

“Energy efficiency, façade technology and the environmental footprint”

2nd GPEE Specialist Seminar

Date: 23rd February 2015

Location: 25hours Hotel
HafenCity Hamburg
Überseeallee 5
20457 Hamburg

Register online until 16th February 2015
and participate for free in the seminar:
<http://www.gpee.net/results/gpee-events.html>

German-Polish
Energy Efficiency Project



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Background and Aims

Energy efficiency and the development of innovative approaches towards renewable energy are high on top of Europe's scientific, economic and political agenda. In particular, energy efficiency means that energy losses seen in **old and very old buildings**, which make up the overwhelming majority of objects today, can be reduced, hence decreasing the waste of energy and the damage to the climate via unnecessary **CO₂ emissions**.

One of the major challenges to sustainable development in Germany, Poland and other countries of the European Union is how to **promote energy efficiency**, so as to allow those countries to meet their **climate commitments** and simultaneously maximise their economic potential of building. One of the means through which this challenge can be met is by fostering energy efficiency in buildings on the one hand, but also by the development of **innovative approaches to facade technology** on the other, both helping to reach the goal of "**zero emission**" buildings.

Aims of the seminar

The 2nd GPEE Specialist Seminar "**Energy efficiency, façade technology and the environmental footprint**" will present actual research on highly developed façade technology and will point to aspects such as **insulation, daylight utilization and ventilation**. Furthermore, **cost-benefit analyses** of energy efficient facades and the **environmental footprint** of energy efficient façade technology will be discussed. An excursion throughout the **HafenCity Hamburg** will showcase some best practice examples of energy efficiency in the building sector.

ENERGY EFFICIENCY, FAÇADE TECHNOLOGY AND THE ENVIRONMENTAL FOOTPRINT

2nd GPEE Specialist Seminar

Programme - 23rd February 2015

Moderation: Jan Gerbitz, ZEBAU GmbH, Hamburg

9:30 *Registration and welcome coffee*

WELCOME & INTRODUCTION

10:00 **Welcome**

Prof. Dr. Rainer Sawatzki, Vice Dean Faculty of Life Sciences, Hamburg University of Applied Sciences (HAW Hamburg)

10:10 **Introduction to the theme of the day**

Prof. Dr. Walter Leal, HAW Hamburg, Coordinator of the German Polish Energy Efficiency Project (GPEE)

10:20 **Potentials and challenges of energy efficient buildings in frame of sustainable urban development in Europe (incl. Q & A)**

Prof. Dr. Klaus Rückert, Institut für Architektur, Technische Universität Berlin

11:00 *Coffee break*

SESSION A: TRENDS IN ENERGY EFFICIENT FAÇADE TECHNOLOGY

11:15 **Energy performance of dynamic insulation built in the experimental façade system**

Anna Machniewicz, Lodz University of Technology

11:35 **Application of a BIPV to cover net energy use of the adjacent office room**

Dominika Knera, Lodz University of Technology

11:55 **Dynamic control of natural ventilation in energy efficient façade systems**

Prof. Dr.-Ing. Frank Wellershoff, Façade Systems and Building Envelopes, HafenCity University Hamburg

12:15 Question and answer session with the speakers of session A

12:30 *Lunch break*

SESSION B: MODERN FAÇADE TECHNOLOGY: ENVIRONMENTAL & ECONOMIC ASPECTS

13:30 **Environmental, energy and economy aspects in zero-emission façade system design**

Magda Barecka, Lodz University of Technology

13:50 **Cost-benefit analysis of energy efficient measures in buildings**

D. Sc. (Tech.) Piia Sormunen, Head of competence center, Energy smart environment, Metropolia, Helsinki University of Applied Sciences

14:10 **Experiences from Estonia: Daylight regulations and the importance of façade design**

Prof. Hendrik Voll, Head of the Chair heating and ventilation, Faculty of Civil Engineering, Tallinn University of Technology

14:30 Question and answer session with the speakers of session B

14:50 Wrap-up and closing remarks

15:00 End of Specialist Seminar

15:30 **Excursion:** Best practice example HafenCity Hamburg

17:00 *End of the day*

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The „German-Polish Energy Efficiency (GPEE)” Project

The GPEE project fosters energy efficiency in buildings as a means to contribute to climate protection in German and Polish Cities. The focus of the project is to develop a facade technology for “zero-emission buildings”.

Specific aims of the GPEE project are

1. to identify current and future technological requirements for energy efficiency in buildings, so as to reduce CO₂ emissions and make them more sustainable;
2. to measure current deficits in energy efficiency in both countries and to develop technologically based integrated renewable energy systems, with a view to maximise the use of daylight and other factors contributing to more climate-friendly buildings;
3. to develop a set of criteria for optimisation (energy and functionality) based on building performance simulations, and to suggest possible architectural solutions, including the construction of optimized, external wall systems for buildings.

The project is funded by the German Federal Ministry for Education and Research (BMBF) and the polish Ministry of Science and Higher Education. The binational project consortium consists of German and Polish academic and industrial partners. Its implementation period is from March 2013 until February 2016. The project coordinator is Prof. Dr. (mult.), Dr. h.c. (mult.) Walter Leal, head of the Research & Transfer Centre “Applications of Life Sciences” at HAW Hamburg.

For more information about the GPEE project
please visit www.gpee.net

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Organizers and Contact

The 2nd GPEE Specialist Seminar “Energy efficiency, façade technology and the environmental footprint” is hosted by the Research and Transfer Centre »Applications of Life Sciences« (FTZ-ALS) at Hamburg University of Applied Sciences (HAW Hamburg).

The Centre is the HAW Hamburg Life Sciences Faculty’s research and development institute. It develops local, national and international project-based solutions with the main focus on topics like energy, climate protection, mobility and sustainability.

The seminar is also hosted in frame of the Regional Centre of Expertise on Education for Sustainable Development – Hamburg and region (RCE Hamburg). RCE Hamburg focuses on networking and cooperation, development and delivery of training, interaction with established education structures and the promotion of ESD as the key to a sustainable future.

Hochschule für Angewandte Wissenschaften Hamburg

Forschungs- und Transferzentrum »Applications of Life Sciences«

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