


CPG Center for Power Generation

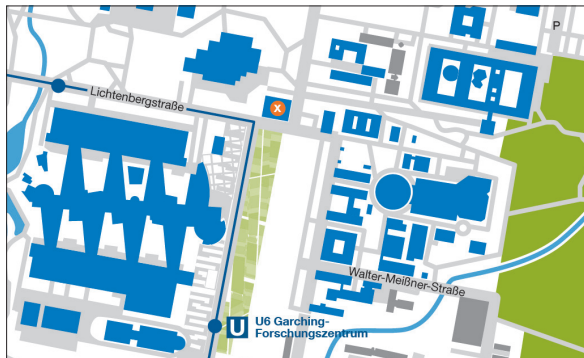
MSE

TUM

NRG Network for Renewable Energy

 Science Center for Electromobility

ZNB Center for Sustainable Building



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Organizer:

MSE - Munich School of Engineering
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Research Towards Innovative Energy Systems and Materials

3rd Colloquium of the Munich School of Engineering

04.07.2013
8.30 am to 9.00 pm



In 2003, four of the twenty biggest companies listed in the Forbes 2000 list belonged to the oil and gas business. Nine years later this number had increased to eight. This development demonstrates the increasing importance of energy for the development of the world economy. During the last ten years the oil price rose from

20\$/bbl to a 100\$/bbl, mainly as result of increasing demand. Did we enter the final game of the fossil fuel age or will this age be prolonged by an unprecedented hunt for the last litre of oil and gas which will be squeezed out of mother earth? In either case, research efforts aiming at the development of alternative sources of energy and a much more efficient use of energy are necessary to guarantee economic prosperity, integrity of eco- and climate systems and the reduction of political tensions in resource rich areas of the world.

The Munich School of Engineering (MSE) promoting TUM.Energy hosts promising research projects in Bavaria which try to give an answer to the global challenges as well as to the special efforts necessary to make the "Energiewende" in Germany a long-term success. Ph.D. students and young researchers at the heart of these efforts will again give examples of their excellent work in this year's MSE-colloquium.

I would like to invite you to participate in the MSE colloquium 2013, get more insight in the work of TUM researchers, find possible collaborators and enjoy a day full of exciting presentations and discussions.

Thomas Hamacher
Director Munich School of Engineering

8.30 - 9.00 am
Registration

9.00 - 9.15 am
Opening

Thomas Hamacher, Director Munich School of Engineering

9.15 - 9.45 am
Keynote: Shale Gas Revolution
Olaf Martins, ExxonMobil

9.45 - 11 .00 am
Session Chair: Hartmut Spliethoff, CPG MSE

Flexible Power and Synthesis Plant Concepts with Integrated Chemical Power Storage
Alexander Buttler, Institute for Energy Systems

Explosive Combustion of Stratified Hydrogen-Air Mixtures – Experimental Observations and Conclusions for Safety Applications
Lorenz Böck, Chair for Thermodynamics

Table-top Electron-beam Induced Plasma Chemistry
Andreas Himpsl, Chair for Experimental Physics

11.00 - 11.45 am
Poster Presentation, Coffee Break

11.45 - 1.00 pm
Session Chair: Werner Lang, ENPB MSE

Processes for the Gasification of Biomass and Current Developments
Markus Ulbrich, Chair for Energy Systems

Smart Grid Simulation
Christoph Doblander, Chair for Application and Middleware Systems

Heat Consumption Analysis on a City Scale
Peter Böhme, Institute for Energy Economics and Application Technologies

1.00 - 2.30 pm
Poster Presentation, Lunch Break

2.30 - 3.45 pm
Session Chair: Müller-Buschbaum, NRG MSE

Large-Scale Spray Deposition of Functional Materials for Photovoltaics
Alaa Abdellah, Institute for Nanoelectronics

Alternative Supports for Applications in Electrocatalysis: Ethanol Oxidation on Pt/TiO_xCy
Celine Rüdiger, Institute of Advanced Study

Highly Conductive PEDOT:PSS as Electrode for Flexible Structured ITO-free Organic Electronics
Claudia M. Palumbiny, Chair of Functional Materials

3.45 - 4.30 pm
Poster Presentation, Coffee Break

4.30 - 5.45 pm
Session Chair: Markus Lienkamp, WZE MSE

Greenhouse Gas Emissions from Induced Impacts in the Built Environment
John E. Anderson, Institute for Energy Efficient Building and Design

A Need- and Willingness-based Approach for Online Electric Vehicle Charging Control
Victor del Razo, Chair for Application and Middleware Systems

Power Systems Research – Why we Should Cooperate
Herbert Mangesius, Institute for Information-Oriented Control; Matthias Huber, Institute for Energy Economics and Application Technologies

5.45 - 6.00 pm
Summary of the Day

6.00 - 6.45 pm
Keynote: Climate Science - What Do We Know About Past, Current and Future Climate Change?
Janina Körper, Freie Universität Berlin

6.45 - 9.00 pm
Poster and Presentation Award, Colloquium Dinner