
10:45	Welcome, Opening L. Lorenz, T. Harder, ECPE e.V.	
Introduction		
11:00	5 th Wide Bandgap User Forum: Motivation & Overview A. Lindemann, Magdeburg University (D)	
11:15	On the Perspectives of Wide-Bandgap Power Devices in Electronic-Based Power Conversion S. Araujo, University of Kassel (D)	
SiC Power Electronic Systems		
11:45	Tramway Traction Inverter with 1700V SiC MOSFET & JBS M. Mermet-Guyennet, Alstom Transport (F)	
12:15	<u>Case study</u> : Active Power Filter for Aerospace Applications using SiC MOSFETs S. Liebig, Liebherr Elektronik (D)	
12:35	Discussion	
12:45	Lunch8	
13:45	6kW DC-DC Converter with Paralleled SiC BJTs J. Rabkowski, KTH Stockholm (SE) / Warsaw Univ. of Technology (PL)	
14:15	ST SiC MOSFET: Development Status and Application Results on a 5kW Step Up Converter S. Buonomo., STMicroelectronics (I)	
GaN Power Electronic Systems		
14:45	Evaluation of 600V GaN Devices for Industrial Applications R. Mitova, Schneider Electric (F)	
15:15	Application of GaN Transistors in Hard Switched and Resonant Power Electronics D. Kranzer , Fraunhofer ISE (D)	
15:45	Coffee Break	
16:15	Development Towards a GaN Automotive Converter and PV Inverter within the PowerGaNPlus Project M. Schlechtweg, Fraunhofer IAF (D)	
16:45	Ultra-high Efficient Boost Converter using 1200V GaN on SiC Devices G. Haynes, GaN Systems (UK/CA)	
Device I	Basics for Circuit and System Designers	
17:15	GaN Power Devices (HEMT):	

- Basics, Advantages and Perspectives J. Wuerfl, Ferdinand-Braun-Institut (D)
- 17:45 Discussion
- 18:00 End of 1st day
- 19:30 Dinner: "Hackerhaus", Sendlinger Straße 14, 80331 Munich

Programme

Friday, 3 May 2013

Applicat	Application Aspects of SiC Devices		
8:30	Status of SiC Substrates, Epitaxy, and Devices J. Palmour, Cree (US)		
9:00	SiC Trench Devices with Low Ron and the Power Modules using them T. Nakamura, Rohm (JP)		
Application Aspects of GaN Devices			
9:30	Normally-off 600V GaN power transistor and applications H. Nakata, Panasonic R&D Center Germany (D)		
General Semicor	Application Aspects of High Bandgap nductor Devices		
10:00	SiC Power Module Technologies Catering for High Frequency Application K. Sato, Mitsubishi Electric (JP)		
10:30	Coffee break		
11:00	Ultra-Low Inductance Package for SiC & GaN E. Hoene, Fraunhofer IZM (D)		
11:30	High Temperature Operation of SiC C. Buttay, INSA de Lyon (F)		
12:00	Integrated Driver for normally-on SiC-JFETs – Functionality and Application Considerations Uwe Jansen, Infineon Technologies (D) Karl Norling; Infineon Technologies Austria (A)		
12:40	Discussion		
12:50	Lunch		
14:00	Robustness of SiC Power MOSFETSs A. Castellazzi, University of Nottingham (U.K.)		
14:30	Reliability of Gallium Nitride HEMTs from Microwave to Power Applications <u>E. Zanoni</u> , G. Meneghesso, M. Meneghini. University of Padova ())		
15:00	Forum: System Review, Statements, Discussion Moderator: A. Lindemann Forum Experts: Previous Speakers and other Experts		

16:00 End of Workshop