



Munich: the vivid capital of Bavaria close to the Alps gives you the chance to experience tradition and high-tech in one place. Discover in the surroundings lovely castles and lakes, original villages and majestic mountains.

NH Hotel München-Dornach
Einsteinring 20
85609 Aschheim-Dornach
Germany

Organisation

Seminarmanagement

Eckardt Günther
Britta Haseneder
OTTI – Renewable
Energies
Wernerwerkstraße 4
93049 Regensburg, Germany
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Fax +49 941 29688-54
britta.haseneder@otti.de

Accommodation

NH Hotel
München-Dornach
Einsteinring 20
85609 Aschheim-Dornach
Germany
Phone: +49 89 940096-707
Fax: +49 89 940096-100
nhmuenchendorlach
@nh-hotels.com
Please book your accomodation
as soon as possible by yourself.
www.booking.com

**The Seminar is in English
Language.**

Conference Fee

Per Person: € 970,00
Member of OTTI: € 900,00
Businesses from oberfranken,
the oberpfalz, lower and
eastern bavaria: € 900,00
Reduced fee for employees of
federal agencies, universities
and universities of applied
sciences: € 535,00

From the third participant on,
every other participant of your
company profits from our **15 %
discount** on the seminar fee.
Fees cover the invitation to all
coffee breaks, lunches, the
seminar proceedings and
one day admission Intersolar
Munich.

**Intersolar Munich takes place
June 09th - 11th, 2010.**

Photo Credits

Tourismusamt München
Photo: Nr. 711 / R. Sterflinger
Skyline with Alps
Photo: Nr. 59313 / A. Sauer
Bavaria

- Yes, I will participate in the get-together on June 7th, 2010 in Hotel Restaurant „Prinzregent“ (self-payment)**
- Yes, I will participate in the Power Electronics Seminar München-Dornach, Germany, June 7th - 8th, 2010 (LEE 3492)**
- I am a member of a public authority/university.**
- We are interested in sponsorship.**

Family name

First name

Mr/Mrs/Ms/Dr/Prof.

Phone

Fax

E-Mail

Department/Position

Company/Institute

Postal address

Postal code/City/ Country

Invoice address (if it differs from registration adress)

Company/Institute

Postal address

Postal code/City/ Country

Economic sector

Number of employees

- Businesses from eastern bavaria**

Member number OTTI

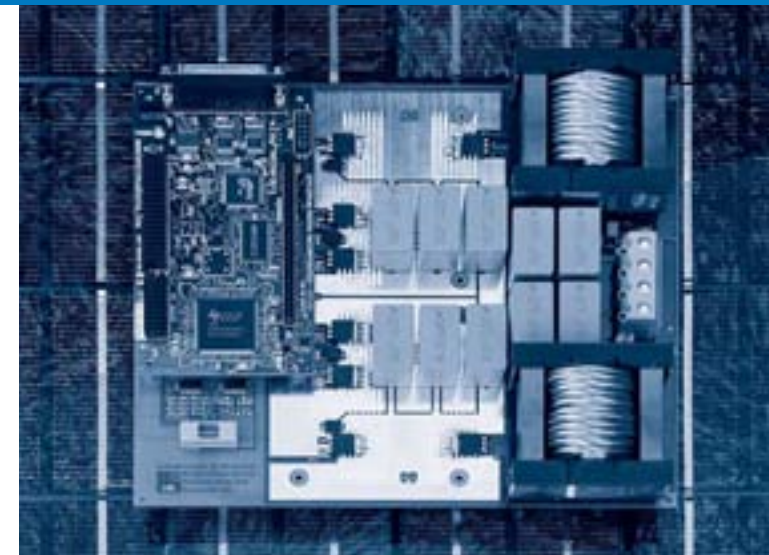
Date

Signature/Company stamp

**Ostbayerisches Technologie-Transfer-Institut e.V. (OTTI),
Wernerwerkstraße 4, D-93049 Regensburg**

Conditions of participation and cancellation

You will receive your registration documents with receipt of your registration. The participation fee is VAT-exempt and due net with receipt of the invoice. Please transfer the invoice amount not later than 14 days before the conference starts. Otherwise a copy of the transfer order must be presented at the conference desk. All bank charges have to be covered by the transmitter. Entrance to the conference can only be permitted if OTTI has received the payment. OTTI reserves the right to make modification and amendments of any kind for urgent reasons. In the case of a cancellation of your registration up to 30 days before the seminar takes place, we do not raise a cancellation fee. For cancellations made within a period of 30 to 15 days before the start of the seminar, we charge a service fee of € 120. In the event of cancellations made later than 15 days before the seminar, or in the case of absenteeism, the total participation fee will be charged, unless you are able to provide evidence of a deviating amount of damages or expenses. The cancellation must be in written form. The person representing the contracting party may be replaced at any time but a written notice is necessary not later than 4 days before the conference starts. Irrespective of legal basis, OTTI shall only be liable for property damage and pecuniary loss which occurred due to intent or gross negligence. The place of fulfilment and jurisdiction is Regensburg, Germany.



Power Electronics for Photovoltaics

**NH Hotel
München-Dornach, Germany
June 07th - 08th, 2010**

V-J-2010-02-01 www.otti.de

Intersolar 2010

A visit of European's largest solar trade fair is included. The topics are: photovoltaics, solar thermal technology and solar architecture.

Further information:

Phone +49 7231 58598-0 · Fax +49 7231 58598-28

E-Mail: info@intersolar.de · Internet: www.intersolar.de



**inter
solar 2010**
www.intersolar.de

OTTI  Training
Seminare
Tagungen

www.otti.de



Seminar

Power Electronics for Photovoltaics

München-Dornach, Germany, June 07th - 08th, 2010



Seminar Programme

Check-in and
Welcome Coffee 8:00 hrs

1st Day 9:00 - 17:00 hrs

1. Welcome Address

Britta Haseneder
OTTI, Regensburg, Germany

2. Power Electronics for Photovoltaics – Review

Advantages of Power Electronics Systems, Application in Renewable Energies, Market Potential, Examples
Prof. Dr. Bruno Burger

3. Principles of Power Electronics

Basic Power Electronics Circuits, DC/DC-Converters, Inverters, Frequency Converters, Pulsing, Pulse Width Modulation
Prof. Dr. Uwe Nuß

4. Power Semiconductors

Silicon (Si), Silicon Carbide (SiC) and Gallium Nitride (GaN) Power-Diodes: Forward Voltage, Reverse Recovery Time and Charge
Silicon MOSFETs and IGBTs: Switching Behaviour, Forward Voltage, Tail Current;
Silicon Carbide (SiC) Transistors: MOSFETs, JFETs, Cascode Devices;
Gate Drivers: Types, Dead Time, Common Mode Transient Voltage
Dirk Kranzer

5. Power Inductors

Electrical Properties of Chokes: Losses, Parasitic Properties, Core Materials and their Properties, Shapes, Design Procedures, Winding Types
Alexander Stadler

6. Power Capacitors

Electrolyte and Foil Capacitors, Electrical Properties, Voltage Rating, Current Rating, Thermal Conditions, Lifetime
Dr. Wilhelm Grimm

7. Power Electronics for Off-Grid Photovoltaics

Battery Charge Regulators: Series, Shunt and MPP-Regulators, Circuits, Trends; Off-Grid-Inverters: Requirements, Circuits, Efficiency, Trends
Prof. Dr. Bruno Burger

8. Module Integrated Electronics

Active Bypass Diodes, DC/DC-Converters, Module Inverters, Comparison of Central, String and Module Inverter Concepts
Sönke Rogalla

Dinner with the Possibility to Discuss and to Exchange Experiences

2nd Day 08:30 – 17:30 hrs

9. Single Phase Inverters for Grid Connection

Basic Requirements, Single Phase Inverter Circuits, Efficiency, Sizing, Development Trends
Prof. Dr. Bruno Burger

10. Three Phase Inverters for Grid Connection

Basic Requirements, Three Phase Inverter Circuits, Efficiency, Sizing, Development Trends
Prof. Dr. Bruno Burger

11. PV Inverter Certification

General approval overview, EMC, safety, grid-protection
Stefan Junghans, Frank Hesmer

12. Electromagnetic Compatibility

Basics, Sources of Interference, Filter Components, Measurement
Dr. Heribert Schmidt

13. Feedback Control Systems for Power Electronics

Basic Control Techniques, Modelling of Controlled Systems, Controller Types, Cascaded Control, State Control, Dimensioning of Controller Parameters
Prof. Dr. Uwe Nuß

14. Grid Integration of PV and Grid Codes

Grid Codes for Low and Medium Voltage Grids, Delivery of Reactive Power, Fault Ride Through, Active Power Derating, Power Quality Functions, PV and E-Mobility
Stefan Reichert

15. Interactions between Modules and Inverters

Surface Polarization Effect in High Efficiency Solar Cells; Degradation of Thin Film Modules; DC Voltages to Ground of Different Inverter Types; Which Inverter for which Module Type?
Dr. Heribert Schmidt

Chairman

Prof. Dr. Bruno Burger

Fraunhofer Institute for Solar Energy Systems ISE, Freiburg, Germany

Prof. Burger is the head of the power electronics group at Fraunhofer ISE. His research and development activities are focused on power electronics and digital controls for photovoltaics and fuel cells.

He gives a lecture titled „Power electronics for renewable energy sources“ at the University of Karlsruhe and also works in standardisation committees like DKE on new standards for photovoltaics.



Your Speakers

Prof. Dr. Bruno Burger

Fraunhofer Institute for Solar Energy Systems ISE, Freiburg, Germany

Stefan Junghans

Bureau Veritas Consumer Product Services Germany GmbH

Dr. Wilhelm Grimm

EPCOS AG, München, Germany

Frank Hesmer

Bureau Veritas Consumer Product Services Germany GmbH

Dirk Kranzer

Fraunhofer Institute for Solar Energy Systems ISE, Freiburg, Germany

Prof. Dr. Uwe Nuß

University of Applied Sciences, Offenburg, Germany

Stefan Reichert

Fraunhofer Institute for Solar Energy Systems ISE, Freiburg, Germany

Sönke Rogalla

Fraunhofer Institute for Solar Energy Systems ISE, Freiburg, Germany

Alexander Stadler

STS Spezial-Transformatoren-Stockach GmbH & Co. KG, R&D Center Erlangen, Germany

Dr. Heribert Schmidt

Fraunhofer Institute for Solar Energy Systems ISE, Freiburg, Germany

Optional Get-together on June, 7th, 2010

We have organized an optional **get-together** at Hotel „Prinzregent an der Messe“ (Riemer Straße 350, 81829 München, Phone +49 89 94539-0, **self payment**) starting 19:30 hrs. If you wish to take part please tick the appropriate box (see registration form).

Further information on www.otti.de

For further information about seminars, conferences and upcoming events in the field of Renewable Energies please consult our homepage www.otti.de

You will meet

Planners, producers, engineers and scientists active in power electronics for renewable energies, manufacturers and suppliers of power electronic systems and energy storage technology, energy consultants and suppliers.