

SBE16

17-19 October 2016
Thessaloniki, Greece

THESSALONIKI

Sustainable Synergies from Buildings to the Urban Scale

Program

Day 1 **Monday, 17 Oct. 2016**

Registration

15:30

Opening Ceremony (Hall I)

16:30-17:00

Plenary Session (Hall I)

17:00-18:00

Nils Larsson

Performance Synergies between small groups of buildings

Luís Bragança

Selection of Sustainable Building Solutions - Affordability and Investment Willingness

Coffee break

18:00-18:30

Hall I

Hall II

18:30-19:45

A1 Methods and Tools

Chairmen: A. Papadopoulos, T. Lützkendorf

S. Nižetić

A concept of the building evaluation methodology for evaluation of the designed and achieved energy savings

Th. Oikonomou

EU-SOLARIS:
The European infrastructure for concentrated solar thermal and solar chemistry technologies

A. Đukić

Towards socially sustainable healthcare facilities – the role of evidence-based design in regeneration of existing hospitals in Serbia

S. Chien

Implementation of Cloud BIM-based Platform Towards High-performance Building Services

T. Marttila

Securing the flow of information in renovation projects

B1 Life Cycle Thinking

Chairmen: L.Bragança, C. Giarna

P. Chastas

Embodied energy and nearly zero energy buildings: A review in residential buildings

D. Koubogiannis

Embodied CO₂ emissions in building construction materials of Hellenic dwellings

J. Sohn

Dynamic Heat Production Modeling for Life Cycle Assessment of Insulation in Danish Residential Buildings

P. Fokaides

EcoHestia: A comprehensive building environmental assessment scheme, based on Life Cycle Assessment

R. Sangori

Low cost, low carbon, but no data: Kenya's struggle to choose appropriate building materials

C1 E2VENT

Chairmen: A. Dugué, T. Theodosiou

A. Dugué

E2VENT: an energy efficient ventilated façade retrofitting system. Presentation of the embedded LHTES system

A. Martinez

Development of a Smart Modular Heat Recovery Unit adaptable into a ventilated façade

T. Theodosiou

Analysis of the thermal bridging effect on ventilated facades

T. Diallo

Energy performance simulation of a ventilated façade retrofitting system

P. Vatavalis

Thermal performance investigation in cooling season for a corner double skin façade with rotating glass louvres

Coctail

19:45



9:15 Plenary Session (Hall I)

Thomas Lützkendorf

From feelings to figures - how to analyse the performance of a building during design and in use

10:00-11:30

Hall I

A2 Sustainable Urban Environment

Chairmen: S. Nizetić, P. Fokaides

M. Balouktsi

Assessing a Sustainable Urban Development: Typology of Indicators and Sources of Information

F. Bougiatioti

The bioclimatic performance of towns and settlements as defined by Byzantine Building Codes

D. Trigaux

Life Cycle Assessment of Land Use in Neighbourhoods

A. Chatzidimitriou

Street canyon geometry effects on microclimate and comfort; a case study in Thessaloniki

E. Alexandri

The Regeneration of the Commercial Triangle of Athens; Sustainability Rationale

N. Mirabella

The environmental footprint of cities: insights in the steps forward to a new methodological approach

Hall II

B2 Efficient School Buildings

Chairmen: C. Balaras, K. Kontoleon

D. Doukas

Energy Audit and Renewable Integration for Historic Buildings: The case of Craiglockhart Primary School

A. Androutsopoulos

Cool roof impacts on a School-building thermal and energy performance in Athens, Greece

D. Katsaprakakis

Upgrading Energy Efficiency for School Buildings

D. Teli

Thermal performance evaluation of school buildings using a children-based adaptive comfort model

P. Tsikra

Investigation of the Energy Saving Potential in Existing School Buildings in Greece. The role of Shading and Daylight Strategies in Visual Comfort and Energy Saving.

Hall III

C2 Modern buildings & simulation techniques

Chairmen: A. Michopoulos, K. Tsikaloudaki

J. Hasegawa

Ultraviolet radiation on an urban street with high-rise buildings in Asia

L.O. Neves

Building envelope energy performance of high-rise office buildings in Sao Paulo city, Brazil

T. Saroglou

Quantifying energy consumption in skyscrapers of various heights

C. Baxevanou

Management of Natural Ventilation in High-Rise Building – a CFD Study

A. Stavridou

Unsteady CFD simulation in a naturally ventilated room with a localized heat source

C. Baxevanou

Numerical Study of Solar Chimney Operation in a Two storey Building

11:30 Coffee break

12:00-13:30

Hall I

A3 Sustainable policies & regulations

Chairmen: A. Djukic, Th. Tsoutsos

M. Martínez-Hervás

Towards an energy assessment on an urban scale for retrofitting the housing stock in Mediterranean cities

A. Đukić

Achieving the Basic Sustainable Qualities in New Housing in Post-Socialist Serbia: Regulation vs. Case-Studies

S. Karytsas

Review of the Greek legislative framework for ground source heat pumps (GSHPs) and

E. Thoidou

Climate adaptation planning: The context of EU cohesion policy and evidence from urban projects in Greece

K.G Droutsas

Benchmarking Energy Use of Existing Hellenic Non-Residential Buildings

T. Tsoutsos

Benchmarking framework to encourage energy efficiency investments in South Europe. The Trust EPC South approach

Hall II

B3 Buildings' performance assessment and optimization

Chairmen: M. Pinar Mengüç, A. Androutsopoulos

C. Balaras

High Performance Data Centers and Energy Efficiency Potential in Greece

A. Kresteniti

Development of a concept for energy optimization of existing Greek hotel buildings

P. Antoniadou

Evaluation of Thermal Sensation in Office Buildings: A Case Study in the Mediterranean

A. Din

The Impacts Of Overheating Mitigation Within The Life Cycle Carbon Of Dwellings Under UK Future Climate

G. Panaras

Assessing the sustainability of the University of Western Macedonia

K. Parpairi

Sustainability and energy use in small scale Greek hotels: Energy saving strategies and environmental policies

Hall III

C3 Sustainable materials & building components

Chairmen: I. Papayanni, M. Stefanidou

B. Safi

Lightweight self-compacting mortars based on foam glass granulates: recycling the mineral wastes

S. Mavridou

Environmental noise performance of rubberized asphalt mixtures: Lamia's case study

N. Huette

Sim[PLY]: Sustainable Construction with Prefabricated Plywood Componentry

V. Pachta

Earth block houses of historic centers. A sustainable upgrading with compatible repair materials

T. Efthimiadou

A sustainable design strategy for the restoration of historical buildings

Lunch break
13:30
Hall I
A4 *Energy efficiency of Building materials &*

Chairmen: D. Kraniotis, T. Theodosiou

M. Pinar Mengüç

Materials for Radiative Cooling

A. Michael

Computational Evaluation of the Thermal, Environmental and Structural Performance of an Innovative Masonry System

R. G. Martinez

Highly insulated systems for energy retrofitting of façades on its interior

S. Chadiarakou

Application Of Innovative Composite Cool Thermal Insulating Materials For The Energy Upgrade Of Buildings

A. Karaoulis

Investigation of energy performance in conventional and lightweight building componets with the use of phase change

R. G. Martinez

Hygrothermal assessment of a prefabricated timber-frame construction based in hemp

Hall II
B4 *Existing buildings & sustainability*

Chairmen: K. Pitilakis, D. Bikas

F. Kesikidou

The Role of Application Techniques for High Performance Traditional Renders

V. Pachta

The study of the historic buildings of Eclecticism in Thessaloniki under the prism of sustainability

E. Riga

Uncertainties in seismic risk assessment at urban scale. The case of Thessaloniki, Greece

A. Dinas

Sustainable restoration criteria of a historical steel railway bridge

S. Fotopoulou

Seismic vulnerability of RC buildings under the effect of aging

S. Alves

The sustainable heritage of vernacular architecture: the historic center of Oporto

Hall III
C4 *Nzeb & Building Envelope*

Chairmen: M. Amado, K. Kontoleon

K. Loukaidou

Nearly-zero energy buildings: Cost-optimal analysis of building envelope characteristics

S. Charisi

The role of the building envelope in achieving nearly-zero energy buildings (nZEBs)

E. Touloupaki

Optimization of building form to minimize energy consumption through parametric modelling

G. Stegnar

Comparison of simulated and monitored energy performance indicators on nZEB case study Eco Silver House

A. Androutopoulos

Energy efficiency actions to uptake energy retrofitting measures in buildings

T. Tzoulis

Thermal behaviour of concrete walls around all cardinal orientations and optimal thickness of insulation from an economic point of view

14:30-16:00
Coffee break
16:00
Hall I
A5 *Sustainable Projects & Case Studies*

Chairmen: G. Christoforidis, K. Kontoleon

G. Christoforidis

Upgrading Qualifications of European Energy Professionals in NZEB – The MENs project

P. Fetsis

The LIFE Programme – Over 20 years improving sustainability in the built environment in the EU

W. Slowik

Indigo Pine: Net Zero Performance in a Unique Package

B. Bakaimis

Electrical energy saving policies, initiatives, results, challenges and lessons learned for the Grevena Hospital

K. Papakostas

EffectsEffects of Climate Change on the Energy Required for the Treatment of Ventilation Fresh Air in HVAC Systems. The Case of Athens and

D. Serghides

Energy Refurbishment towards nearly Zero Energy Multi-Family Houses, for Cyprus

Hall II
B5 *Lighting & Electrical energy*

Chairmen: G. Papagiannis, A. Tsangrassoulis

A. Kontadakis

Assessing Lighting Energy Saving Potential from Daylight Harvesting in Office Buildings Based on Code Compliance & Simulation

I. Konstantzos

A holistic approach for improving visual environment in private offices

P. Pracki

The analysis and assessment of lighting system in mass residence building on the example of dormitory in Warsaw

C.Giarma

Daylighting and visual comfort in buildings' environmental performance assessment tools: a critical review

B. Bakaimis

Electrical energy saving policies, initiatives, results, challenges and lessons learned for the Grevena Hospital

G. Apostolou

Investigating the Use of Indoor Photovoltaic Products towards the Sustainability of a Building Environment

Hall III
C5 *Urban spaces' special issues*

Chairmen: K. Axarli, D. Kraniotis

G. Kontothanasis

Social practices of urban agriculture in the metropolitan region of Thessaloniki

E. Naboni

Sensitive and Reactive Architectural Devices for Regenerative Design. Applications in Manaus Heat Islands and Surrounding Rain Forests.

I. Theodoridou

Assessing the benefits from retrofitting green roofs in Mediterranean, using environmental modelling, GIS and very high spatial resolution remote sensing data:

P. Gkatsopoulos

A Methodology for Calculating Cooling from Vegetation Evapotranspiration for Use in Urban Space Microclimate Simulations

M. Musy

Assessment of direct and indirect impacts of vegetation on building comfort: A comparative study of lawns, green walls and green roofs

16:30-18:00
Gall Dinner
20:30
(Optional - requires registration)

Miguel Amado

A wall in urban planning: the support to the sustainability in the affordable housing models

A6 Efficient building systems

Chairmen: K. Papakostas, G. Martinopoulos

I. Chaldezos

Innovative high efficiency closed loop ground coupled heat exchanger

J. Tamasauskasa

Development of an integrated solar heat pump concept using ice slurry as a latent storage material

G. Martinopoulos

Simulation of Solar Thermal Systems with Seasonal Storage Operation for Residential Scale Applications

P. Fokaides

A high performance controlled temperature building shell for the sustainable upgrading of buildings

J. Tardif

Performance of Air Based BIPV/T Heat Management Strategies in a Canadian Home

E. Kyriaki

Energy and environmental performance of solar thermal systems in hotel buildings

Hall IIInteraction between building & urban environment

Chairmen: M. Musy, K. Tsikaloudaki

M. Musy

A Study on the impact of changes in the materials reflection coefficient for achieving sustainable urban design: an environmental approach

Ch. Vlachokostas

A holistic methodological approach in the urban context towards characterizing the environmental performance of buildings and promoting strategic governance and sustainability

D. Fidaros

Bioclimatic Reformation of Urban Area -a CFD Study

B. Morille

What is the required level of details to represent the impact of the built environment on energy demand?

S. Tsoka

Investigating the relationship between urban spaces morphology and local microclimate: a study for Thessaloniki

D. Tsirigoti

A cross scale analysis of the relationship between energy efficiency and urban morphology in the Greek city context

Hall III**C6** Sustainable construction technologies

Chairmen: K. Katsifarakis, C. Giarma

V. Sulakatko

Increasing construction quality of External Thermal Insulation Composite System (ETICS) by revealing on-site Degradation Factors

F. Kalfa

Quality through sustainable practices during the design and construction phase - the case of the SNFCC

A. Liapis

Life Cycle Assessment of concrete products for special applications containing EAF slag

Ch. Stavridis

Use of groundwater resources in urban areas. Environmental benefits and cost considerations.

R. G. Martinez

Experimental thermal performance assessment of a prefabricated external insulation system for building retrofitting

Th. Nikolaidis

Fire protection and sustainability of structural steel buildings with double-shell brickwork cladding

A7 Building Physics

Chairmen: T. Thiis, C. Giarma

T. Thiis

Monitoring and simulation of diurnal surface conditions of a wooden façade

C. Giarma

On the estimation of building components' exposure to moisture in Greece using climatic data of different time resolution

D. Kraniotis

Latent Heat Phenomena In Buildings and Potential Integration Into Energy Balance

S. Kotti

Quantifying thermal bridge effects and assessing retrofit solutions in a Greek residential building

D. Zengin

Analysing heat flows through building zones in aspect of their orientation and glazing proportion, under varying conditions

G. Kanellopoulos

Numerical analysis and modelling of heat transfer processes through perforated clay brick masonry walls

Hall IIPerformance of buildings of non residential uses

Chairmen: N. Larsson, A. Michopoulos

F. Bougiatioti

The city palimpsest as a think-tank for sustainable development

I. Marinopoulos

Optimization of energy and water management of swimming pools. A case study in Thessaloniki, Greece

A. Michopoulos

Swimming Sport Centers: Energy and Environmental Analysis

M. Stevanovic

Hospital building sustainability: the experience in using qualitative tools and steps towards the life cycle approach

E. Andreou

The Standard of Industrial Symbiosis. Environmental criteria and methodology on the establishment and operation of industrial and business parks.

Hall III**C7** Building retrofit and renovation

Chairmen: C. Wetzel, D. Bikas

G. Stegnar

Energy renovation of cultural heritage buildings "by the book"

C. Wetzel

Analyzing the energy-saving potential of buildings for sustainable refurbishment

E. Alexandri

Energy Upgrade of Existing Dwellings in Greece; Embodied Energy Issues

B. Morille

Comparison of the impact of three climate adaptation strategies on summer thermal comfort - Cases study in Lyon, France

N. Boemi

Residential heating under energy poverty conditions: A field study

M. Edeisy

Envelope retrofit in hot arid climates