



DECHEMA e.V.



You are cordially invited to participate in the FIRST INTERNATIONAL CONFERENCE ON MATERIALS FOR ENERGY

to be held from **July 4 to July 8, 2010**
at the Convention Center Karlsruhe, Germany

Join us at the web at www.dechema.de/enmat2010

INVITATION

A global challenge is avoiding negative effects from the current energy system on climate, environment and health and to find ways to replace fossil fuel supply. New materials can contribute to a positive development in this direction in several ways, for instance by influencing the energy efficiency of industrial production and of household energy use (e.g., through fuel cells, catalysis, reduced friction losses), and by offering schemes to clean up harmful emissions resulting from various energy technologies. Materials are important to efficient harvesting of sun light, harvesting energy from temperature gradients with thermoelectric materials, providing energy storage technology e.g. in batteries and via hydrogen storage, and enabling lightweight materials for transportation. Materials are central to every energy technology; the future will place increasing demands on materials performance with respect to extremes in stress, strain, temperature, pressure, chemical reactivity, photon or radiation flux, and electric or magnetic fields.

The programme of this conference will cover current topics and recent progress in the science and technology of energy and new materials, including the nanoscale origin of macroscopic properties. In detail all aspects of materials for

energy production and conversion, energy storage, energy transport, and energy saving will be addressed.

- ▶ Do you research or work in the fields of energy production, conversion, storage, transmission, transport, distribution, or saving?
- ▶ Do you work in new materials, advanced composites and functional nanomaterials?
- ▶ Do you want to hear cutting edge talks on science and applications of new materials, including nanomaterials?
- ▶ Do you want to make contacts for collaboration or commercial exploitation in materials for energy applications?

If so, then this conference is for you!

The organizing committee will optimize scientific communication and networking among participants.



ARE YOU INTERESTED?

Please contact the conference office at DECHEMA e.V.

Attn. Claudia Martz, Congress Office
Theodor-Heuss-Allee 25
60486 Frankfurt am Main, Germany
Phone: +49 69-7564-129
Fax +49 69-7564-176
E-Mail: martz@dechema.de

KEY DATES

- ▶ Abstract submission: till November 15, 2009
- ▶ Notification of acceptance: February 2010
- ▶ Availability of programme: April 2010

CONFERENCE FEE

| | |
|----------------------|---------|
| Industry | EUR 940 |
| Academia | EUR 560 |
| Student | EUR 100 |
| Day Tickets Industry | EUR 470 |
| Day Tickets Academia | EUR 280 |

CALL FOR PAPERS

Please prepare your abstract with the template available on the internet and upload your file at: www.dechema.de/enmat2010.

ABSTRACT: Maximum 1 DIN A4 page, in electronic form (MS Word@-file),
DEADLINE: November 15, 2009 Submission of title and abstract

You are invited to contribute oral or poster presentations in all symposia listed in conference contents.

EXHIBITION

Date: July 04 - July 08, 2010

INCLUDED ARE

free attendance of 1 person at the conference, your logo and link on the conference homepage, and your logo in the proceedings.

ORGANIZED BY



SUPPORTED BY



CONFERENCE CHAIRMEN

- ▶ **Horst Hahn**
Forschungszentrum Karlsruhe GmbH,
Eggenstein-Leopoldshafen/D
- ▶ **Alan J. Hurd**
Los Alamos National Laboratory, NM/USA
- ▶ **Wolfram Münch**
EnBW Energie Baden-Württemberg AG,
Karlsruhe/D
- ▶ **Abdelilah Slaoui**
Laboratoire InESS – CNRS, Strasbourg/F
- ▶ **Cynthia A. Volkert**
University of Göttingen/D



CONFERENCE CONTENTS - SYMPOSIA AND SESSION CHAIRS

SYMPOSIUM 1: ENERGY CONVERSION

Alan J. Hurd
Los Alamos National Laboratory, NM/USA
Abdelilah Slaoui
Laboratoire InESS – CNRS, Strasbourg/F

- 1.1 New Materials for Fossil Power Plant**
Eberhard Roos, University of
Stuttgart/D & Lorenz Singheiser,
Forschungszentrum Jülich GmbH/D
- 1.2 New Materials in Nuclear Energy
Systems – Fission and Fusion**
Robert S. Averback, University of
Illinois, IL/USA & Damien Féron, CEA,
Gif-sur-Yvette/F
- 1.3 Materials for the Conversion of
Biomass and Waste**
François Ropital, IFP, Vernaison/F &
Eckhard Dinjus, Forschungszentrum
Karlsruhe GmbH,
Eggenstein-Leopoldshafen/D
- 1.4 Direct Solar Energy Conversion
and Transmission**
Gilles Flamant, CNRS, Font-Romeu/F &
David S. Ginley, National Renewable
Energy Laboratory NREL, Golden, CO/USA
- 1.5 Solar Fuels / Artificial Photosynthesis**
Christian Jooss, University of
Göttingen/D & David Cahen, Weizmann
Institute of Science, Rehovoth/IL
- 1.6 Materials for Fuels Cells**
Willem J. Quadackers, Forschungs-
zentrum Jülich GmbH/D &
Ellen Ivers-Tiffée, University of
Karlsruhe (TH)/D
- 1.7 Thermoelectrics: From Highly Efficient
Structures to High-Temperature
Generators**
Kornelius Nielsch, University of
Hamburg/D & Marie-Christine Record,
University of Aix-Marseille/F

SYMPOSIUM 2: ENERGY STORAGE

Horst Hahn
Forschungszentrum Karlsruhe GmbH,
Eggenstein-Leopoldshafen/D
Regine Hedderich
NanoMat, Karlsruhe/D

- 2.1 Hydrogen Storage**
Andreas Züttel, EMPA, Duebendorf/CH &
Maximilian Fichtner, Forschungszentrum
Karlsruhe GmbH,
Eggenstein-Leopoldshafen/D
- 2.2 Thermal Energy Storage**
Rainer Tamme, German Aerospace
Center, Stuttgart/D
- 2.3 Electrochemical Energy Storage:
Batteries and Supercapacitors**
Martin Winter, University of Münster/D &
Kai-C. Möller, Fraunhofer ISC, Würzburg/D
- 2.4 Composite Materials for
Energy Storage**
Dmitry Shchukin, MPI for Colloidal
Research, Golm/D & Brigitte Baretzky,
MPI for Metals Research, Stuttgart/D

SYMPOSIUM 3: ENERGY EFFICIENCY AND DISTRIBUTION

Wolfram Münch
EnBW Energie Baden-Württemberg AG,
Karlsruhe/D
Cynthia A. Volkert
University of Göttingen/D

- 3.1 Catalysts for Sustainable Energy
Applications**
Johannes A. Lercher, TU München/D &
Marie-Isabelle Baraton, Université de
Limoges/F
- 3.2 Building Materials and Systems
for Construction**
Michael Kutschera, BASF Construction
Chemicals GmbH, Trostberg/D

**3.3 Light-Weight Strategies, Concepts,
Design, Materials, Processes and
Methods**
Frank Henning, Fraunhofer ICT, Pfinztal/D
& KIT, Karlsruhe/D

**3.4 Materials Research for
Solid-State Lighting**
Julia Phillips, Sandia National
Laboratories, Albuquerque, NM/USA &
Elmar Keßeneich, BASF Future Business
GmbH, Ludwigshafen/D

**3.5 Materials for Next Generation
Electricity Transmission and Delivery**
David S. Ginley, National Renewable
Energy Laboratory NREL, Golden,
CO/USA & William Tumas, Los Alamos
National Laboratory, NM/USA &
Hans-Peter Beck, Energie-Forschungs-
zentrum Niedersachsen, Goslar/D

SYMPOSIUM 4: FRONTIERS IN MATERIALS SCIENCE

David Young
University of New South Wales, Sydney/AUS
Michael Schütze
DECHEMA e.V., Frankfurt am Main/D

- 4.1 High-Throughput Technologies for
Energy Materials**
Wolfgang Schrof, BASF SE, Ludwigs-
hafen/D & Thomas Brinz, Robert Bosch
GmbH, Waiblingen/D
- 4.2 Materials for Energy Applications**
Pulickel M. Ajayan, Rice University,
Houston, TX/USA &
S. Ravi P. Silva, University of Surrey,
Guildford/UK
- 4.3 Materials for High Temperatures and
Extreme Environments**
Wim G. Sloof, Delft University of
Technology/NL
- 4.4 Surface Engineering in Gas and
Steam Turbines**
Nazlim Bagcivan, RWTH Aachen/D &
Francisco J. Pérez-Trujillo, Universidad
Complutense de Madrid/ES

INVITED SPEAKERS

- ▶ **George Crabtree**
Argonne National Laboratory, IL/USA
- ▶ **Andreas Gutsch**
Li-Tec Battery GmbH & Co. KG, Kamenz/D
- ▶ **Michael Schütze**
DECHEMA e.V., Frankfurt am Main/D
- ▶ **Alfred Voß**
University of Stuttgart/D