

SBE 16 Hamburg
International Conference on Sustainable Built Environment
- Scientific Program -

Tuesday, 08/Mar/2016

9:00am – 10:30am Opening Keynotes

Welcoming

Dr. Walter Pelka
President HafenCity University

Welcoming

Federal Minister Dr. Barbara Hendricks
Federal Environment Minister, Ministry for Environment, Nature Conservation, Building and Nuclear Safety

Welcoming

Senator Katharina Fegebank
Free and Hanseatic City of Hamburg

Overview on SBE Conference Series

Nils Larsson
iiSBE International Initiative for a Sustainable Built Environment

Introduction to SBE16 Hamburg

Prof. Dr.-Ing. habil. Thomas Lützkendorf
Karlsruhe Institute of Technology (KIT) and head of scientific chair of SBE16 Hamburg

Keynote

Prof. Dr. Mojib Latif
GEOMAR Helmholtz-Institute Kiel

Keynote

Hans-Dieter Hegner
Head of the Department for construction engineering, building science and sustainable building of the Ministry for Environment, Nature Conservation, Building and Nuclear Safety

11:00am - 12:30pm Ses 1.1: International experience

SUSTAINABILITY PROFILE OF URBAN PLANNING IN ALGIERS

Mohamed SRIR, Ewa BEREZOWSKA AZZAG
Ecole Polytechnique d'Architecture et d'Urbanisme, Algeria

Learning from Ethiopia – A discussion on sustainable building

Nicole Baron, Dirk Donath
Bauhaus University Weimar, Germany

Resilient Community Centres for Nepal Earthquake Victims

James Roger Markham¹, Mark Daniel Russell¹, Mark Charles Stone¹, Deepak Bhattarai², Alok K Bohara^{3,4}

¹Civil Engineering Department, University of New Mexico, United States of America; ²Nepal Engineering College, Changu Narayan VDC, Bhaktapur, Nepal; ³Department of Economics, University of New Mexico, United States of America; ⁴Nepal Study Centre, University of New Mexico, United States of America

"degewo Zukunftshaus": Concepts for sustainable energetic rehabilitation of buildings

Friedrich Sick

HTW Berlin - University of Applied Sciences, Germany

Green Buildings: A Concept aligning the interests of Stakeholders (Developers / Clients and End-users) in Estate Development Projects in Abuja - F.C.T (Federal Capital Territory), Nigeria.

Salisu Dalibi Gidado, Hadiza Balarabe, Jamilu Bala Mai Auduga, Luka Goji Tipili, Ibrahim Saleh

Abubakar Tafawa Balewa University Bauchi, Nigeria

Poster

Solar collectors in a prefabricated housing estate: lessons learnt after four years of operation

Agata Czarnigowska, Anna

Lublin University of Technology, Poland

Poster

BuildNow!

Heiner Lippe, Steffen Slama , Stefan Gruthoff

University of Applied Sciences Lübeck, Germany

11:00am - 12:30pm Ses 1.2: Energy supply for urban areas

Buildings as active components in smart grids

Nicole Riediger¹, Friedrich Sick¹, Jan Keiser²

¹HTW Berlin - University of Applied Sciences, Germany; ²Technical University Berlin, Germany

Renewable Energy and Thermal Comfort in Buildings as Smart Grid Components

Martin Bauer

Augsburg University of Applied Sciences, Germany

Effects of energy efficiency measures in district-heated buildings on energy systems

Truong Nguyen Le, Leif Gustavsson

Department of Built Environment and Energy Technology, Linnaeus University, Sweden

The aspect of space in future energy systems

Jürgen Knies

Jade University of Applied Sciences Oldenburg, Germany

Development of a simple approach for applying LCA analysis to compare decentralized energy supply options for urban areas

Claudia Weißmann, Fabian Staab, Carl-Alexander Graubner

Technical University Darmstadt, Germany

11:00am - 12:30pm Ses 1.3: Valuation and selection of construction products

Environmental product declaration (EPD) for sustainable construction - new challenges

Eva Dr. Schmincke

Thinkstep AG, Germany

Sustainability assessment tool for building materials

Silvia de Lima Vasconcelos¹, Carlos Alho², Olaf Zeidler¹, Birgit Müller¹

¹HTW Berlin - University of Applied Sciences, Germany; ²Faculdade de Arquitectura, Universidade de Lisboa

LCA, EPD and Labels - How to Select Green Building Products?

Thomas Schmitz

natureplus e.V., Germany

Ecolabelling of Building materials in Russian Federation: condition and prospects

Petr Zhuk

Moscow Institute of Architecture (state academy), Russian Federation

**European LCA data network - the open public data format and online database
ÖKOBAUDAT as a starting point?**

Tanja Brockmann

The Federal Institute for Research on Building, Urban Affairs and Spatial Development (BBSR)
within the Federal Office for Building and Regional Planning (BBR)

2:00pm - 3:30pm Ses 2.1: Net zero and plus energy buildings

**Teaching Sustainability and Strategies of Reuse: Identifying Sustainable
Parameters and Learning from 1:1 Material Studies**

Terri Peters

Aarhus Architecture School, Denmark

**Design for minimum life cycle energy and emissions: application to a minLCee
building in Brazil**

**Vanessa Gomes da Silva¹, Marcella Saade¹, Bruno Lima², Maristela Silva³, Natalia Nakamura¹,
Doris Kowaltowski¹**

¹University of Campinas, Campinas – SP, Brazil; ²Solsticio Energia, Campinas – SP, Brazil;

³Technology Center, Federal University of Espirito Santo, Vitoria – ES, Brazil

**Potential and risk for (nearly)-Zero-Energy-Buildings under defined urban
densities: The case of Singapore**

Hsiao-Hui Chen, Udo Dietrich

HafenCity University Hamburg, Germany

**Design phase greenhouse gas emissions for a zero-emission residential pilot
building**

Torhildur Fiola Kristjansdottir¹, Inger Andresen¹, Harald Amundsen², Clara Stina Good¹

¹Norwegian University of Science and Technology, Norway; ²Brødrene Dahl Norway

Graphical User Interface for Plus Energy Multi-family houses

Annekatriin Koch

Technical University Darmstadt, Germany

**Life cycle approach as a method for optimizing building services systems in
extremely low energy buildings**

Jens Tønnesen, Torhildur Kristjansdottir

Norwegian University of Science and Technology (NTNU), Norway

2:00pm - 3:30pm Ses 2.2: Education 1

**Environmental and social concerns in architectural education: experience of
school of architecture, Tianjin university**

Wei Yang, Lu Sun, Yi-fan Zhang, Shi-da Liu, Yu Yang-guang Mu

Tianjin University, School of Architecture, China, People's Republic of

**Where do design ideas come from? the challenge of teaching bioclimatic and
sustainability concepts**

Doris Kowaltowski, Vanessa Gomes da Silva, Marcella Deliberador

University of Campinas, Brazil

**Creating Awareness for Sustainable Construction through Practice Oriented
Teaching in Architectural Education in Eastern Africa**

Susanne Gampfer

Augsburg University of Applied Science, Germany

**Integrating climate responsive principles into the design process: Educating the
architect of tomorrow**

Maria-Ioanna Giannousopoulou, Andrea Henriquez, Udo Dietrich

4:00pm - 5:30pm **Ses 3.1: Building integrated solutions and new technologies**

benefit E – strategies to eliminate technical, economic, planning-related and legal barriers

Christoph Drebes, Steffen Wurzbacher

Technical University Darmstadt, Germany

Green Roof Integrated Photovoltaics: Technologies and Application on an Urban Development Project in Hamburg, Germany

Bettina Steuri^{1,2}, Gionatan Vignola^{1,2}

¹BenG architects, Germany; ²HafenCity University Hamburg, Germany

On your roofs – get set – green!

Bart Jan Davidse¹, Michael Richter², Hanna Bornholdt¹, Wolfgang Dickhaut²

¹Free and Hanseatic City Hamburg, Germany; ²HafenCity University Hamburg, Germany

Assessment of sensing performance of wireless illuminance sensors in built environment

Yee Loon Sum, Szu-Cheng Chien, Yiu Wing Edwin Chan, Boon Hee Soong, King Jet Tseng

Nanyang Technological University, Singapore

Poster

Effects of a building-integrated photovoltaic system on a high-rise estate in Hamburg, Germany

Bettina Steuri, Gionatan Vignola

BenG architects, Germany; HafenCity University Hamburg, Germany

Poster

Functional building surfaces, focus on smart windows

Katrin Linne, Bert Liebold, Jürgen Ruth

Bauhaus-University Weimar, Germany

4:00pm - 5:30pm **Ses 3.2: Education 2**

Integrating eco-design in French engineering curriculum: the example of Ecole des Ponts ParisTech

Anne Cecile de Bortoli, Adelaide Feraille, Natalia Kotelnikova-Weller, Fabien Leurent

Ecole des Ponts ParisTech - Laboratoire Ville Mobilité Transport, France

Sustainable Housing Design. Integrating technical and housing quality aspects of sustainable architecture in civil engineering education.

Michael Lauring

Aalborg University, Denmark, Denmark

Learning by Doing

Iris Marie Reuther

Graz University of Technology, Austria

Conceptual Design and Development of a Study Program in the Field of Climate Protection Management

Sven Kluczka², Dominik Stollenwerk¹, Bertram Beckmann¹, Isabel Kuperjans¹, Anette Anthrakidis²

¹Institut NOWUM-Energy, FH Aachen University of Applied Sciences, Germany; ²Solar Institute Jülich, FH Aachen University of Applied Sciences, Germany

Sustainable real estate education: Competencies and didactics for a transdisciplinary master's program

Annette Kaempf-Dern, Katja Roether

HafenCity University Hamburg, Germany

4:00pm - 5:30pm **Ses 3.3: Infrastructures and constructed assets**

Evaluation of Sustainable Infrastructure - Using the Southern Quay of the Island of Heligoland as a Case Study

Thomas Schadow¹, Esther Borkowski¹, Ulrich Jäppelt¹, Georg Bosch²

¹WTM Engineers GmbH, Germany; ²HafenCity University Hamburg, Germany

Life cycle assessment of road bridges: Implications from using biobased building materials

Diego Penaloza¹, Anna Pantze², Martin Erlandsson³, Anna Pousette⁴

¹KTH (Royal Institute of Technology)/ SP Technical Research Institute of Sweden, Sweden; ²Tyréns AB, Sweden; ³IVL Swedish Environmental Research Institute, Sweden; ⁴SP Technical Research Institute of Sweden, Sweden

Assessing the Sustainability Performance of Sports Facilities – Methodology and Case Studies

Simone Magdolen, Natalie Essig

Munich University of Applied Sciences (MUAS), Germany

LIFE CYCLE ASSESSMENT OF THE ENVIRONMENTAL PERFORMANCE OF URBAN TRANSPORTATION MODES: INTEGRATED METHODOLOGY WITH APPLICATION TO BUS RAPID TRANSIT

Anne Cecile de Bortoli, Adelaide Feraille, Fabien Leurent

Ecole des Ponts ParisTech - Laboratoire Ville Mobilité Transport, France

Special Sessions Tuesday, 08/Mar/2016

2:00pm - 5:30pm

Special Session: PLANNING FOR ENERGY EFFICIENT CITIES - The PLEEC Final Conference

Welcoming words

Eric Lecomte, Directorate General for Energy, European Commission

Cities driving the transition to a sustainable energy regime

Carsten Rothballer, Coordinator Sustainable Resources, Climate and Resilience, ICLEI - Local Governments for Sustainability, European Secretariat (ICLEI Europe)

Planning for energy efficient cities – the PLEEC project

Julia Haselberger, Hamburg University of Applied Sciences

Becoming an Energy Smart City – an integrated and place-based approach Round-table discussion

Participants:

Prof. Rudolf Giffinger, Technische Universität Wien, Austria

Prof. Erik Dahlquist, Mälardalen University, Sweden

Annika Kunnasvirta, Turku University of Applied Sciences, Finland

Matt Oxby, City of Stoke-on-Trent

Moderation: Mikael Kullman

Coffee Break

Energy Efficiency Action Plans – experiences and crucial steps

Presentation and roundtable discussion with representatives of PLEEC cities

Moderation: Dr. Gudrun Haindlmaier, Technische Universität Wien, Austria

Official release:

The model for energy efficiency and sustainable city planning

Lotta Ek, Eskilstuna municipality, Sweden

“Green Thoughts, Green Futures” – success stories of smart energy efficient cities

Annika Kunnasvirta, Turku University of Applied Sciences, Finland

Future steps – the legacy of PLEEC

Mikael Kullman, PLEEC project coordinator

Javier Campillo, Mälardalen University, Sweden

2:00pm - 5:30pm

Special Session: An open International Data Network? – Harmonization of LCA data bases for sustainable building

Introduction: An open International Data Network – WG InData and the principal approach”

Tanja Brockmann

Standardization – the need for harmonization activities on LCA data for sustainable building

Dieter De Lathauwer

Towards a European Data Network for Construction Product EPDs

Oliver Kusche

Implementing European harmonized EPD

Eva Schmincke

Discussions of central statements of presentations

Summary

Coffee Break

Introduction Results of Session Part I

The Experience – Infrastructure and online implementation of LCA data in BNB (ÖKOBAUDAT, eLCA)

Tanja Brockmann, Stephan Rössig

The Experience of data import and export as EPD program operator

Burkhard Lehmann

The Experience – Rules and verification processes

Hildegund Mötzl

Linking of Databases (OpenDap)

Jose A. Tenorio

EPD and use of external data for building calculation in Denmark

Mathias S., Høeg Kemner

Discussion: Success, problems and open questions from experience

Can Internet of Things (IOT) change everything? Future for LCA

Haakon Hauan

Materials environmental performance data for building level assessments – u UK perspective

Owen Abbe

Need for joint activities (results and approach of WG InData)

Jose A. Tenorio

Discussion of central statements of presentations and others

Summary

Wednesday, 09/Mar/2016

9:00am - 10:30am Ses 4.1: Urban design and mobility

Promoting Sustainable transport; Reviewing the case of pioneer cities

Dalia Abdel Moneim Osman

Helwan University, Faculty of Fine Arts, Egypt

Shenzhen's New Energy Vehicles and charging infrastructure – policies, instruments and development

Johannes Lauer, Wolfgang Dickhaut

HafenCity University Hamburg, Germany

Commercial areas achieving the zero emission goal using the potentials of electric mobility: The eCar-Park Sindelfingen

Manfred Schmid¹, Wolfgang Rid²

¹University of Stuttgart, Germany; ²Erfurt University of Applied Sciences, Germany

Assessment of Walking Experience in Kitakyushu, Japan

Fritz Akhmad Nuzir, Yuki Nakashima, Hirofumi Nishida, Bart Dewancker

The University of Kitakyushu, Japan

9:00am - 10:30am Ses 4.2: Timber structures and biobased products

Timber Building Details for a Leaner Design Process

Yrsa Elisabet Cronhjort¹, Florence Bannier², Sonja Geier³, Frank Lattke⁴

¹Aalto University School of Arts, Design and Architecture, Finland; ²Institut Technologique FCBA, France; ³Lucerne University of Applied Sciences and Arts, Switzerland; ⁴lattkearchitekten, Germany

Carbon storage and CO2 substitution in new and renovated buildings

Holger Koenig

Ascona Gesellschaft für ökologische Projekte, Germany

The linkage of environmental requirements with the selling of building plots – an example

Annette Hafner, Sabrina Schäfer, Karina Krause

Ruhr University Bochum, Germany

Biocomposites for architectural applications based on the second generation of natural annual renewable resources

Hanaa Dahy

University of Stuttgart, Institute of Building Structures and Structural Design (ITKE), Germany

9:00am - 10:30am Ses 4.3: Standardisation, regulation, innovation

A Comparison of How Sustainability and Green Building Standards are being Adopted into Building Construction Codes within the United States and the EU

Thomas M Lawrence¹, Constantinos A Balaras³, Janice K Means²

¹University of Georgia, United States of America; ²Institute for Environmental Research & Sustainable Development, National Observatory of Athens, Greece; ³Lawrence Technological University, United States of America

Sustainability elements in the Danish Building Regulations

Lone Hedegaard Mortensen, Harpa Birgisdottir

Danish Building Research Institute, Aalborg University Copenhagen, Denmark

Building for the Gap. Innovative engineering for housing applications in Africa.

Dirk Donath¹, Piet Dissel², Asgedom Haile³

¹Bauhaus University Weimar, Germany; ²African European Engineer, Addis Ababa; ³EiABC at Addis Ababa University

Poster

RESEARCH ON INNOVATION DEVELOPMENT FOR RESIDENTIAL REAL ESTATE INVESTMENT PROJECTS

Rasa Apanaviciene, Rimantė Verseckienė, Ala Daugėlienė
Kaunas University of Technology, Lithuania

10:45am – 12:15pm Special Session UN Climate Change Conference (COP21 Paris)

Keynote: Report and findings from the COP 21 Paris 2015

Nils Larsson

iiSBE International Initiative for a Sustainable Built Environment

Keynote: What does the Paris outcome mean for future cities?

Stefan Schurig

The World Future Council

Keynote: COP21 and the consequences for sustainable building

Dr. Harry Lehmann

Federal Environment Agency

2:00pm - 3:30pm Ses 6.1: Development of urban districts I

Decision Support Environment - assisting the transformation of built environment towards sustainability

Daiva Jakutyte-Walangitang¹, Ivo Wenzler², Joost Brinkman², Jan Peters-Anders¹

¹Austrian Institute of Technology, Vienna, Austria; ²Accenture, Amsterdam, Netherlands

Sustainable neighbourhood in Saint-Petersburg

Mariya Bychkova

SPBUACE, Russian Federation

Planning of ecologically and economic optimized district refurbishments

Rafael Horn¹, Michael Jäger¹, Roberta Graf²

¹Fraunhofer Institute of Building Physics, Germany; ²University of Stuttgart, Chair of Building Physics, Germany

A holistic Methodology for District Retrofitting projects management through an Integrated Decision Support Tool

Paul Mittermeier¹, Ahmed Khoja¹, Natalie Essig¹, Ander Romero Amorrotu²

¹Munich University of Applied Sciences (MUAS), Germany; ²Tecnalia

Supporting urban district development by sustainability assessment

Thomas Luetzkendorf, Maria Balouktsi, Juergen KopfmueLLer, Marius Albiez

Karlsruhe Institute of Technology (KIT), Germany

2:00pm - 3:30pm Ses 6.2: Sustainable assessment systems – further development and application

The development of a life cycle assessment tool for the Danish building sector

Freja Nygaard Rasmussen, Harpa Birgisdóttir

Aalborg University, Denmark

Development of a cost-effective sustainability assessment method for small residential buildings in Germany: Results of pilot case studies.

Sara Lindner, Natalie Essig

University of Applied Sciences Munich, Germany

Certification of Sustainability: Results from Practice

Merten Welsch

Federal Institute for Research on Building, Urban Affairs and Spatial Development (BBSR), Germany

User-friendliness of current building environmental impact assessment tools: a Flemish architect's perspective

Elke Meex, Elke Knapen, Griet Verbeeck
Hasselt University, Belgium

Towards Unified Sustainable Buildings Rating System Categories through Assessing Buildings' Life Cycle Sustainable Requirements

Ahmed Mohsen Abd El Fattah
King Fahd University of Petroleum and Minerals, Saudi Arabia

2:00pm - 3:30pm Ses 6.3: Portfoliomanagement & improvement of building stock

Implementation of Sustainability Success Factors in Processes of Portfolio Management

Thomas Friedrich
DEKA Immobilien GmbH / Doktorant am Karlsruher Institut für Technologie (KIT), Germany

Improving energy performance: many small interventions or selective deep renovations?

Nico Nieboer
Delft University of Technology, Netherlands

Guiding the building stock to post-carbon future

Jens Schuberth, Monika Ollig
Federal Environment Agency (Umweltbundesamt), Germany

Single family home stocks in transition - implications for urban resource efficiency

Milena Martinsen, Andreas Blum, Norbert Krauß
Leibniz Institute of Ecological Urban and Regional Development, Germany

Mapping, Modelling and Monitoring of Energy-Saving Processes in Residential Building Stocks

Britta Stein, Nikolaus Diefenbach, Tobias Loga
Institut Wohnen und Umwelt GmbH, Germany

2:00pm - 3:30pm Ses 6.4: Stakeholder perspectives and actions I

Documenting sustainable business practices of housing companies: Sector-specific supplement to the German Sustainability Code (Deutscher Nachhaltigkeitskodex, DNK)

Michael Neitzel, Wiebke Gottschalk
InWIS Forschung & Entwicklung GmbH, Germany

How future-proof is your campus? Sustainability in the real estate management of research organisations

Lisa Andes, Thomas Lützkendorf, Matthias Unholzer
Karlsruhe Institute of Technology (KIT), Germany

Capturing sustainable housing characteristics through Electronic Building Files: The Australian Experience

Wendy Miller¹, Thomas Luetzkendorf²
¹Queensland University of Technology, Australia; ²Karlsruhe Institute of Technology (KIT), Germany

Embodied impacts in stakeholder decision-making in the construction sector

Maria Balouktsi¹, Thomas Lützkendorf¹, Greg Foliente²
¹Karlsruhe Institute of Technology (KIT), Germany; ²CSIRO Land and Water and the University of Melbourne

Emerging Envelopes. Design Education for adaptive and sustainable Facades.

Uta Pottgiesser, Anan Ashour
Ostwestfalen-Lippe University of Applied Sciences, Germany

4:00pm - 5:30pm Ses 7.1: Development of urban districts II

Enabling energy sufficiency as a sustainable development concept in shrinking urban districts: the case of Wuppertal-Vohwinkel

Marie-Christine Groene

Wuppertal Institute for Climate, Environment and Energy, Germany

Local initiatives for motivating Danish house-owners for energy improvements

Jesper Ole Jensen, Kirsten Gram-Hanssen, Freja Friis

Danish Building Research Institute, Aalborg University Copenhagen, Denmark

INSTITUTIONAL CONDITIONS FOR SUSTAINABLE PRIVATE SECTOR-LED URBAN DEVELOPMENT PROJECTS: A CONCEPTUAL MODEL

Erwin Heurkens

Delft University of Technology, Netherlands, The

4:00pm - 5:30pm Ses 7.2: LCA-application and further development

Building life cycle assessment: investigation of influent parameters in a helpful decision tool

Marie-Lise Pannier, Bruno Peupartier, Patrick Schalbart

MINES ParisTech, PSL Research University, CES - Centre d'efficacité énergétique des systèmes, 60 Bd Saint Michel 75006 Paris, France

Effects of different reference study periods of timber and mineral buildings on material input and global warming potential referring to building construction and technical equipment

Annette Hafner, Sabrina Schäfer, Karina Krause

Ruhr University Bochum, Germany

Innovative building technologies and technical equipment towards sustainable construction – a comparative LCA and LCC assessment

Alexander Passer¹, Petra Sölkner², Gernot Fischer¹, Sebastian Spaun³

¹Graz University of Technology, Austria; ²Austrian cooperative Research (ACR), Austria;

³Forschungsinstitut der Vereinigung der Österreichischen Zementindustrie (VÖZfi), Austria

Application of a parametric real-time LCA tool in students' design projects

Alexander Hollberg¹, Marcel Ebert¹, Stephan Schütz¹, Burhan Cicek², Rainer Gump¹, Jürgen Ruth¹

¹Bauhaus University Weimar, Germany; ²University Mersin, Turkey

4:00pm - 5:30pm Ses 7.3: Public sector - activities and experiences

Faithfulness in small things?

Iris Marie Reuther

Graz University of Technology, Austria

Sustainable Public Procurement of construction works – a literature review and future requirements

Johannes Wall, Christian Hofstadler

Graz University of Technology, Austria

Exemplary Results of the Implementation of Assessment System BNB in the Public Sector

Andreas Rietz

Federal Institute for Research on Building, Urban Affairs and Spatial Development (BBSR), Germany

Monitoring of the State Ministry for Urban Development and the Environment in Hamburg

Kristian Duus, Gerhard Schmitz

Hamburg University of Technology, Germany

Developing Abu Dhabi's Sustainability Energy Index

Huda Alsalmi

Abu Dhabi Municipality, United Arab Emirates

4:00pm - 5:30pm Ses 7.4: Stakeholder perspectives and actions II

STAKEHOLDERS' AWARENESS OF GREEN BUILDING AND SUSTAINABLE DEVELOPMENT ISSUES IN ABUJA, NIGERIA

Paul Abayomi Bajere

Federal University of Technology, Minna, Nigeria, Nigeria

Sustainability survey amongst architects in the German state of Baden Wurttemberg on the adaptation level of sustainability aspects in the real estate sector

Jonas Karl Loeser

University of Stuttgart, Germany

Risk Management in construction green building in Kuwait

Shaikha AlSanad

Kuwait Institute for Scientific Research, Kuwait

Poster

Evaluation of risks associated with bonds and guarantees in construction projects

Ayodeji Emmanuel Oke¹, Deji Rufus Ogunsemi¹, Stephen O Ogunlana², Olaniyi Isaac Aje¹

¹Federal University of Technology Akure, Nigeria; ²Heriot-Watt University, Edinburgh, Scotland

Poster

Determining Characteristics in Developing Economies that Influence Sustainable Construction

Joshua Wayland Snarski, Antonia Kati Papadopoulos, Bilge Gokhan Celik

Roger Williams University, United States of America

Special Sessions Wednesday, 09/Mar/2016

2:00pm - 5:30pm

Special Session: "Development of an energy efficient façade:

Current technologies and measurement installation"

German-Polish Energy Efficiency Project (GPEE) Final Conference

SESSION A – Introduction – Keynote – Measurement of energy efficiency in buildings

Welcome & introduction of the GPEE project

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

Keynote: **Towards Sustainable and Solar Buildings – an integrated approach,**

Astrid Schneider, AIT Austrian Institute of Technology, Vienna, Austria

Best Practice: Open Source Energy Monitoring for Scientific Applications

Nils Heinrich, Envidatec GmbH, Hamburg, Germany

Question and answer session with the speakers of session A

Coffee break

SESSION B – Aspects of energy efficient façade technology

Temperature distribution in the mineral wool insulation component enhanced by PCM external covering

Anna Wieprzkowicz, Technical University of Lodz, Poland

Energy efficiency of experimental BIPV facade in high temperatures
Dominika Knera, Technical University of Lodz, Poland

Assessment of daylight conditions in the office room equipped with reflective louver system
Artur Borowczyński, Technical University of Lodz, Poland

Question and answer session with the speakers of session B

Thursday, 10/Mar/2016

9:00am - 10:30am Ses 8.1: Urban development under specific conditions

The Future of Urban Development in Egypt under the Impact of Water, Fossil Fuel Energy and Climate Change Barriers, Green Infrastructure and Renewable Energy as Sustainable Urban Development Approaches

Ahmed Khaled Elewa

Helwan University, Faculty of Fine Arts, Architecture Department, Egypt

A case study of stormwater management system for Guzelyurt, Northern Cyprus

Elham Jahani¹, Bertug Akintug¹, Wolfgang Dickhaut²

¹Middle East Technical University Northern Cyprus Campus, Turkey; ²HafenCity University Hamburg (HCU), Germany

Evaluation of green roof hydrologic performance for rainwater runoff management in Hamburg

Michael Richter, Wolfgang Dickhaut

HafenCity University Hamburg, Germany

Asphalt Solar Collectors Contribution to the Urban Heat Island Effect under Hot Arid Climate Conditions

Ahmed Khoja¹, Jörn von Grabe²

¹Munich University of Applied Sciences, Germany; ²University of Liechtenstein, Liechtenstein

Poster

Evaluating urban expansion and land use/cover changes in Tehran, Iran, by using GIS and remote sensing

Safiye Tayebi¹, hossien mohammadi¹, ali alavi², bahram karimian¹

¹University of Tehran; ²University of Tabriz

9:00am - 10:30am Ses 8.2: Construction products and processes

Hempcrete from cradle to grave: the role of carbonation in the material sustainability

Alessandro Arrigoni, Renato Pelosato, Giovanni Dotelli

Politecnico di Milano, Department of Chemistry, Materials and Chemical Engineering "Giulio Natta", Italy

Thermal mass behaviour of concrete panels incorporating phase change materials

Dervilla Niall¹, Roger West¹, Sarah McCormack¹, Oliver Kinnane²

¹Trinity College Dublin, Civil, Structural and Environmental Engineering, Ireland; ²Queens University Belfast, Architecture at SPACE, Northern Ireland

The influence of water dosage on the properties of wet-spray cellulose fibre insulation

Pablo Lopez Hurtado, Antoine Rouilly, Virginie Vandenbossche

University of Toulouse / INP-ENCIACET, France

Increase in Efficiency and Quality of Construction Processes through Off-Site Fabrication

Jutta Albus

University of Stuttgart - Institute for Building Construction, Germany

Poster

Characterization of Fly Ash/Metakaolin-based Geopolymer Lightweight Concrete Reinforced Wood Particles

Siti Noorbaini Sarmin

University of Hamburg, Germany

9:00am - 10:30am

Ses 8.3: Design stages - importance and contribution

Strategies Analysis on Simulation Application of Sustainable Strategies Development in the Conceptual Design

Xiaojian Bi, Conghong Liu

Tianjin University, China, People's Republic of

Optimizing Low Carbon Retrofit Strategies in Residential Buildings from the point of Carbon Emission and Cost-effective

Li Liu, Hongwei Yang, Conghong Liu

Tianjin University, School of Architecture, China, People's Republic of

Impact of the Project Initialization Phase on the Achievement of Sustainable Quality in Building Projects in China

Aude Bougain¹, Rafael Gramm¹, Dirk Schwede², Christoph Mitterer¹, Thomas Kirmayr¹

¹Fraunhofer Institute for Building Physics IBP, Germany; ²University of Stuttgart, Institute for Lightweight Structures and Conceptual Design ILEK, Germany

The Challenge to Tender and Plan with Ecological Construction Material

Stefan Haas

Federal Institute for Research on Building, Urban Affairs and Spatial Development within Federal Office for Building and Regional Planning, Germany

Naturalism In Architecture.

Hussameldeen Bahgat Elrefeie

Elshorouk Academy, Egypt

Poster

Pre-Design Steps for Regeneration of Urban Texture

Sahar Khoshnood

Technical University Darmstadt, Germany

Poster

Integration of building performance simulation tools in an interdisciplinary architectural practice

Dermot Farrelly, Sarah Dahman Meyersson

White Arkitekter AB, Sweden

9:00am - 10:30am

Ses 8.4: Cooling, ventilation and air conditioning

Energy-plus primary school Hohen Neudorf: Measurement based evaluation of a hybrid ventilation system

Sebastian Dietz

Hochschule für Technik und Wirtschaft Berlin, Germany

Ventilative Cooling Potentials

Peter Holzer, Renate Hammer

Institute of Building Research and Innovation, Austria

Occupant discomfort due to background passive ventilation

Oliver Kinnane¹, Derek Sinnott², William J.N. Turner³

¹Architecture at SPACE, Queens University Belfast, Northern Ireland; ²Department of the Built Environment, Waterford Institute of Technology, Ireland; ³Energy Research Group, University College Dublin, Ireland

Poster

The geocooling, bioclimatic solution to conventional air conditioning for existing residential building

Ratiba Zermout, Said Makhoulouf

A Design for Improved Natural Ventilation in Housing Development in Thailand
Pimonmart Wankanapon, Wannaporn Siangprasert
Thammasat University, Faculty of Architecture and Planning, Thailand

Poster

11:00am - 12:30pm **Ses 9.1: Urban planning and energy**

Optimization of energy planning strategies in municipalities: Are community energy profiles the key to a higher implementation rate of renewable energies?

Jens-Phillip Petersen

Technical University of Denmark (DTU), Denmark

Strategic Urban Energy Planning - Vienna 2050

Renate Hammer¹, Peter Holzer^{1,2}

¹Institute of Building Research and Innovation, Austria; ²IPJ Ingenieurbüro P. Jung, Austria

Networking Intelligent Cities for Energy Efficiency – The Green Digital Charter Process and Tools

Andreas Blum

Leibniz Institute of Ecological Urban and Regional Development, Germany

Designing and retrofitting the urban structure with daylight

Aicha Katarzyna Diakite, Martine Knoop

Technical University Berlin, Germany

MODELLIGN APPROACH FOR THE THERMAL RESPONSE OF A RESEDENTIAL BUILDING IN A DISCRIT: A CASE STUDY

Poster

Mustafa Flayyih

Gas- und Wärme-Institut Essen e.V., Germany

Global Sequential Sensitivity Analysis for Building Energy Simulation of Residential Quarters

Poster

Manuel Lindauer

TUM - Technical University Munich, Germany

Climatic zones in Poland and the demand for heating in a typical residential building

Poster

Magdalena Maria Grudzinska

Lublin University of Technology, Faculty of Civil Engineering and Architecture, Poland

11:00am - 12:30pm **Ses 9.2: Cost and value - the economic point of view**

Investment vs. subsequent costs – the significance of occupancy costs in real estate life-cycle

Benjamin Lasshof, Lisa Seiler, Christian Stoy

University of Stuttgart, Institute for Construction Economics, Germany

Marginal costs and benefits in buildings energy retrofit transactions

Laura Gabrielli¹, Sergio Copiello²

¹The University of Ferrara, Italy; ²University IUAV of Venice, Italy

Buildings energy retrofit: dealing with uncertainty

Sergio Copiello¹, Laura Gabrielli²

¹University IUAV of Venice, Italy; ²The University of Ferrara, Italy

Risk and scenario-based approach assessing sustainability

Sarah Ok Kyu Strunk, Christian Stoy

University of Stuttgart, Germany

Drivers for change: strengthening the role of valuation professionals in market transition – Insights from the RenoValue research project

David Lorenz¹, Thomas Lützkendorf¹, Ursula Hartenberger²

11:00am - 12:30pm Ses 9.3: Collaboration and user involvement

Diversification of Construction projects by implementing collaboration and Information Sharing tools

Matau Andronica Ramapuputla

Tshwane University of Technology, South Africa

Cooperative housing models in Zurich - or: How to connect sustainable, affordable and socially mixed housing?

Heidi Sinning

Erfurt University of Applied Sciences, Germany, Institut für Stadtforschung, Planung und Kommunikation (ISP)

30 years after case study of 'Ökologische Gemeinschaftswohnanlage Nofels'

Walter Unterrainer

Aarhus School of Architecture, Denmark

Rehabilitation of public and semi-public space of housing estates: the case of Lubartow

Anna Ostanska, Agata Czarnigowska

Politechnika Lubelska (Lublin University of Technology), Poland

A user-oriented approach to the renovation of Social Housing buildings, an interactive tool for participative design

ELENA CATTANI, ANNARITA FERRANTE

University of Bologna, Italy

Poster

Improving energy retrofit strategies with definitions of human interaction parameters in residential building

Zahra Mehdipour

University of Kassel, Germany

11:00am - 12:30pm Ses 9.4: Resource efficiency and recycling

Resource saving potentials through increased recycling in building construction – sensitivity studies on current and future construction activity

Karin Gruhler, Clemens Deilmann

IOER Leibniz Institute of Urban Ecological and Regional Development, Germany

Recycling – Friendly Construction

Sabine Flamme, Rohde Catharina

Münster University of Applied Sciences, Germany

Sustainable Urbanism: Research-based collaboration of intercultural and transdisciplinary student teams towards resource-efficient solutions for challenges of current urban planning on exemplary neighbourhoods in Hamburg

Philipp Preuner, Udo Dietrich, Sonja Schlipf

HafenCity University Hamburg, Germany

SUSTAINABLE RE-USE OF A BUILDING IN THE CASE OF CULTURAL INDUSTRIES: 'SALT GALATA' INSTITUTE ON VOYVODA STREET IN ISTANBUL

Serengul Secmen

Işık University, Turkey

Poster

Developing the Brighton Waste House: from zero waste on site to re-use of waste

Duncan Warwick Baker-Brown

University of Brighton, United Kingdom

Poster

Development of an Integrated Raw Material Model for Urban Systems

Matthias Heinrich
Technical University Munich TUM, Germany

13:00pm - 14:00pm Closing Ceremony