

## Organisational Information

For registration please use the registration form which is available on the ECPE web page: [www.ecpe.org](http://www.ecpe.org)  
> ECPE Events > ECPE Workshops: SiC & GaN User Forum > Registration Form

[www.ecpe.org/ecpe-events](http://www.ecpe.org/ecpe-events)

### Deadline for registration:

- **1 March 2017**

### Participation fee:

- **€595,-** \* for industry
- **€445,-** \* for universities/institutes
- **€150,-** \* for students/PhD students  
(copy of student ID requested)  
(limited number only)  
(optional dinner: €50,-\* extra fee)

\*plus 19 % VAT

- The participation fee includes dinner, lunch, coffee/soft drinks and a flash drive with the workshop presentations. Students/PhD students can book the dinner for an extra fee of €50,-\*.
- A printed version of the workshop handout is available on request (€50,-\*).
- With the confirmation of registration by email you are registered for the workshop and the invoice will be sent by post.
- Three participants from each ECPE member company free of charge. Allocation in sequence of registration.
- 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.

## Organisational Information

<b>Organiser</b>	ECPE e.V. 90443 Nuremberg, Germany <a href="http://www.ecpe.org">www.ecpe.org</a>
<b>Chairmen</b>	Prof. Andreas Lindemann, Otto-von-Guericke-Univ., Magdeburg, Dr. Peter Friedrichs, Infineon Technol. Prof. Leo Lorenz, ECPE
<b>Organisation</b>	Ingrid Bollens, ECPE e.V. +49 (0)911 / 81 02 88 – 10 <a href="mailto:ingrid.bollens@ecpe.org">ingrid.bollens@ecpe.org</a>
<b>Workshop venue</b>	Maritim Hotel Nuremberg Frauentorgraben 11 90443 Nuremberg Germany



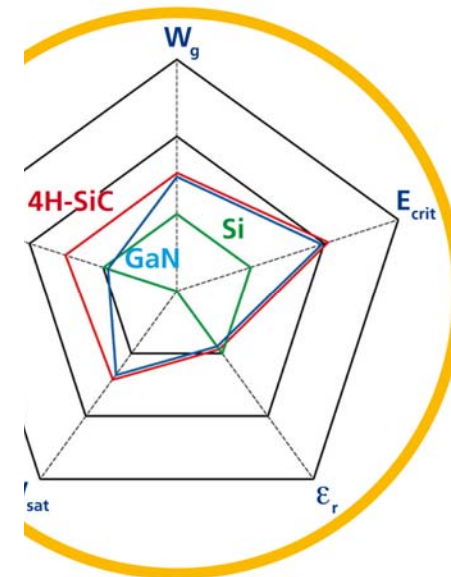
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## Draft Programme

### ECPE SiC & GaN User Forum

### Potential of Wide Bandgap Semiconductors in Power Electronic Applications



**8 – 9 March 2017**  
Nuremberg,  
Germany

In cooperation with

## ECPE User Forum

### ECPE SiC & GaN User Forum - Potential of Wide Bandgap Semiconductors in Power Electronic Application

8 – 9 March 2017  
Nuremberg, Germany

Within 10 years of the biannually organised ECPE Wide Bandgap User Forum, many 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 7<sup>th</sup> 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 also considering increased voltage and power ratings.

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, to in depth explain their research and development work in technical presentations and to share their knowledge in a discussion forum as an indispensable part of the event.

The SiC & GaN User Forum is 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 2017 is chaired by Prof. Andreas Lindemann (Magdeburg University), Dr. Peter Friedrichs (Infineon Technologies), Prof. Leo Lorenz (ECPE) and prepared in cooperation with the ECPE SiC & GaN Technical Committee.

All presentations and discussions will be in English language.

## Programme, Wednesday, 8 March 2017

9:15	Start of Registration / Welcome Coffee
9:40	<b>Welcome, Opening</b> , L. Lorenz, ECPE <b>Introduction: 10 Years ECPE WBG User Forum</b> A. Lindemann, University of Magdeburg
<b>WBG Power Electronic Systems</b>	
10:00	<b>US Manufacturing Jobs Creation through Accelerated Large-scale Adoption of WBG Devices</b> V. Veliadis, The PowerAmerica Institute / NC State Univ. (US)
10:30	<b>Frequency Optimum of Semiconductor Technologies and State-of-the-Art Magnetic Components</b> M. Scherf, ISLE GmbH, T. Reimann, TU Ilmenau/ISLE (DE)
<b>SiC Power Electronic Systems I</b>	
11:00	<b>Future Railway Traction Drives Based on SiC Technology</b> M. Piton, ALSTOM Transport (F)
11:30	<b>SiC MegaWatt PV Inverter</b> R. Roesner, GE Global Research Center Munich (DE)
12:00	Discussion
12:15	Lunch
<b>GaN Power Electronic Systems</b>	
13:15	<b>High Density High Efficiency GaN Converters for Future Data Center</b> Q. Li, CPES/Virginia Tech (US)
13:45	<b>GaN Application</b>
<b>WBG System Integration</b>	
14:15	<b>Modules, Drivers and Magnetics for Ultra-Fast Switching</b> E. Hoene, Fraunhofer IZM (DE)
14:55	<b>Case Study: Ultra-Low Inductance Power Module Packaging</b> P. Beckedahl, Semikron (DE)
15:20	Coffee Break
<b>SiC Power Electronic Systems II: SPEED Session (EC FP7 Project)</b>	
15:50	<b>SiC Power Electronics Technology for Energy Efficient Devices</b> Chair: P. Friedrichs, Infineon (DE); F. Ruiz, INAEL (ES) - <b>High Voltage SiC Devices for Power Transmission Application</b> A. Mihaila, ABB Corp. Res. (CH); P. Godignon CNM-CSIC (ES) - <b>Solid State Transformers with Increased Functionalities</b> F. Briz, Univ. of Oviedo (ES); A. de la Cruz, INAEL (ES) - <b>SiC in Future Wind Power Applications</b> Ch. Sommer, Univ. of Hannover (DE); I. Kortazar, Ingeteam (ES)
<b>Forum Discussion: The Future of WBG Power Electronics</b>	
17:00	Topic: <b>Future coexistence of Si - SiC - GaN e.g. in automotive</b> , further potential of Si as a moving target
18:15	<b>Award Ceremony</b> <b>Semikron Innovation and Young Engineer Award 2017</b>
19:30	Dinner at Restaurant Maritim Hotel

## Programme, Thursday, 9 March 2017

8:00	Start of 2nd Day
<b>Application Aspects of WBG Power Semiconductors</b>	
8:00	<b>Status on WBG Materials and Substrates</b> E. Balkas, Cree/Wolfspeed (US)
8:25	<b>Further WBG Candidates: Potential of Gallium Oxide</b> T. Hitora, FLOSFA (JP)
8:50	<b>Available (and announced) SiC and GaN Power Devices - a Critical Assessment from the Application Point of View</b> N. Kaminski, University of Bremen (DE)
<b>Application Aspects of SiC Devices</b>	
9:15	<b>CoolSiC MOSFET (Devices and Modules)</b> D. Peters, Infineon Technologies (DE)
9:40	<b>SiC Devices and Modules</b> Th. Heinzel, Fuji Electric Europe (JP/DE)
10:05	Coffee break
10:35	<b>SiC MOSFET Avalanche Robustness Capability</b> A. Castellazzi, University of Nottingham (UK)
11:00	<b>Potential Application Advantages of 3C-SiC/Si</b> P. Ward, Anvil Semiconductors (UK)
<b>Application Aspects of GaN Devices</b>	
<b>E2CoGaN Session (European ENIAC Project 2013 - 2016)</b>	
11:25	<b>E2CoGaN - Energy Effic. Converters using GaN Power Dev.</b> - <b>AlGaN/GaN based Power Devices: Past, Present and Future</b> P. Moens, ON Semiconductors (BE) - <b>GaN Power Device based Demonstrators</b> P. Zacharias, University of Kassel (DE) - <b>Robustness and Reliability of GaN Devices</b> G. Meneghesso, University of Padova (IT) - <b>Future Outlook: InRel-NPower in EC-H2020</b> , G. Meneghesso
12:45	Lunch
13:45	<b>GaN Power Devices</b> T. Morita, Panasonic Industrial Devices Europe (JP/DE)
14:10	<b>Fast dV/dt and di/dt in GaN Devices</b> <u>F. Udrea</u> , G. Longobardi, University of Cambridge (UK)
<b>General Application Aspects: How To Drive SiC and GaN Switches?</b>	
14:35	<b>Drivers for WBG Switches incl. Driver Integration</b> N.N., Texas Instruments (enquired)
15:00	<b>Full-Range PWM Isolated Gate Driver with Integrated Signal and Power Transmission to the Secondary Side of the Transformer: A Case-Study Application with SiC MOSFETs</b> J. Garcia, University of Oviedo (ES)
15:20	<b>Case Study: Active Gate Driver for GaN FETs</b> B. Stark, University of Bristol (UK)
15:40	<b>Final Discussion</b>
16:00	End of Workshop