



## International Workshop

Energy Performance and Environmental Quality of Buildings  
(EPEQUB2006)

6-7/7/2006, Milos island

<http://milos.conferences.gr/epequb2006>

### Wednesday, 5 July 2006

17.00 – 18.00 Registration  
18.00 – 19.30 Welcome Reception

### Thursday, 6 July 2006

**09.00 – 11.00** **OPENING SESSION**

09.00 – 09.30 **Welcoming addresses**  
Local Authorities, E. J. VOULGARIS, Milos Conference Center - George Eliopoulos, Greece, A. KEFALAS, S&B Industrial Minerals S.A., Greece  
K. PIPINIS, UIA – ARES International Work Program  
*Chairpersons* **M. SANTAMOURIS**, University of Athens, Greece  
**D. K. SERGHIDES**, Higher Technical Institute, Cyprus

09.30 – 10.00 **Keynote Lecture**  
**The implementation in practice of the EPBD: actual status and the services provided by the EPBD buildings platform**  
P. WOUTERS, Air Infiltration and Ventilation Centre (AIVC), Belgium

10.00 – 10.30 **Keynote Lecture**  
**The invisible link – the golden thread**  
A. N. TOMBAZIS, Meletitiki – Alexandros N. Tombazis and Associates Architects, Ltd, Greece

10.30 – 11.00 Coffee break

**11.00 – 13.00** **SESSION I – Urban Climate, Microclimate and Building Physics**  
*Chairpersons* **F. ALLARD**, University of La Rochelle, France  
**Y. CAOURIS**, University of Patras, Greece

11.00 – 11.10 **Modeling air flows around buildings in urban environment**  
E. BOZONNET, University of La Rochelle, France

11.10 – 11.20 **Designing comfortable landscape: CONFORT-EX educational software**  
J. M. OCHOA, University of Sonora, Mexico

11.20 – 11.30 **A single sensor system, for whole-building daylight linking**  
S. STRAVORAVDIS, Cardiff University, U.K.

11.30 – 11.40 **Study of the heat island phenomenon in the coastal town of Patras**  
Y. CAOURIS, University of Patras, Greece

11.40 – 11.50 **Material selection for better microclimatic conditions in the urban open spaces of greek cities**  
F. M. BOUGATIOTI, National Technical University of Athens, Greece

11.50 – 12.00 **The contribution of public green spaces on the microclimate**

12.00 – 12.10	C. AXARLIS, Aristotle University of Thessaloniki, Greece <b>Efficient energy thermal insulation façade systems for optimal savings and flexibility in architectural design</b>
	M. KIRN, STO AG, Germany
12.10 – 12.20	<b>Methodology for analyzing thermal responses in buildings. Proposal and application</b>
	I. MARINCIC, University of Sonora, Mexico
12.20 – 12.30	<b>Building and energy, a key issue in a moving energy market: the example of the Mediterranean region</b>
	S. POUFFARY, ADEME, France
12.30 – 12.40	<b>The effect of urban environment in the cooling degree hours and its effect in the COP of air-conditioning units</b>
	N. M. PAPANIKOLAOU, University of Athens, Greece
12.40 – 12.50	<b>Changes of summer air temperatures during the last 55 years in Athens</b>
	M. N. ASSIMAKOPOULOS, University of Athens, Greece
12.50 – 13.00	Discussion
13.00 – 14.00	<b>Lunch break</b>
<b>14.00 – 16.00</b>	<b>SESSION II – Case Studies and Sustainable Architecture</b>
<i>Chairperson</i>	<i>C. AXARLIS, Aristotle University of Thessaloniki, Greece</i>
14.00 – 14.10	Exploring the environmental values of vernacular architecture
	E. ELIOPOULOU, National Technical University of Athens, Greece
14.10 – 14.20	<b>Coupling environmental and architectural quality in the urban context: developments and trends in the Mediterranean</b>
	S. KYVELOU, International SD-MED Association, Greece
14.20 – 14.30	<b>Casa ecologica: warmer at low cost in winter, colder at no cost in summer</b>
	G. RUGGIERI, Technical University of Milano, Italy
14.30 – 14.40	<b>Bioclimatic designs for the student housing of the new university of Cyprus</b>
	D. K. SERGHIDES, Higher Technical Institute, Cyprus
14.40 – 14.50	<b>The project of the new museum Morera of contemporary art as example of design with environmental criteria in Leida, Spain</b>
	E. USON, Technical Superior School of Architecture of Barcelona, Spain
14.50 – 15.00	<b>Present and future of building performance assessment tools</b>
	M. SINOU, N&M Architects, Greece
15.00 – 15.10	<b>A real case of building integrated PV. Isofoton offices in Malaga (Spain)</b>
	V. BAUSO, ISOFOTON S.A., Spain
15.10 – 15.20	<b>Benefits and implications of various types of glass-to-glass BIPV modules. A comparative study</b>
	D. MAVRAKIS, Lampo Solar S.A., Greece
15.20 – 15.30	<b>Integrated photovoltaics as an element of building's envelope</b>
	M. KARTERIS, Aristotle University of Thessaloniki, Greece
15.30 – 15.40	<b>Installation of buried pipes in order to improve the thermal conditions of a greenhouse in Argos, Greece</b>
	C. PAVLOU, National and Kapodistrian University of Athens, Greece
15.40 – 16.00	Discussion
16.00 – 16.30	Coffee break

<b>16.30 – 19.00</b>	<b>SESSION III – Benchmarking and Energy Certification</b>
<i>Chairperson</i>	<i>S. KYVELOU, University of Social and Political Sciences of Athens, Greece</i>
16.30 – 16.40	<b>On the relation between income, electricity and oil consumption for different types of houses in Athens</b> M. N. ASSIMAKOPOULOS, University of Athens, Greece
16.40 – 16.50	<b>Sustainability assessment of urban districts: benchmark for quality of physical environment</b> F. ALLARD, University of La Rochelle, France
16.50 – 17.00	<b>Energy audit certification and rating of school buildings in Greece</b> N. GAITANI, University of Athens, Greece
17.00 – 17.10	<b>Univariate and multivariate prediction of energy consumption in buildings with artificial intelligent techniques</b> S. KARATASOU, University of Athens, Greece
17.10 – 17.20	<b>E-Building: a software platform for energy auditing and management of buildings</b> D. KOLOKOTSA, Technological Educational Institute of Crete, Greece
17.20 – 17.30	<b>Using principal components analysis and clustering technics to define typical buildings</b> C. LEHMANN, University of La Rochelle, France
17.30 – 17.40	<b>Building energy performance benchmarking and simulation under tropical climatic conditions</b> H. SUN, National University of Singapore, Singapore
17.40 – 17.50	<b>Modern construction materials and their contribution to an improved living environment</b> G. ROUNI, Drapa Chemie S.A., Greece
17.50– 18.00	<b>Intelligent building energy management integrated model</b> K. D. PATLITZIANAS, National Technical University of Athens, Greece
18.00 – 18.10	<b>District cooling: a technology with significant potential</b> K. PAPAGEORGIU, Aristotle University of Thessaloniki, Greece
18.10 – 18.20	<b>Energy efficient solutions for buildings by using BEMS applications</b> A. M. PAPADOPOULOS, Aristotle University of Thessaloniki, Greece
18.20 – 18.30	<b>EULEB - database for European high quality low energy buildings</b> J. SCHLENGER, University of Dortmund, Germany
18.30 – 18.40	<b>EP label: a programme to deliver energy certificates for public buildings across Europe based on operational rating through a graduated response procedure</b> M. PAPAGLASTRA, University of Athens, Greece
18.40 – 19.00	Discussion
20.30 – 22.30	<b>Workshop Dinner (optional)</b>

**Friday, 7 July 2006**

**09.00 – 10.30                    OPENING SESSION**

<i>Chairpersons</i>	<b>A. M. PAPADOPOULOS</b> , Aristotle University of Thessaloniki, Greece <b>M. N. ASSIMAKOPOULOS</b> , University of Athens, Greece
09.00 - 10.00	<i>Keynote Lecture</i> <b>Harmonization of indoor material emissions labeling systems in the EU: inventory of existing schemes</b> S. KEPHALOPOULOS, European Commission DG-JRC, Italy
10.00 – 10.30	<i>Keynote Lecture</i> <b>European indoor air monitoring and human exposure assessment study (AIRMEX) - preliminary results</b> S. TIRENDI, European Commission DG-JRC, Italy
10.30 – 11.00	Coffee break
<b>11.00 – 13.00</b>	<b>SESSION IV – Passive Cooling and Building Physics</b>
<i>Chairpersons</i>	<b>E. PRIMIKIRI</b> , University of Patras, Greece <b>M. N. ASSIMAKOPOULOS</b> , University of Athens, Greece
11.00 – 11.10	<b>The impact of moisture on the thermal conductivity value of stone wool based insulating materials</b> S. HADIARAKOU, FIBRAN S.A., Greece
11.10 – 11.20	<b>Effect of the passive strategies on thermal comfort in economic dwellings in warm-dry climates</b> M. G. ALPUCHE, University of Sonora, Mexico
11.20 – 11.30	<b>The importance of insulation in the reduction of the buildings losses</b> S. HADIARAKOU, Ecole Nationale des Travaux Publics de l'Etat, France
11.30 – 11.40	<b>Direct use of ground heat for space heating and cooling, a contribution in country energy system</b> A. FRASHERI, Polytechnic University of Tirana, Albania
11.40 – 11.50	<b>Cool colored coatings for passive cooling of cities</b> A. SYNNEFA, National and Kapodistrian University of Athens, Greece
11.50 – 12.00	<b>Investigation of the energy and environmental performance of an experimental green roof system</b> P. MIHALAKAKOU, University of Ioannina, Greece
12.00 – 12.10	<b>Studying the effect of different wall properties based on orientation for passive solar heating of buildings</b> A. CHANIOTIS, X - Machina Technical Consulters, Greece
12.10 – 12.20	<b>Development of an integrated environmental and energy management system for existing buildings</b> E. GIAMA, Aristotle University of Thessaloniki, Greece
12.20 – 12.30	<b>An expert model for monitoring building's operations via BEMS</b> K. IATROPOULOS, National Technical University of Athens, Greece
12.30 – 12.40	<b>New approaches on the integration of environmental issues in architectural education</b> E. TRIANTIS, National Technical University of Athens, Greece
12.40 – 13.00	Discussion
13.00 – 14.00	<b>Lunch break</b>
<b>14.00 – 16.00</b>	<b>SESSION V – Student Forum (each presentation of this session will last 7 minutes)</b>
<i>Chairperson</i>	<b>I. TRIPANAGNOSTOPOULOS</b> , University of Patras, Greece

14.00 – 14.07	<b>Artificial &amp; natural lighting in a house</b> D. ASKOUNI, University of Patras, Greece
14.07 – 14.14	<b>Bioclimatic roof model in a residence</b> M. BITROU, University of Patras, Greece
14.14 – 14.21	<b>A web application serving queries on renewable energy sources and energy management topics database built on JSP technology</b> P. CHRISTIAS, Technical University of Crete, Greece
14.21 – 14.28	<b>Considerations on building skin for energy efficient design</b> E. DIMITROPOULOU, University of Patras, Greece
14.28 – 14.35	Pattern (or model) of an autonomous bioclimatic bus - stop I. KOTTIS, University of Patras, Greece
14.35 – 14.42	<b>Additional screen on the facade of the building in hot climate</b> A. M. TEHRANI, British University in Dubai, U.A.E.
14.42 – 14.49	<b>The bioclimatic dimension of educational buildings in Greece</b> A. MAVROGIANNI, National Technical University of Athens, Greece
14.49 – 15.56	<b>Presentation of automation and control devices for saving energy in building units</b> K. SAKKAS, Aristotle University of Thessaloniki, Greece
15.56 – 15.03	<b>Aspects and perspectives for the zero energy buildings</b> A. SAKKAS, Aristotle University of Thessaloniki, Greece
15.03 – 15.10	Air moving in and through building: historical prototypes and contemporary applications K. SARANTI, University of Patras, Greece
15.10 – 15.17	<b>Development of an intelligent indoor environment and energy management system for greenhouses using a fuzzy logic controller and using the LonWorks® protocol</b> G. SARIDAKIS, Technological Educational Institute of Crete, Greece
15.17 – 15.24	<b>A methodology for optimum energy efficiency of a typical residence in Greece</b> A. STRIKOU, University of Patras, Greece
15.24 – 15.31	<b>Architectural aspects for building integrated photovoltaics</b> M. TRIPANAGNOSTOPOULOU, University of Patras, Greece
15.31 – 15.38	<b>Bioclimatic air conditioning system for typical apartment building</b> S. TZINIERIS, University of Patras, Greece
15.38 – 15.45	<b>Urban climatic modification/the case of canyons</b> M. KAPSALAKI, National and Kapodistrian University of Athens, Greece
15.45 – 16.00	Discussion
16.00 – 16.30	Coffee break
<b>16.30 – 17.30</b>	<b>SESSION VI – Res and Building Physics</b>
<i>Chairpersons</i>	<i><b>S. KEPHALOPOULOS</b>, European Commission DG-JRC, Italy <b>E. BOZONNET</b>, University of La Rochelle, France</i>
16.30 – 16.40	<b>Methods and recommendations for investment substantiation of geothermal heating plants development</b> E. BOGUSLAVSKY, St. Petersburg State Mining Institute, Russia
16.40 – 16.50	<b>Energy multiplier</b> T. VUCETIC, Independent Inventor, USA
16.50 – 17.00	<b>Energy and aesthetics of building integrated res</b> I. TRIPANAGNOSTOPOULOS, University of Patras, Greece

17.00 – 17.10	<b>Development strategies and problems of renewable energy sources in Greece</b> A. MAVRAKIS, University of Athens, Greece
17.10 – 17.20	<b>Pythagoras project: development of an integrated training package on indoor environment quality</b> M. SANTAMOURIS, University of Athens, Greece
17.20 – 17.30	Discussion
<b>17.30</b>	<b>CLOSING SESSION</b>
<i>Chairpersons</i>	<i><b>P. WOUTERS</b>, Air Infiltration and Ventilation Centre (AIVC), Belgium,</i> <i><b>F. ALLARD</b>, University of La Rochelle, France</i>
	<b>Lessons learned from the implementation of IAQ strategies during the design, construction, and occupancy of a sustainable office complex</b> L. E. ALEVANTIS, California Department of Health Services, USA
	<b>Environmental quality of buildings</b> M. SANTAMOURIS, University of Athens, Greece