

CURRICULUM VITAE

ELENA DASCALAKI

Dr. Building Physicist

Athens

March 2017



ELENA G. DASCALAKI

Dr. Building Physicist, Senior Researcher IERSD / NOA

Group Energy Conservation (GREC)
 Institute for Environmental Research and Sustainable Development (IERSD)
 National Observatory of Athens (NOA)
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 www.energycon.org, www.meteo.noa.gr

Born: Heraklion, Crete, 2-4-1964
 Marital status : Married, two children

RESEARCH INTERESTS AND ACCOMPLISHMENTS

Building Physics: Energy conservation and rational use of energy in buildings, building typologies, technical guidelines and national software for EPBD transposition, energy audits, numerical modeling of thermal energy systems, building thermal simulations, assessment of ventilation systems for building applications, computational fluid dynamics, indoor air quality, renewable energy sources for building applications, numerical analysis and programming.

Member of the Group Energy Conservation (GREC), Institute for Environmental Research and Sustainable Development (IERSD), National Observatory of Athens

EDUCATION

Doctor of Philosophy	Building physics University of Athens, Dept. of Applied Physics Research topic: Natural ventilation of buildings	May 1998
Master of Science	Environmental Physics University of Athens, Dept. of Applied Physics Research topic: Atmospheric Pollution	March 1990
Bachelor of science	Physics University of Athens, Physics Department	July 1987

DISTINCTIONS AND HONORS

2010-2013	Member of the Board of Directors of the Centre of Renewable Energy Sources (CRES)
2012	Certificate of Excellence in Reviewing, Int. Journal of "Energy and Buildings"
1998-2000	National representative in Annex 35 of the International Energy Agency working on Hybrid Ventilation

MEMBER IN TECHNICAL COMMITTEES

2015-2016	Alternate Member of the National Steering Committee of the Hellenic Ministry of Environment & Energy (YPEN) for updating the national legislation according to the Energy Performance of Buildings - EPBD Recast, including Cost optimal building performance requirements, NZEB, Standards & Codes, Technical Guidelines, Software.
2010, '12, '14	Member of the Scientific Committee for the preparation of the Technical Guideline (TOTEE 20701-4/2010) «Guidelines and Forms for Building Energy Audits, Inspection of Boilers & Heating Installations, and Inspection of Air-Conditioning Systems», for the Technical Chamber of Greece, 1 st edition (July 2010), 2 nd edition (March 2012), 3 rd edition (November 2012).

- 2010,'12,'14 Member of the Scientific Committee for the preparation of the Technical Guideline (**TOTEE 20701-3/2010**) «Hellenic Climatic Data», for the Technical Chamber of Greece, 1st edition (July 2010), 2nd edition (March 2012), 3rd edition (November 2012).
- 2010-2011 Member of the Technical Committee for the development of the Educational Material of the Technical Chamber of Greece (TEE) for the Training of Energy Auditors.

REVIEWER OF ARTICLES IN SCIENTIFIC JOURNALS & CONFERENCES

Journals

- 1998-today Reviewer in International Journal “*Solar Energy*” (Elsevier)
- 1999-today Reviewer in International Journal “*Energy & Buildings*” (Elsevier)
- 2008-today Reviewer in International Journal “*Building & Environment*” (Elsevier)
- 2011 Reviewer in International Journal “*International Journal of Ventilation*” (Veetech)
- 2012 Reviewer in International Journal “*Energy*” (Elsevier)
- 2012 Reviewer in International Journal “*Advances in Energy Research*” (Techno Press)
- 2012-today Reviewer in International Journal “*Energy Policy*” (Elsevier)
- 2014 Reviewer in International Journal “*Energy Research & Social Science*” (Elsevier)
- 2015 Reviewer in International Journal “*Journal of Cleaner Production*” (Elsevier)
- 2016 Reviewer in International open-access Journal “*Building Research & Information*” (Taylor & Francis Group)
- 2016 Reviewer in International Journal “*Energies*” (Elsevier)
- 2016 **Guest Editor** Int. Journal “*Energy & Buildings*”, Vol. 132, pp. 1-154 (November 2016), Elsevier Ltd <http://www.sciencedirect.com/science/journal/03787788/132>

Conferences

- 2016-... Reviewer of abstracts & papers for the Int. Conferences of IBPSA (International Building Performance Simulation Association) “*Building Simulation 2015*”, San Fransisco, California, USA, 7-9 August, 2017
- 2014-2015 Reviewer of abstracts & papers for the Int. Conferences of IBPSA (International Building Performance Simulation Association) “*Building Simulation 2015*”, Hyderabad, India, 7-9 December, 2015.
- 2012-2013 Reviewer of abstracts & papers for the Int. Conferences of IBPSA (International Building Performance Simulation Association) “*Building Simulation 2013*”, Chambéry, France, 25-30 August, 2013.
- 2010-2011 Reviewer of abstracts & papers for the Int. Conferences of IBPSA (International Building Performance Simulation Association) “*Building Simulation 2011*”, Sydney, Australia 14-16 November, 2011.

PARTICIPATION IN PhD DISSERTATION EXAMINATION BOARDS & SUPERVISION OF MSc DISSERTATION

- 2015 Member of the Examination Board for PhD Candidate Maria Konstantoglou, October 2015)
Title: The role of dynamic natural lighting and shading systems in design. Their impact on the energy balance of the building, the thermal and optical comfort of users.
- 2008-2010 Supervision of MSc Thesis Vasileios Sermpezoglou, M.Sc. in Energy, School of Engineering and Physical Sciences, Heriot-Watt University and Dept. of Mechanical Engineering, Technological Educational Institute of Piraeus (May 2010).
Title: A performance assessment of the energy consumption, the indoor environmental quality and the potential for energy savings in a representative number of Greek School Buildings

PARTICIPATION IN CONFERENCE SCIENTIFIC COMMITTEES & WORKSHOPS

- 2015-2016 Member of the Scientific Committee of the **SBE16 Int. Conference** “*Sustainable Synergies from Buildings to the Urban Scale*”, Thessaloniki, Greece, 17-19 October, 2016.
- 2015 Chair “*Monitoring of building stocks - Lessons learned from data collection – a run through different approaches*” session at the **International Experts Workshop “Towards an Energy Efficient European Housing Stock – Mapping, modeling and monitoring refurbishment processes”**, Brussels, Belgium, November 18, 2015.

FOREIGN LANGUAGES

English	Cambridge Proficiency in English
French	Sorbonne I

PROFESSIONAL ACTIVITIES

Elected ASHRAE Member since 2014 (MBR: 8250347). ASHRAE Hellenic Chapter. ASHRAE **Technical Committees** – Corresponding Member: **TC 2.8** – Building Environmental Impacts and Sustainability (2014-present), **TC 4.7** Energy Calculations (2014-present), **TC 6.7** Solar Energy Utilization (2014-present), **TC 7.6** Building Energy Performance (2014-present).

PUBLICATIONS

International Journals:	39	Hellenic Journals & Technical Magazines:	9
Books / Chapters in Books:	11	Scientific Publications:	18
International Conferences (Proceedings):	51	Workshops & Symposia:	31
National Conferences (Proceedings):	9	Technical reports:	52
Thesis:	3	Citations:	437

PROFESSIONAL EXPERIENCE

2012 - today	Senior Researcher (2 nd Grade)	Institute of Environmental Research and Sustainable Development (IERSD)
2006 - 2012	Associate Researcher (3 rd Grade)	National Observatory of Athens

Research Scientist in IERSD. Member of the Group Energy Conservation (GREC). Participant in research projects.

Scientist in charge a) of the European project **EPISCOPE** - Energy Performance Indicator Tracking Schemes for the Continuous Optimisation of Refurbishment Processes in European Housing Stocks (Executive Agency for Competitiveness and Innovation – EACI, European Commission), b) **TABULA** – Typologies for the energy performance assessment of the building stock (DG XVII, European Commission) and c) of the programme **TEE-KENAK** for the development of the software in the framework of the implementation of the Hellenic Regulation for the Energy Performance Assessment of Buildings (KENAK / Technical Chamber of Greece).

Participant in European IEE projects: a) **EPA-NR** for the energy performance assessment of non-residential buildings in the framework of the implementation of the EPBD b) **DATAMINE** for developing a harmonized data structure for collecting and analyzing data to monitor the energy performance of buildings c) **HIGH COMBI** for the implementation and optimization of technologies for solar heating and cooling with seasonal heat storage, d) **ISES** - Intelligent Services for Energy-Efficient Design and Life Cycle Simulation; the Hellenic program e) **EPC-Stat** for the development of a software for the statistical process of the EPCs and the energy auditors from the national database and advanced web application for the presentation and spatial analysis of national EPCs, for the needs of the Hellenic Energy Inspectorate; the international f) **IEA Task 38**, on solar cooling and air conditioning. Consulting activities for architectural and engineering firms (thermal simulations). Participant in the scientific committees of the Technical Chamber of Greece for the preparation of the technical guidelines g) **TOTEE 20701-3/2010** και **20701-4/2010**. Participant in the team for the development of the **TEE-KENAK** software (collaboration with the Technical Chamber of Greece) for performing all building energy audits, issuing an energy performance certificate and for the energy ranking of new buildings.

Participant in the promotional activities for GREC and IERSD. Participant as an Exhibitor & organizer of Forums in the international Expos **Climatherm 2006, 2008, EnergyReS 2007, 2008, 2009, and Building Green 2008, 2012, 2013**.

Organize a working meeting (11/2011) with a delegation from the Department for Energy Efficiency at the Ministry of Economy-Montenegro, led by Mrs Dragica Seculic, Deputy Minister, accompanied by executives of EXERGIA S.A Energy and Environment Consultants, regarding the Hellenic EPBD transposition efforts. Follow-up communications with the Montenegrin government have supported their national efforts towards EPBD transposition.

The activities of the Group Energy Conservation were included as best practices in relation to research, development and innovation ([Chapter V: Ten Year Framework of Programmes on SCP Patterns](#)) in the contribution of the General Secretariat for Research & Technology, Ministry of Education to the “National Reporting to the Eighteenth and Nineteenth Sessions of the Commission on Sustainable Development of the United Nations ([UN-CSD 18/19](#))”, January 2011.

2001 - 2006	Research Associate	Institute of Environmental Research and Sustainable Development (IERSD) National Observatory of Athens
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Member of the Group Energy Conservation (GREC). Participant in research projects. Coordinator assistant and participant in the European project XENIOS (ALTENER, Directorate General for Energy, DG XVII, European Union). Participant in European IEE projects: a) EPA-ED, EPA-NR, for the energy performance assessment of residential and non-residential buildings in the framework of the implementation of the EPBD b) **DATAMINE** for developing a harmonized data structure for collecting and analyzing data to monitor the energy performance of buildings. Thermal simulations, energy audits in buildings, assessment of ventilation systems using CFD modelling. Consulting activities for architectural and engineering firms for the assessment of the energy conservation potential in buildings through thermal simulations. Participant in the promotional activities for GREC and IERSD. Participant in the international Expo **Climatherm 2004**.

1992 - 2000

Research Associate

Dept of Applied Physics
University of Athens

Member of the Group Building Environmental Studies (GRBES). Have participated in a number of research and educational projects. Assessment of rational use of energy systems and techniques in buildings, thermal simulations, development of computational models for the calculation of natural ventilation in buildings, experimental activities in test cells and existing buildings. Assistant coordinator in the European project OFFICE. Graduate level lecturer in seminars organized by the Center for Energy Education of the University of Athens; topics: energy conservation in buildings, indoor air quality and natural ventilation.

1993 - 1995

Research Associate

Institute of Meteorology and Physics of
the Atmospheric Environment (IMPAE)
National Observatory of Athens (NOA)

Participated in the European Research project "COMPASS"

1991 - 1992

Consultant

Energy Department
Institute of Technological Applications
Greek Productivity Center

Coordinator of seminars for engineers and scientists. Supervisor during practical training periods at graduate level seminars.

1988 - 1993

Associate contractor

PROTECHNA Ltd.

Employed at Protechna, a firm for appropriate technologies involved in research, technical support and consulting services in the areas of alternative energy sources, energy conservation and policy. Participated in European projects: GREENHOUSES (world-wide documentation of passive solar agricultural greenhouses), PASSYS-II (Thermal and solar building research), Survey of innovative training centres in EEC, TEMPUS, and national projects for the General Secretariat for Research & Technology. Performed extensive thermal simulations of buildings. Co-author of publications on the principles of bioclimatic architecture, development of a database for passive solar greenhouses in Europe.

RESEARCH EXPERIENCE

Participated in the following research, demonstration and technical projects with the corresponding affiliations:

- **National Observatory of Athens**
 - **European Projects** (EPISCOPE, ISES, TABULA, HIGH-COMBI, DATAMINE, EPA-NR, EPA-ED, XENIOS, INVESTIMMO, COMPASS-PASLINK)
 - **National Projects** (Ministry for the Environment, Physical Planning and Public Works - Operational Programme for Energy, Hellenic Airports)
 - **Projects with Industry** (ELVAL)
 - **Collaborations with other Organizations and Consulting** (EPC-Stat Ministry of Environment, Energy and Climatic Change, TEE-KENAK Technical Chamber of Greece; JEPA, projects with E/M and architectural offices)
- **University of Athens**
 - **European Projects** (OPERATING ROOMS, AIRLIT-PV, OFFICE, Multimedia and Computer based Modular Teaching Material, Retrofitting of Museums for Antiquities in the Mediterranean Countries. Case Study: The Archaeological Museum of Delphi, AIOLOS, PASCOOL)
- **PROTECHNA Ltd.**
 - **European Projects** (GREENHOUSES, TEMPUS, TRAINING CENTRES, PASSYS II)
 - **National Projects** (General Secretariat for Research & Technology)

PARTICIPATION IN RESEARCH PROGRAMMES

- JOULE, DG XII for Science, Research and Development, European Commission

TITLE: **PASSYS II** - A common European outdoor test facility for thermal and solar building research (*JOUE-0022-C*)

PERIOD: 1989 - 1990

OBJECTIVE: Set up a computational model (using the ESP software package) to investigate the thermal performance of the PASSYS Test Cell.

PARTICIPANTS: Joint European Project. PROTECHNA Ltd (Hellas), University of Athens (Hellas), National Observatory of Athens (Hellas), Centre for Renewable Energy Sources (CRES, Hellas) and other organizations from Italy, Spain, France, Portugal, Germany, England, Belgium, Denmark, Holland.

- JOULE, DG XII for Science, Research and Development, European Commission

TITLE: **PASCOOL** - Passive Cooling for Buildings (*JOU2-CT92-0013*)

PERIOD: 1992 - 1995

OBJECTIVE: Tracer gas experiments in a test cell and in a real building to measure the natural ventilation efficiency. Development of a model for the estimation of the natural ventilation air flow rates in naturally ventilated buildings. Development of an algorithm for the calculation of the ventilation rates in single sided natural ventilation configurations. Contribution in the final deliverables of the project.

PARTICIPANTS: University of Athens (Project Coordinator), National Observatory of Athens (Hellas), Centre for Renewable Energy Sources (CRES, Hellas), CONPHOEBUS (Italy), ENTPE (France), CIEMAT (Spain), INETI (Portugal), University of Porto (Portugal), BBRI (Belgium), TNO (Holland), EPFL (Switzerland), University of Cambridge (UK), Architectural Association of London (UK), University of Strathclyde (Scotland).

- JOULE, DG XII for Science, Research and Development, European Commission

TITLE: **COMPASS** - Appropriate Testing and Evaluation of Passive Solar Components for Improvement of Thermal Comfort in Buildings (*JOU2-CT92-0216*)

PERIOD: 1993 - 1995

OBJECTIVE: Thermal simulations of the PASSYS Test Cell with integrated solar wall component using the ESP software package

PARTICIPANTS: National Observatory of Athens (Hellas), Centre for Renewable Energy Sources (CRES, Hellas) and other European Research Organizations.

- JOULE II, DG XII for Science, Research and Development, European Commission

TITLE: **NNE-JOULE C: Retrofitting of museums for antiquities in the Mediterranean countries** - Case study: the archaeological museum of Delphi (*JOR3-CT95-0013*)

PERIOD: 1995 - 1996

OBJECTIVE: Thermal simulations of the Delphi museum. Measurements for the assessment of the thermal comfort conditions in the museum of Delphi and in a number of museums in Greece.

PARTICIPANTS: Tombazis and Associates (Project Coordinator, Hellas), University of Athens, Bartenbach Lightlabor (Germany), University of North London (UK).

- JOULE II, DG XII for Science, Research and Development, European Commission

TITLE: **OFFICE** – Passive retrofitting of office buildings to improve their energy performance and indoor working conditions (*JOR3-CT96-0034*)

PERIOD: 1996 - 1998

OBJECTIVE: Assistant Coordinator. Thermal simulations for the office building of AGET Heraklis in Lykovrissi Attikis. Measurements of the thermal comfort conditions and long-term monitoring of the energy consumption for heating and cooling of the building. Ventilation measurements in selected rooms in the building. Preparation of the final deliverables of the project.

PARTICIPANTS: University of Athens (Project Coordinator), CNRS (France), Chalmers University of Technology (Sweden), ECD Energy and Environment (UK), ESBENSEN Consulting Engineers Ltd., (Denmark), Institut für Bau-, Umwelt- und Solarforschung GmbH (Germany), Technical University of Trondheim (Norway), LESO/EPFL (Switzerland), University of Florence (Italy).

- JOULE II, DG XII for Science, Research and Development, European Commission

TITLE: **AIRLIT-PV** – Development of a prototype façade unit integrating natural ventilation, daylighting, solar protection, intelligent local control and photovoltaic power (*JOR3-CT98-0280*)

PERIOD: 1998 - 2000

OBJECTIVE: Participation in the optimization of the design of the “intelligent” prototype window component. Experimental testing of the prototype through ventilation experiments in the test cell of the University of Athens. Proposals for its improvement.

PARTICIPANTS: AB Jacobson and Windmark (Sweden, Project Coordinator), BRE (UK), OSCAR FABER Group (UK), COLT International Licensing Ltd. (UK), University of Oxford Brookes (UK), University of Athens (Hellas), AMBER SA Computer Services (Hellas), Fraunhofer Institute (Germany).

- SAFE, DG for Public Health & Safety in the Working Environment, European Commission

TITLE: **OPERATING ROOMS** - Survey of Occupational Problems and Risks Related to Indoor Conditions in Hospitals Operating Rooms (*SOC 97 202362 05F05*)

PERIOD: 1998 - 1999

OBJECTIVE: In-situ measurements of the lighting conditions in 10 representative operating rooms in Athens. Proposals for improvement. Contribution in the Code of Good Practice with recommendations on how to improve the lighting conditions in operating rooms.

PARTICIPANTS: University of Athens (Hellas), National Observatory of Athens (Hellas), Ministry of Labor (Hellas, Project Coordinator), National Technical University of Athens (Hellas).

- GROWTH, DG for Research (DG XII), European Commission

TITLE: **INVESTIMMO** - A Decision-making Tool for Long-term Efficient Investment Strategies in Housing Maintenance and Refurbishment (*GIRD-CT-2000-00371*)

PERIOD: 2001 - 2004

OBJECTIVE: Participation in energy audits in multifamily buildings in Athens and Heraklion Crete. Documentation and analysis of results..

PARTICIPANTS: National Observatory of Athens (Hellas), Hellenic Ministry of State, CSTB & LF (France), EPFL (Switzerland), CUEH & ESTIA sarl (Switzerland), FhG/IBP & VdW (Germany), DIPARC & ENVIPARK (Italy), SBI & SBS (Denmark), KAPE & UZ (Poland).

- FP6 Sixth Framework Programme, DG for Energy (DG XVII), European Commission

TITLE: **HIGH-COMBI** - High Solar Fraction Heating and Cooling Systems With Combination of Innovative Components and Methods (*TREN/07/FP6EN/S07.68923/038659*)

PERIOD: 2007-2011

OBJECTIVE: Development of high solar fraction systems by an innovative combination of optimized solar heating, cooling and storage technologies. In the research phase, examine different configurations and optimize by detailed simulations. Construct demonstration plants, using different combination of technologies, components and control strategies. All demo plants achieve high solar fractions values with a sound economy; for some of the plants more than 70% of coverage for the space heating, domestic hot water and cooling loads. Examine innovative techniques, components and/or configurations (e.g. new storages, use of rejected heat during cooling, combined heating and cooling control etc.) Analyze demonstration plants' monitoring data, validate simulation and design tools and evaluate the plants' performance. Carry out market analyses to estimate the potential penetration of these systems in the European heating and cooling market. The sectors of implementation are all medium and large building end-users having heating and cooling loads throughout the year.

PARTICIPANTS: Centre for Renewable Energy Sources, National Observatory of Athens, Sole SA, Institute for Sustainable Technologies - AEE INTEC (Austria), Solarinstallation und Design GmbH – SOLID (Austria), Fraunhofer -Institut Solare Energiesysteme – ISE (Germany), Steinbeis Innovation GmbH (Germany), Politecnico Di Milano (Italy), Provincia di Milano - Direzione Centrale Risorse Ambientali (Italy), Sistemas Avanzats D'energia Solar Termica – AIGUASOL (Spain), Societat Municipal d'Habitatge de Terrassa, S.A. (Spain), University of Oradea (Romania).

- FP7 Seventh Framework Programme, Information Society and Media Directorate-General, European Commission

TITLE: **ISES** - Intelligent Services for Energy-Efficient Design and Life Cycle Simulation (288819/FP7-ICT-2011-7)

PERIOD: 2011-2014

OBJECTIVES: Develop Information and Communication Technologies (ICT) building blocks to integrate, complement and empower existing tools for design and operation facility management (FM) to a Virtual Energy Lab (VEL). The goal is to evaluate, simulate and optimize the energy efficiency of products for buildings and facility components in variations of real life scenarios before their realization, acknowledging the stochastic life-cycle nature of material properties, weather data and occupancy profiles. The focus of research, technology and development (RTD) is on multi-model design and testing, stochastic lifecycle analysis/simulation in combination with new supporting ontology and interoperability tools and services, and respective re-engineering of existing tools, making them more intelligent and smartly interoperable. Combine energy models with product development STEP (Standard for the Exchange of Product model data) models and operational characteristics in building information models (BIM). The VEL offers new computational tools (e.g. thermal simulation and CFD), facilitates the exchange of relevant data and information in the BIM model, facilitates the overview of results and provides the necessary computational power through cloud computing.

PARTICIPANTS: Technische Univeritaet Dresden (TUD) – Germany, OG – Finland, Univerza V Ljubljana (UL) - Slovenia, Sofistic Hellas AE (SOF) – Hellas, NMI – Island, EAA - Hellas, LAP – Germany, TRI – Slovenia.

PARTICIPATION IN NATIONAL AND EUROPEAN PROGRAMMES

- Ministry of Industry, Research and Technology (YBET)

TITLE: **YBET** - Energy Conservation in Public and Commercial buildings

PERIOD: 1989 - 1992

OBJECTIVE: Participated in the survey of 1200 buildings, performed data analysis and compilation of the survey reports. Performed a preliminary assessment of the potential of energy conservation measures for heating, cooling and lighting in public and commercial buildings.

PARTICIPANTS: Ministry of Industry, Research and Technology / Hellenic Productivity Center

- THERMIE, DG XVII for Energy, European Commission

TITLE: **GREENHOUSES** - A Greenhouse Data Base, Resource Book on Solar Agricultural Greenhouses - Active and Passive Solar Greenhouses (4.1000/E/91-05)

PERIOD: 1991

OBJECTIVE: Prepared a computerised data base with a world-wide documentation of passive solar agricultural greenhouses

PARTICIPANTS: PROTECHNA Ltd.

- DG V for Employment, Industrial Relations, Social Affairs, European Commission

TITLE: **TRAINING CENTRES** - Innovative Training Centers in the European Community for Energy Conservation and the Use of Alternative Energy Sources in Buildings (911210/31.XII.1991)

PERIOD: 1991 - 1992

OBJECTIVE: Participated in the survey campaign for the identification of existing training centres, courses and programs for energy conservation in the more developed EU countries and in the evaluation of their effectiveness.

PARTICIPANTS: PROTECHNA Ltd, in collaboration with other European educational institutes.

- TEMPUS, Task Force Human Resources, Education, Training and Youth, DG XVII for Energy, European Commission

TITLE: **TEMPUS** - Trans-European Mobility Scheme for University Studies (JEP-1802)

PERIOD: 1991 - 1993

OBJECTIVE: Participation in the preparation of modular educational material in multimedia structure and computational tools for the assessment of the effectiveness of passive cooling and natural ventilation systems (PASSPORT PLUS, PASSPORT AIR) in buildings. Development of PASSPORT-Air software for multizone airflow modeling. Presentation of the material in seminars organized in Hungary and hosted by the Technical University of Budapest.

PARTICIPANTS: Joint European Project. PROTECHNA Ltd (Hellas) in association with the Architectural Association School of Architecture (UK), the Technical University of Budapest (Hungary) and the University of Ljubljana (Yugoslavia).

- SAVE, DG XVII for Energy, European Commission

TITLE: **PASSIVE COOLING** - Creation of an Educational Structure on the Energy Efficiency of Cooling Systems and Techniques for Buildings (SAVE XVII/4.1031/93-071)

PERIOD: 1993 - 1994

OBJECTIVE: Development of educational material for professionals involved in the design of buildings and in the teaching of building related topics (design of energy efficient buildings). Authored chapter 9 (Natural Ventilation) of the Handbook of Passive Cooling of Buildings.

PARTICIPANTS: Joint European Programme. Central Institution for Energy Efficiency Education (CIENE) – University of Athens, Universities and other organisations from several European countries.

- **ALTENER, DG XVII for Energy, European Commission**

TITLE: **AIOLOS** – Creation of an Educational Structure on the use of passive cooling ventilation techniques for buildings (*ALTENER XVII/4.1030/95-087*)

PERIOD: 1995 - 1996

OBJECTIVE: Assistant Coordinator. Development of educational material for professionals involved in the building design, with special emphasis on natural ventilation, the enhancement and optimization of its effectiveness. Authored chapters 3 (Prediction methods) and 8 (The software AIOLOS) of the handbook “Natural ventilation of buildings”. Contribution in the development of AIOLOS software package.

PARTICIPANTS: University of Athens (Hellas, Project Coordinator), University of La Rochelle (France), CNRS (France), AICIA (Spain), BBRI (Belgium), CONPHOEBUS (Italy), University of Porto (Portugal).

- **Ministry of Development, Operational Energy Programme**

TITLE: **HELLENIC AIRPORTS** - Energy Conservation in Airports

PERIOD: 2000 - 2001

OBJECTIVE: Investigation for energy conservation and for the improvement of indoor conditions in three Greek airports. Thermal simulations for the airports of Thessaloniki, Corfu and Chania. Investigation and evaluation of proposals for the rational use of energy and improvement of indoor environmental conditions.

PARTICIPANTS: National Observatory of Athens.

- **ALTENER, DG XVII for Energy, European Commission**

TITLE: **XENIOS** - Development of an audit tool for Hotel buildings and the promotion of RUE and RES (*AL 4.1030/Z/01-135/2001*)

PERIOD: 2002-2003

OBJECTIVE: Assistant Coordinator. Contribution in the development of XENIOS methodology and software (ISBN 960-87905-3-0) for the analysis of the energy consumption, assessment of the energy savings and related background information and data on available technologies, legislation etc. Performed two Hellenic hotel audits and a pilot study implementation. Prepared energy conservation guides for hotel managers and guests. Contribution in the preparation the final deliverables of the project.

PARTICIPANTS: National Observatory of Athens (Hellas, Project Coordinator), Terra Nova Ltd. (Hellas), CSTB (France), CAATB (Spain), CONPHOEBUS (Italy), CALVIA (Spain), Municipality of Kalithea Rhodes (Hellas), GEDISA (Spain), AHPM (Spain), D.G. D'Energia (Spain).

- **ALTENER, DG XVII for Energy, European Commission**

TITLE: **EPA-ED** Development of and preparations for the implementation of an Energy Performance Assessment Method for Existing Dwellings to stimulate RUE and the use of RES in the existing dwelling stock in Member States (*AL 4.1030/Z/01-142/2001*)

PERIOD: 2002-2004

OBJECTIVE: Development of a methodology and software for the energy performance assessment of existing residential buildings in Europe and the evaluation of different interventions for energy conservation and exploitation of renewable energy sources. Participated in the implementation of the methodology in two pilot studies in Hellas (a house and an apartment building). In the framework of the pilot studies the software was applied for energy audits and for the evaluation of the energy conservation potential in accordance with the European Directive for the energy performance of buildings.

PARTICIPANTS: National Observatory of Athens (Hellas), Damen Consultants BV (Holland), OTB (Austria), DBUR (Denmark), Austrian Institute for Applied Ecology (Austria).

- **Intelligent Energy – Europe, DG XVII for Energy, European Commission**

TITLE: **EPA-NR** Energy Performance Assessment for Existing Non Residential Buildings (*EIE/04/125/S07.38651*)

PERIOD: 2005-2007

OBJECTIVE: Development of a methodology and software for the energy performance assessment of existing buildings of the tertiary sector in Europe and the evaluation of different interventions for energy conservation and exploitation of renewable energy sources. Participated in the implementation of the methodology in pilot studies in Hellas. In the framework of the pilot studies the software will be applied for energy audits and for the evaluation of the energy conservation potential in accordance with the European Directive for the energy performance of buildings.

PARTICIPANTS: National Observatory of Athens (Hellas), Damen Consultants BV (Holland), TNO (Holland), DBUR (Denmark), Arsenal and Austrian Institute for Applied Ecology (Austria), CSTB (France), Fraunhofer-IBP (Germany), ENEA (Italy).

- Intelligent Energy – Europe, DG XVII for Energy, European Commission

TITLE: **DATAMINE** Collecting DATA from energy certification to Monitor performance Indicators for New and Existing buildings (*EIE/05/097/SI2.419651*)

PERIOD: 2006-2009

OBJECTIVE: Contributed in the development of the common evaluation data base. Collected, processed and analyzed national data on buildings and energy performance of 120 Hellenic residential and non-residential buildings, including offices, hospitals, schools, airports, sports centers. Performed analysis of specific energy performance indicators. Evaluated data collecting and evaluation processes and proposed improvements. Carried out dissemination activities on national level.

PARTICIPANTS: Institute for Housing and Environment IWU GmbH (Germany), National Observatory of Athens, Narodowa Agencja Poszanowania Energii S.A. NAPE (Poland), Energy for Sustainable Development Ltd. ESD (UK), EBM-Consult BV (Netherlands), Politecnico di Torino (Italy), Vito nv Energietechnologie (Belgium), Austrian Energy Agency (Austria), Slovenian Building and Civil Engineering Institute (Slovenia), Ecofys S.L. (Spain), Energy Action Ltd (Ireland), Sofia Energy Agency SOFENA (Bulgaria).

- International Energy Agency

TITLE: **IEA Task 38**, Solar Air-Conditioning and Refrigeration

PERIOD: 2007-2008

OBJECTIVES: International Energy Agency (IEA), Solar Heating & Cooling Programme, Task 38 “Solar Air-Conditioning and Refrigeration”. Implement measures to accelerate the market introduction of Solar Cooling systems in each specific sector (i.e., residential, commercial and industrial) and to create the most favorable conditions for the realization of new research activities for the development of novel systems and concepts. Improve conditions for the market introduction of solar assisted air-conditioning systems devoted to the residential and small commercial sectors. Develop concepts and create tools for a proper implementation of Solar Cooling (air-conditioning and refrigeration) in large scale applications (e.g., large office and residential buildings, hotels, industry, etc). Facilitate the development of novel Solar Cooling concepts improving the response of the technology to the needs of the considered sectors through collaborative research activities.

PARTICIPANTS: Fraunhofer Institute for Solar Energy Systems ISE and national representatives from Australia, Austria, Canada, Denmark, France, Germany, Hellas (NOA), Israel, Italy, Luxembourg, Mexico, Netherlands, Poland, Portugal, Spain, Sweden, Switzerland.

- Intelligent Energy – Europe, Directorate General for Energy (DG XVII), European Commission

TITLE: **TABULA** Typology approach for building stock energy assessment (*IEE/08/475/SI2.528393*)

PERIOD: 2009-2012

OBJECTIVES: Create a harmonised structure for European building typologies, with an emphasis on residential buildings. The structure considers the different national construction types. The typology structure will be filled with national data by each partner, including typical values for: thermal envelope areas, U-values and g-values, performance of supply systems, frequencies of building and system types in the national stock, energy saving measures on two levels: “typical” and “advanced”. Documentation for each participating country present an overview of the energy performance of typical buildings and the possible energy saving by refurbishment measures. The building typology data will be published by a special Building Typology Webtool. The [Hellenic typology](#) consists of 24 single family and multifamily houses which were analytically simulated to assess the effectiveness of energy saving interventions on the envelope, the systems and the incorporation of RES and their impact on the national energy balance. An internet application [eKIA](#) was developed using the Hellenic typology as a tool for the estimation of the energy performance of existing residential buildings as well as its potential for improvement through energy conservation scenarios. **ROLE: Scientific responsible for the Hellenic Team.**

PARTICIPANTS: Institute for Housing and Environment IWU GmbH (Germany), National Observatory of Athens, French Energy and Environment Agency ADEME (France), Narodowa Agencja Poszanowania Energii S.A. NAPE (Poland), Politecnico di Torino (Italy), Vito nv Energietechnologie (Belgium), Austrian Energy Agency (Austria), Slovenian Building and Civil Engineering Institute (Slovenia), Mälardalens university (Sweden), STU-K (Czech Republic), Energy Action Ltd (Ireland), Danish Building Research Institute (Denmark).

- European Regional Development Fund (ERDF) & Centre for Renewable Energy Sources (CRES)

TITLE: **IC-MED** - Inter-Clusters Méditerranée

PERIOD: 2009 - 2012

OBJECTIVES: Development of clusters for improving innovative and entrepreneurial actions. Investigate the potential of creating and formulating the proper conditions for the growth of Hellenic innovative clusters. Participate in the effort to develop a cluster on sustainable buildings.

PARTICIPANTS: Coordinator of Hellenic cluster: CRES, with voluntary participation of numerous organizations and companies. Project participants from 13 public and technology development organizations from French, Italian and Spanish regions.

- Technical Chamber of Greece (TEE)

TITLE: **TEE-KENAK – I.** Software Development for the Implementation of the National Regulation on the Energy Performance of Buildings

TEE-KENAK – II. Maintenance

PERIOD: 2010 - 2013

OBJECTIVES: Development of the official national software ([TEE-KENAK](#)) for building energy audits and labeling, and the inspection of boilers & heating systems and air-conditioning installations, in accordance to the European Directive on the Energy Performance of Buildings (EPBD), N.3661/08 and the national regulation (KENAK). Based on the experience gained from participation in the european project EPA-NR, the calculations are performed according to EN 13790 for preparing an energy performance certificate and assessing energy

conservation measures, taking into account the national technical guidelines prepared by the Technical Chamber of Greece (TEE). **ROLE: Scientific responsible for the project.**

ROLE: Prepared the official national software used by engineers in Greece to perform building energy audits, building labelling, and the inspection of boilers & heating systems and air-conditioning installations. Participated in the development of the national regulation on the energy performance of buildings (KENAK). Also prepared the documentation and forms for building energy audits, and the inspection of boiler, heating and air-conditioning systems published as official national technical guidelines (TOTEE). Continuous maintenance and software improvements.

PARTICIPANTS: NOA

- Intelligent Energy – Europe, Executive Agency for Competitiveness and Innovation (EACI), European Commission

TITLE: **EPISCOPE** - Energy Performance Indicator Tracking Schemes for the Continuous Optimisation of Refurbishment Processes in European Housing Stocks (*EE/12/695/SI2.644739*)

PERIOD: 2013-2016

OBJECTIVES: Conceptual framework of national residential building typologies in the European housing sector in order to make the refurbishment actions more transparent and effective with the aim to ensure that the climate protection targets are achieved and that renovation actions can be taken in due time, if necessary. The project approach is to implement pilot actions at national, regional and local level, and to align and combine them by means of a common methodology. The conceptual framework is based on national residential building typologies developed during the TABULA project. An upgraded WebTool reflects the national interpretations of Nearly-Zero Energy Buildings (NZEB) in 16 participating European countries. The resulting methodology is the basis for the intended assessment and comparison of different refurbishment strategies and impacts. The monitoring procedure and the concerted set of energy performance indicators before and after refurbishment will enable key actors and stakeholders to ensure a high quality of energy conservation measures, the compliance with regulations, to track and steer the refurbishment processes in a cost-efficient way and to evaluate the actually achieved energy savings. **ROLE: Scientific responsible for the Hellenic Team.**

ROLE: Track the energy refurbishment progress of Hellenic residential buildings at local and regional level. The implementation rate of different refurbishment measures will be determined and compared with those activities which are necessary to attain the relevant climate protection targets. In addition, the actual measured energy consumption after refurbishment will be compared to the expected savings with the aim to verify predictions according to KENAK.

PARTICIPANTS: Institute for Housing and Environment IWU GmbH (Germany), NOA (Greece), Buildings Performance Institute Europe BPIE and Flemish Institute for Technological Research VITO (Belgium), Building and Civil Engineering Institute ZRMK (Slovenia), Danish Building Research Institute SBI (Denmark), Austrian Energy Agency AEA (Austria), Building Research Establishment BRE Ltd (UK), Politecnico di Torino POLITO (Italy), STU-K (Czech Republic), Energy Action EAL Ltd (Ireland), Budapest University of Technology and Economics BME (Hungary), Instituto Valenciano de la Edificacion IVE (Spain), Cyprus University of Technology CUT (Cyprus), Technical University Delft TU Delft (The Netherlands), Pouget Consultants (France), Norwegian University of Science and Technology NTNU (Norway).

SERVICES TO THE PRIVATE SECTOR

- ELVAL – Hellenic Aluminium Industry S.A.

TITLE: ELVAL I - Evaluation of aluminium wall cladding on building facades

PERIOD: 2001-2002

OBJECTIVES: Preliminary evaluation of the potential energy conservation as a result of the use of aluminium wall cladding in existing and new buildings.

ROLE: Performed thermal building simulation and comparative analysis of conventional constructions and parametric analysis of various parameters. Measured material's optical properties, in collaboration with a European organisation. Performed technical analysis of results. Constructed a demonstration model that was used by ELVAL for demonstration purposes.

PARTICIPANTS: National Observatory of Athens.

- ELVAL – Hellenic Aluminium Industry S.A.

TITLE: ELVAL II - Parametric investigation of Energy conservation as a result of aluminium wall cladding on building facades. Multimedia software & educational material.

PERIOD: 2002

OBJECTIVES: Evaluation of the potential energy conservation as a result of the use of aluminium wall cladding in existing and new buildings.

ROLE: Performed thermal building simulation and comparative analysis of conventional constructions and parametric analysis of various parameters for different building geometries and constructions, at five climatic zones. Developed a multimedia software for the presentation of the simulation results. The software can be used for the preliminary assessment of potential energy conservation and normalisation of results for different building applications. Prepared educational material on energy conservation in buildings. The multimedia software and educational material were used for the international architectural competition organised by ELVAL and the International Union of Architects - UIA.

PARTICIPANTS: National Observatory of Athens.

- JΕΡΑ – Γ.Ε. Παπαγρηγοράκης & Συνεργάτες, Ηλεκτρολόγοι – Μηχανολόγοι Μηχανικοί – Σύμβουλοι

TITLE : JΕΡΑ - Θερμικές Προσομοιώσεις & Ενεργειακές Επιθεωρήσεις Κτιρίων

PERIOD: 2004-2009

OBJECTIVES/ROLE: Investigate prevailing indoor conditions and the potential for energy conservation in new office buildings, residential buildings, and the Athens International Airport, using TRNSYS thermal simulations. Audits and assessment of refurbishment actions in existing office buildings, data analysis for energy balance and assessment of energy conservation measures.

PARTICIPANTS: National Observatory of Athens.

CONSULTING

- I. PRINTAKOS and Associates

TITLE: Heating and Cooling Load calculations

PERIOD: 9/2004

ROLE: Calculation of heating and cooling demand, sizing the heating and cooling installations for an office building and the computer center of the National Bank in Gerakas Attikis.

- Samourka Z. Architects

TITLE: Thermal simulations & Solar Protection of Building

PERIOD: 5-9/2006

ROLE: Thermal simulations of residential building. Calculation of heating and cooling demand, sizing the heating and cooling installations.

PUBLICATIONS IN SCIENTIFIC JOURNALS

1994

- ❶ E. Dascalaki, M. Santamouris, C.A. Balaras, D.N. Asimakopoulos
Natural Convection Heat Transfer Coefficients from Vertical and Horizontal Surfaces for Building Applications
Energy & Buildings, Vol. 20, p. 243-249, (1994). [http://dx.doi.org/10.1016/0378-7788\(94\)90027-2](http://dx.doi.org/10.1016/0378-7788(94)90027-2)
- ❷ M. Santamouris, A. Argiriou, E. Dascalaki, C.A. Balaras, A. Gaglia
Energy Characteristics and Savings Potential in Office Buildings
Solar Energy, Vol. 52, p. 59-66, (1994). [http://dx.doi.org/10.1016/0038-092X\(94\)90081-C](http://dx.doi.org/10.1016/0038-092X(94)90081-C)
- ❸ M. Santamouris, E. Dascalaki, C.A. Balaras, A. Argiriou, A. Gaglia
Energy Performance and Energy Conservation in Health Care Buildings in Hellas
Energy Conversion & Management, Vol. 35, p. 293-305, (1994). [http://dx.doi.org/10.1016/0196-8904\(94\)90062-0](http://dx.doi.org/10.1016/0196-8904(94)90062-0)
- ❹ A. Argiriou, D.N. Asimakopoulos, C.A. Balaras, E. Dascalaki, A. Lagoudi, M. Loizidou, M. Santamouris, I. Tselepidaki
On the Energy Consumption and Indoor Air Quality in Office and Hospital Buildings in Athens, Hellas
Energy Conversion and Management, Vol. 35, p. 385-394, (1994). [http://dx.doi.org/10.1016/0196-8904\(94\)90097-3](http://dx.doi.org/10.1016/0196-8904(94)90097-3)
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Energy, Vol. 19, p. 653-660, (1994). [http://dx.doi.org/10.1016/0360-5442\(94\)90005-1](http://dx.doi.org/10.1016/0360-5442(94)90005-1)
- ❻ M. Santamouris, C.A. Balaras, E. Dascalaki, M. Vallindras
Passive Solar Agricultural Greenhouses. A Worldwide Classification and Evaluation of Technologies and Systems Used for Heating Purposes
Solar Energy, Vol. 53, p. 411-426, (1994). [http://dx.doi.org/10.1016/0038-092X\(94\)90056-6](http://dx.doi.org/10.1016/0038-092X(94)90056-6)

1995

- ❼ E. Dascalaki, M. Santamouris, A. Argiriou, C. Helmis, D.N. Asimakopoulos, K. Papadopoulos, A. Soilemes
Predicting single sided natural ventilation rates in buildings
Solar Energy, Vol. 55, p. 327-341, (1995). [http://dx.doi.org/10.1016/0038-092X\(95\)00057-X](http://dx.doi.org/10.1016/0038-092X(95)00057-X)

1996

- ❸ K.H. Papadopoulos, A.T. Soilemes, D.N. Asimakopoulos, M. Santamouris, A. Argiriou, E. Dascalaki
A Triple Hot-Wire System for Indoor Air Flow Measurements
Journal of Solar Energy Engineering, p. 168-176, (1996). <http://dx.doi.org/10.1115/1.2870908>
- ❹ C.A. Balaras, E. Dascalaki, M. Santamouris, A. Gaglia
Educational and Training Activities in Renewable Energy in the European Union
Int. J. Engineering Education, Vol. 12, p. 7-15, (1996). <http://www.ijee.ie/>
- ❶❶ M. Santamouris, C.A. Balaras, E. Dascalaki, A. Argiriou, A. Gaglia
Energy Conservation and Retrofitting Potential in Hellenic Hotels
Energy & Buildings, Vol. 24, p. 65-75, (1996). [http://dx.doi.org/10.1016/0378-7788\(95\)00963-9](http://dx.doi.org/10.1016/0378-7788(95)00963-9)
- ❶❶ E. Dascalaki, M. Santamouris, A. Argiriou, C. Helmis, D.N. Asimakopoulos, K. Papadopoulos, A. Soilemes
On the combination of air velocity and flow measurements in single sided natural ventilation configurations
Energy and Buildings, Vol. 24, p. 155-165, (1996). [http://dx.doi.org/10.1016/0378-7788\(96\)00973-5](http://dx.doi.org/10.1016/0378-7788(96)00973-5)

1997

- ❶❷ K. Limam, F. Allard, E. Dascalaki
Natural ventilation research activities undertaken in the framework of PASCOOL
Int. J. of Solar Energy, Vol. 19, p. 81-119, (1997). <http://dx.doi.org/10.1080/01425919708914331>.
Title changed to International Journal of Sustainable Energy
- ❶❸ S. Alvarez, J.F. Coronel, C.A. Balaras, E. Dascalaki
Coupling and Solving Thermal and Air Flow Phenomena in Passively Cooled Buildings
Int. J. Solar Energy, Vol. 19, p. 59-80, (1997). <http://dx.doi.org/10.1080/01425919708914332>.
Title changed to International Journal of Sustainable Energy

1999

- 14 E. Dascalaki, M. Santamouris, D.N. Asimakopoulos
On the use of deterministic and intelligent techniques to predict the air velocity distribution on external openings in single sided natural ventilation configurations
Int. J. of Solar Energy, Vol. 66, Issue 3, p.223-243, (1999). [http://dx.doi.org/10.1016/S0038-092X\(99\)00021-3](http://dx.doi.org/10.1016/S0038-092X(99)00021-3)
- 15 E. Dascalaki, M. Santamouris, M. Bruant, C.A. Balaras, A. Bossaer, D. Ducarme, P. Wouters
Modeling Large Openings with COMIS
Energy & Buildings, Vol. 30, p. 105-115, (1999). [http://dx.doi.org/10.1016/S0378-7788\(98\)00050-4](http://dx.doi.org/10.1016/S0378-7788(98)00050-4)

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On the potential of retrofitting scenarios for offices
Building and Environment, Vol. 37, Issue 6, p. 557-567, (2002). [http://dx.doi.org/10.1016/S0360-1323\(02\)00002-1](http://dx.doi.org/10.1016/S0360-1323(02)00002-1)
- 17 M. Santamouris, E. Dascalaki
Passive retrofitting of office buildings to improve their energy performance and indoor environment: the OFFICE project
Building and Environment, Vol. 37, Issue 6, p. 575-578, (2002). [http://dx.doi.org/10.1016/S0360-1323\(02\)00004-5](http://dx.doi.org/10.1016/S0360-1323(02)00004-5)
- 18 C.-A. Roulet, F. Flourentzou, H. H. Labben, M. Santamouris, I. Koronaki, E. Dascalaki, V. Richalet
ORME: A multicriteria rating methodology for buildings
Building and Environment, Vol. 37, Issue 6, p. 579-586, (2002). [http://dx.doi.org/10.1016/S0360-1323\(02\)00005-7](http://dx.doi.org/10.1016/S0360-1323(02)00005-7)

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- 19 C.A. Balaras, E. Dascalaki, A. Gaglia, K. Droutsa
Energy Conservation Potential, HVAC Installations & Operational Issues in Hellenic Airports
Energy & Buildings, Vol. 35, p. 1105-1120, (2003). <http://dx.doi.org/10.1016/j.enbuild.2003.09.006>

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- 20 E. Dascalaki, C.A. Balaras
Xenios – A Methodology for Assessing Refurbishment Scenarios and the Potential of Application of RES and RUE in Hotels
Energy & Buildings, Vol. 36, p. 1091-1105, (2004). <http://dx.doi.org/10.1016/j.enbuild.2004.03.007>

2005

- 21 C.A. Balaras, K. Droutsa, E. Dascalaki, S. Kontoyiannidis
Heating Energy Consumption and Resulting Environmental Impact of European Apartment Buildings
Energy & Buildings, Vol. 37, p. 429-442, (2005). <http://dx.doi.org/10.1016/j.enbuild.2004.08.003>
Ranked No 3 (January-March 2005), and No 15 (October-December 2005) & (January-March 2006) in the ScienceDirect TOP25 Hottest Articles.
- 22 C.A. Balaras, K. Droutsa, E. Dascalaki, S. Kontoyiannidis
Deterioration of European Apartment Buildings
Energy & Buildings, Vol. 37, p. 515-527, (2005). <http://dx.doi.org/10.1016/j.enbuild.2004.09.010>

2007

- 23 C.A. Balaras, E. Dascalaki, A. Gaglia
HVAC and Indoor Thermal Conditions in Hospital Operating Rooms
Energy & Buildings, Vol. 39, p. 454-470, (2007). <http://dx.doi.org/10.1016/j.enbuild.2006.09.004>
Ranked No 16 (January-March 2007), No 23 (April-June 2007), No 20 (July-September 2007) and No 5 (October-December 2009) in the ScienceDirect TOP25 Hottest Articles.

2008

- 24 E.G. Dascalaki, A. Lagoudi, C.A. Balaras, A.G. Gaglia
Air quality in Hospital Operating Rooms
Building and Environment, Vol. 43 (11), p. 1945-1952, (2008). <http://dx.doi.org/10.1016/j.buildenv.2007.11.015>
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- 25 E.G. Dascalaki, A.G. Gaglia, C.A. Balaras, A. Lagoudi
Indoor Environmental Quality in Hellenic Hospital Operating Rooms
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2010

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Energy & Buildings, Vol. 42, p. 1231-1237, (2010). <http://dx.doi.org/10.1016/j.enbuild.2010.02.014>

2011

- 27 E.G. Dascalaki, V.G. Sermpetzoglou
Energy Performance and Indoor Environmental Quality in Hellenic Schools
Energy & Buildings, Vol. 43, p. 718-727, (2011). <http://dx.doi.org/10.1016/j.enbuild.2010.11.017>
- 28 E.G. Dascalaki, K.G. Droutsas, C.A. Balaras, S. Kontoyannidis
Building Typologies as a Tool for Assessing the Energy Performance of Residential Buildings - A Case Study for the Hellenic Building Stock
Energy & Buildings, Vol. 43, p. 3400-3409, (2011). <http://dx.doi.org/10.1016/j.enbuild.2011.09.002>

2012

- 29 E.G. Dascalaki, C.A. Balaras, A.G. Gaglia, K.G. Droutsas, S. Kontoyannidis
Energy Performance of Buildings - EPBD in Greece
Energy Policy, Vol. 45, p. 469-477, (2012).

2013

- 30 C.A. Balaras, E.G. Dascalaki, K.G. Droutsas, S. Kontoyannidis
Hellenic Renewable Energy Policies & Energy Performance of Residential Buildings Using Solar Collectors for Domestic Hot Water Production in Greece
J. Renewable Sustainable Energy, Vol. 5, No 4, (2013). <http://dx.doi.org/10.1063/1.4813066>
Special Topic: Renewable Energy in South-Eastern Europe
- 31 E.G. Dascalaki, S. Kontoyannidis, C.A. Balaras, K.G. Droutsas
Energy Certification of Hellenic Buildings: First findings
Energy & Buildings, Vol. 65, p. 429-437, (2013). <http://dx.doi.org/10.1016/j.enbuild.2013.06.025>
- 32 C.A. Balaras, S. Kontoyannidis, E.G. Dascalaki, K.G. Droutsas
Intelligent Services for Building Information Modeling - Assessing Variable Input Weather Data for Building Simulations
The Open Construction & Building Technology Journal, Vol. 7, p. 138-145, (2013).
<http://www.benthamsience.com/open/tobctj/articles/V007/TOBCTJ131022005.pdf>

2014

- 33 K.G. Droutsas, S. Kontoyannidis, E.G. Dascalaki, C.A. Balaras
Ranking cost effective energy conservation measures for heating in Hellenic residential buildings
Energy & Buildings, Vol. 70, p.318-332, (2014). <http://dx.doi.org/10.1016/j.enbuild.2013.11.029>
- 34 C.A. Balaras, E.G. Dascalaki, K.G. Droutsas, S. Kontoyannidis, R. Guruz, G. Gudnason
Energy & Other Key Performance Indicators for Buildings – Examples for Hellenic Buildings
Global Journal of Energy Technology Research Updates, Vol. 1, No 2, p. 71-89, (2014).
<http://dx.doi.org/10.15377/2409-5818.2014.01.02.2>

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- 35 C.A. Balaras, E.G. Dascalaki, K.G. Droutsas, S. Kontoyannidis
Empirical assessment of calculated and actual heating energy use in Hellenic residential buildings
Applied Energy, Vol. 164, p.115-132, (2016). <http://dx.doi.org/10.1016/j.apenergy.2015.11.027>
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Mapping the energy performance of Hellenic residential buildings from EPC data
Energy, Vol. 98, pp. 284-295, (2016). <http://dx.doi.org/10.1016/j.energy.2015.12.137>
- 37 H. Visscher, E. Dascalaki, I. Sartori (Guest Editors)
Foreword: Towards an Energy Efficient European Housing Stock: Monitoring, Mapping and Modelling Retrofitting Processes
Energy & Buildings, Vol. 132, p. 1-3, (2016). <http://dx.doi.org/10.1016/j.enbuild.2016.07.039>
- 38 N.H. Sandberg, I. Sartori, O. Heidrich, R. Dawson, E. Dascalaki, S. Dimitriou, T. Vimmer, F. Filippidou, G. Stegner, M.S. Zavr, H. Brattebo
Dynamic building stock modeling: Application to 11 European countries to support the energy efficiency and retrofit ambitions of the EU
Energy & Buildings, Vol. 132, p. 26-38, (2016). <http://dx.doi.org/10.1016/j.enbuild.2016.07.039>

- ③ ⑨ E.G. Dascalaki, C.A. Balaras, S. Kontoyiannidis, K.G. Droutsas
Modeling Energy Refurbishment Scenarios for the Hellenic Residential Building Stock Towards the 2020 & 2030 Targets
Energy & Buildings, Vol. 132, p. 74-90, (2016). <http://dx.doi.org/10.1016/j.enbuild.2016.06.003>

BOOKS

1996

- ❶ M. Santamouris, E. Dascalaki
Ch. 9 – Natural ventilation σ. 220-306.
Passive Cooling of Buildings, A. Argiriou, A. Dimoudi, C.A. Balaras, D. Mantas, E. Dascalaki, I. Tselepidaki, (M. Santamouris and D.N. Asimakopoulos eds.)
 James & James Science Publishers Ltd, (ISBN 1 873936478), σ. 468, London, UK, (1996).

1998

- ❷ M. Santamouris, E. Dascalaki
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Natural Ventilation of Buildings, (F. Allard ed.)
 James & James (Science Publishers) Ltd., (ISBN 1 873936 72 9), London, UK (1998).
- ❸ E. Dascalaki
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Natural Ventilation of Buildings, (F. Allard ed.)
 James & James (Science Publishers) Ltd., (ISBN 1 873936 72 9), London, UK (1998).

2000

- ❹ C.A. Balaras, E. Dascalaki
Ch 1 - Heat Transfer, 66 p.
Ch 2 - Indoor Environmental Quality, 71 p.
Ch 5 - Building Thermal Performance, 23 p.
Ch 8 - Agricultural Greenhouses, 49 p.
 Balaras C.A. (ed.), **Energy Systems Analysis (in Hellenic)**, Book in the educational series for Distance Learning, Continuing Education Programme “Management of Energy Systems” for the Technological Educational Institute of Pireaus, 1st edition (1999), 2nd edition (2000).
- ❺ E. Dascalaki
Ch 4 - Ventilation, 74 p.
 Balaras C.A. (ed.), **Energy Systems Analysis (in Hellenic)**, Book in the educational series for Distance Learning, Continuing Education Programme “Management of Energy Systems” for the Technological Educational Institute of Pireaus, 1st edition (1999), 2nd edition (2000).

2001

- ❻ E. Dascalaki
Ch. 3.4 - Avoiding overheating and providing cooling
Passive retrofitting of office buildings: A Designer’s Handbook (S. Burton ed.)
 James & James (Science Publishers) Ltd., (ISBN 1 902916 –01 8) London, UK (2001).

2011

- Co-author in the following books published by the Technical Chamber of Greece (TEE), Athens, June (2011) for educational purposes and training of permanent energy inspectors throughout Greece (*in Hellenic*).
- ❼ G. Ageridis, C.A. Balaras, A. Gaglia, G. Giannakidis, E. Dascalaki, A. Dimoudi, E. Dialynas, X. Doukas, M. Ktenidadakis
DE1 – Introduction in the Energy Sector (42 p.)
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- ❾ D. Aravantinos, C.A. Balaras, A. Gaglia, G. Giannakidis, L. Gidakou, E. Dascalaki, K. Droutsas, K. Laskos
DK1 – Legal Framework, Methodology for the Energy Performance of Buildings (44 p.)

2012

- ❶❷ C.A. Balaras, E.G. Dascalaki, K. Nagidi, L. O’Dea, C.J. Cromer, Solar Energy Technical Committee

ASHRAE Handbook – HVAC Systems and Equipment, Chapter 37 – Solar Energy Equipment
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- ❶❶ C.A. Balaras, E.G. Dascalaki, K. Nagidi, S. Morner, Solar Energy Technical Committee
ASHRAE Handbook – HVAC Systems and Equipment, Chapter 37 – Solar Energy Equipment
Atlanta: ASHRAE, p. 37.1-37.32, ISBN 978-1-939200-27-3, Atlanta: ASHRAE (2016).

PUBLICATIONS IN HELLENIC TECHNICAL JOURNALS

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Energy Conservation in Hellenic Hospitals
Technical Review, A. 78, pp. 42-54 (September 1998).

1999

- ② E. Dascalaki, M. Santamouris
Models for natural ventilation
BSER&T blue pages 20(2): Natural Ventilation, CIBSE, May/June (1999).

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The “smart” window
Technical Chronicles, March, pp. 45-46 (2000).

2003

- ④ Balaras C.A., E. Dascalaki, A. G. Gaglia
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