Energy Retrofit is an extremely interesting challenge for engineers, architects, designers. If we focus our attention on historical buildings the challenge is formidable. Many countries overlooking the Mediterranean have a rich historical and cultural heritage. The challenge posed by their energy retrofit is stimulating and, to some extent, necessary. Interventions in historical buildings must be carefully designed and defined both for the existence of static and/or historical constraints, both for use requirements, operational, maintenance and cost.

The energy performance of buildings shall be defined on the basis of methodologies which include, in addition to thermal characteristics, other factors that play an increasingly important role such as heating and air-conditioning installations, application of energy from renewable sources, passive heating and cooling elements, shading, indoor air quality, thermal comfort, adequate natural light and satisfactory indoor noise level.

To provide answers to these challenges AICARR, the Italian Association of Air Conditioning, Heating and Refrigeration, organizes jointly with AICVF (France), ATECYR (Spain) and TTMD (Turkey) its 9th Mediterranean Congress CLIMAMED with the main scope “Retrofit of historical buildings in mediterranean area”. In addition to the presence of international speakers (engineers, architects, designers and manufacturers alike can share information and expertise), we will organize a series of workshops, some of which specifically dedicated to aspects of the renovation. On behalf of the Organizing Committee, we invite you to join us in Matera for the 2017 edition of CLIMAMED.
Historical buildings retrofit in the Mediterranean area
Retrofit di edifici storici nell’area del Mediterraneo
Matera Italy
May 12th • 13th, 2017

May 12th, 2017 — PRELIMINARY PROGRAMME

9,00 a.m. Participants registration

10,30 a.m. Opening Ceremony and Plenary Session
Welcome addresses
Francesca R. d’Ambrosio, AiCARR President
Raffaello De Ruggieri, Major of Matera
Livio de Santoli, Climamed Board President
Stefano P. Corgnati, REHVA President
Bjarne Olesen, ASHRAE President-elect
Bertrand Montmoreau, AICVF Association, France, Climamed Board
Julio Cano Lacunza, ATECYR Association, Spain, Climamed Board
Sarven Çilingirgil, TTDM Association, Turkey, Climamed Board

11,00 a.m. General introductory speech:
Livio de Santoli, Climamed Board President

11,30 a.m. Cultural Heritage and Retrofit of Historical Buildings Evaluations of Restoration Issues
Giovanni Carbonara, Dept. of Specialisation in Architectural Heritage and Landscape Rome University “Sapienza

12,00 p.m. Matera architectural restoration
Amerigo Restucci, Comitato Italiano ICOMOS—Dean of Venice University

12,30 p.m. Art, culture and environment: from the memory of the past to a project for the future in the Art. n. 9 of the Italian Constitution
Giovanni Maria Flick, President Emeritus of the Italian Constitutional Court

1,00 p.m. Lunch

2,30 p.m. Hassan Fathy Award

2,45 p.m. Technical simultaneous sessions

4,15 p.m. Break

4,30 p.m. Technical simultaneous sessions

5,45 p.m. Closure of the day’s work

8,30 p.m. Gala Dinner

May 13th 2017 — PRELIMINARY PROGRAMME

8,00 a.m. Participants registration

9,00 a.m. Technical simultaneous sessions

10,30 a.m. Break

10,45 a.m. Technical simultaneous sessions

12,00 p.m. Closing Ceremony - End of the Conference

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TECHNICAL SESSION 1 SALA GRANDE

Indoor and outdoor climate: how to design the retrofit in the Mediterranean basin

Chairman: Ahmet Arisoy, Istambul Technical University, Turkey

14,45 Microclimate of territory of Matera and the heat island effect
Gianluca Rospi, Elisabetta Negro, Nicola Cardinale, Università degli Studi della Basilicata, Dipartimento delle Culture Europee e del Mediterraneo – Matera Tiziana Cardinale, Centro Ricerche Enea Trisaia, Rotondella, Matera

15,00 Statistical analysis of the heating demand in residential buildings located in Mediterranean climate and proposals for refurbishment
Natale Arcuri, Roberto Bruno, Cristina Carpio, Department of Mechanical, Energetic and Management Engineering (DIMEG), University of Catania

15,15 Heating, ventilating, and cooling impacts of double windows on historic buildings in Mediterranean area
Mike Collot, Mohamed El Mankib, Richard Cantin, Department of Civil and Building Engineering, Ecole Nationale des Travaux Publics de l’Etat, University of Lyon, France

15,30 Thermal inertia of heavyweight traditional buildings: experimental measurements and simulated scenarios
Giampiero Evola, Luigi Marietta, Dipartimento di Ingegneria Elettrica, Elettronica e Informatica, University of Catania

Sukumar Natarajan, Elisabetta Patanè, Free-lance professional Engineer, Bologna

Lamberto Tronchin, Dipartimento di Ingegneria Industriale, Università di Bologna

15,45 Integration time step issue in Mediterranean Historic Building energy simulation
Livio Mazzarella, Martina Pasini, Dipartimento Energia, Politecnico di Milano

16,00 A PC-tool to calculate the Moisture Buffer Value
Inaki Gomez-Arriraran, Isabel Sellens-Fernandez, Moines Odroiolo-Mariotorena, Aitor Erkoreka-Gonzalez Department of Thermal Engineering, University of the Basque Country

Friday May, 12th

TECHNICAL SESSION 1 SALA DELLA MUSICA

Cases study: measured performance
Chairman: Julio Cano Lacunza, Ingeniero Industrial Lco. en CC. Económicas y Empresariales

14,30 Environmental monitoring and building simulation application to Vasari Corridor: preliminary results
Cristina Carletti, Gianfranco Cellai, Leone Pierangiolio, Fabio Sciluppi, Laboratory of Environmental Physic for Building Quality, University of Florence

14,45 The energy efficiency challenge for a historical building undergone to seismic and energy refurbishment
Iolee Nardi, Tuilio De Rubeli, Dario Ambrosini, Stefano Serra, Department of Industrial and Information Engineering and Economics, University of L’Aquila

Marilena Taddei, Campus Bio-Medico, University of Rome

15,00 Keeping it modern, making it sustainable. Monitoring and energy retrofitting the Collegi by Giancarlo De Carlo in Urbino
Cesare Maria Joppolo, Davide Del CURtO, Andrea Luciani, Luca Pietro Valisi, Mara Bellebono, Climate Energy Cultural Heritage (C.E.C.H.) Laboratory, Politecnico di Milano

15,15 A successful story of PV integration in historic building
Myrriam Perna, Solbian Ltd – Avigliana, Torino

Valentina Cari, Free-lance Professional – Bellano, Lecco

15,30 Assessment of the indoor ambient conditions of a baroque library in Portugal Luisa Dias Pereira – Adélia Rodrigues Gaspar – José Joaquim Costa, ADAI, LAETA, Department of Mechanical Engineering, Faculty of Sciences and Technology, University of Coimbra, Portugal

15,45 Analysis and exploitation of the stack ventilation in the historic context of high architectural, environmental and landscape value
Eleonora Laurini – Annalisa Taballione – Marianna Rotilio – Pierluigi De Berardinis, Department of Civil Architectural and Environmental Engineering, University of L’Aquila

TECHNICAL SESSION 1 SALA DEI TAROCCHI

Cases study: simulated performance
Chairman: Francis Allard, Laboratoire des Sciences de l’Ingénieur pour l’Environnement University of Rochelle, France

14,30 Energy retrofitting of dwellings from the 40’s in Borgata Trullo - Rome
Livio de Santoli, Department of Aeronautics, Electrical and Energy Engineering, Sapienza University of Rome

Francesco Mancini, Serena Roidolfi, Department of Planning, Design and Technology of Architecture, Sapienza University of Rome

Benedetto Nastasi, Department of Architectural Engineering & Technology, TU Delft University of Technology, The Netherlands

14,45 Applying underfloor heating system for improvement of thermal comfort in historic mosques: the case study of Salepciçığlı Mosque, İzmir, Turkey

Khaled S. M. Bghrara Energy Engineering Programme, İzmir Institute of Technology, Gülbahçe, Urla, İzmir, Turkey

ZeyneP Durmuş Arsan, Department of Architecture, İzmir Institute of Technology Gülbahçe, Urla, İzmir, Turkey

Gülden Gökçen Akkurt, Department of Energy Systems Engineering, İzmir Institute of Technology, Gülbahçe, Urla, İzmir, Turkey

15,00 Recovery of ancient bioclimatic strategies for energy retrofit in historical buildings: the case of the Infants’ Tower in the Alhambra
Silvia di Turi, Construction Technologies Institute, National Research Council – Bari

Luis José Garcia Pulido, Department of Art and Architecture, Design and Projects, University of Malaga, Spain

Francesco Ruggiero, Pietro Stefanizzi, DICAR, Department of Civil Engineering and Architecture, Polytechnic University of Bari

15,15 Experimental and numerical investigation of the effects of wind exposure on historical towns
Fausto Arpino, Manuel Caschera, Assunta Pelliccio, Gino Cortellessa, Dipartimento di Ingegneria Civile e Meccanica, Università degli Studi di Cassino e del Lazio Meridionale

Andrea Freddolino, Dipartimento di Ingegneria Civile, Ambientale e Architettura, Università di Cagliari

15,30 Reuse of an ancient church: thermal aspect for integrated solutions
Giovanni Sempri, D.I.N. - University of Bologna

Claudio Galli, D.A. - University of Bologna

Silvia Farina, Free-lance Professional – Bologna

15,45 Energy retrofit of historic buildings in the Mediterranean area: the case of the Paleontology Museum of Naples
Diana D’Agostina, Concetta Marìno, Francesco Minichielo, University of Naples Federico II, Department of Industrial Engineering, Naples

Filippo De’ Rossi, Francesco Russo, University of Sannio, Department of Engineering, Benevento
Friday May, 12th

TECHNICAL SESSION 2 SALA GRANDE
Cases study & Tools
Chairman: Piercarlo Romagnoni, Università IUAV di Venezia

16.30 Energy efficiency, heritage conservation, and landscape integration: the case study of the San Martino Castle in Parella (Turin, Italy)
Matteo Serraino, Manitalidea spa, Ivrea, Torino
Elena Lucchi, Eurac Research, Bolzano

16.45 The “new” Salone de’ Dugento: The Medici tapestries return home to Palazzo Vecchio
Enzo Ferloni, Mitsubishi Electric Europe B.V. Italy Branch – Agrate Brianza, Monza
Claudia Calabrese, Free lance Professional, Milan

17.00 Restoration work of properties located within the “Sassi” of Matera: a case study of some types of installations
Gennaro Loperfido, Mariapia Colella, Freelancer, B&L Team, Matera
Roberto Barro, Freelancer, B&L Team, Udine
Alessandro Temperini, Freelancer, B&L Team, Fermo

17.15 Sustainability for the minor construction rehabilitation in Liguria: the rehabilitation of the village of Balestrino
Marco Della Rocca, Department of Architecture and Design, Politecnico di Torino

17.30 GIS tools towards a renovation of the building heritage
Paola Caputo, Giulia Pasetti, Department of Architecture, Built environment and Construction engineering, Politecnico di Milano

TECHNICAL SESSION 2 SALA DELLA MUSICA
Cases study: economic optimization
Chairman: Livio Mazzarella, Dip. Energia, Politecnico di Milano

16.15 Energy renovation strategies for historical buildings: cost-optimal analysis for a case study in Catania (Sicily)
Simona Cirami, Giuseppe Margari, Department of Civil Engineering and Architecture, University of Catania
Gianpiero Evola, Antonio Gagliano, Department of Electrical, Electronic and Computer Engineering, University of Catania

16.30 Energy and technological refurbishment of the School of Architecture Valle Giulia, Rome
Livio de Santoli, Department of Astronautics, Electrical and Energy Engineering, Sapienza University of Rome
Francesco Mancini, Carola Clemente, Stefano Lucci, Department of Planning, Design and Technology of Architecture, Sapienza University of Rome
Benedetto Nastasi, Department of Architectural Engineering & Technology, TU Delft University of Technology, The Netherlands

16.45 Historical buildings retrofit: the city hall of the city of Motta di Livenza (Treviso)
Alessandro Righi, Tiziano Dalla Mora, Fabio Peron, Piercarlo Romagnoni, Department of Design and Planning in Complex Environments, University IUAV of Venice

17.00 Evaluation of refurbishment alternatives for an Italian vernacular building considering architectural heritage, energy efficiency and costs
Cristina Becchio, Stefano P. Corgnati, Giorgia Spigliantini, Department of Energy, Politecnico di Torino

17.15 The “Cost Optimality” approach for the internal insulation of historical buildings
Elena Lucchi, Alexandra Troi, Eurac Research, Bolzano
Magdalena Tabak, La Sapienza Università, Roma

TECHNICAL SESSION 2 SALA DEI TAROCCHI
Cases study: simulated performance
Chairman: Stefano P. Corgnati, Dip. Energia, Politecnico di Torino

16.15 A study on the energy performance of a ground source heat pump utilized in the refurbishment of an historical building: comparison of different design options
Claudia Pacchiega, Free-lance Professional, Ferrara
Patrizio Fausti, Engineering Department, University of Ferrara

16.30 The effect of spatial interventions on historical buildings’ indoor climate (Case Study: Tire Necip Paşa Library, Izmir-Turkey)
Turay Coskun, Özcan Gühan, Energy Engineering Programme, Izmir Institute of Technology, Izmir, Turkey
Cem Dogan Sahin, Department of Mechanical Engineering, Izmir Institute of Technology, Izmir, Turkey
Zeynep Durmus Arsan, Department of Architecture, Izmir Institute of Technology, Izmir, Turkey
Gülden Gökçen Akkurt, Department of Energy Systems Engineering, Izmir Institute of Technology, Izmir, Turkey

16.45 Energy retrofit and environmental sustainability improvement of historical farm in south Italy
Paolo Maria Congedo, Cristina Baglivo, Ilaria Zaca’, Department of Engineering for Innovation, University of Salento, Lecce
Delia D’Agostino, Energy efficiency and Renewables Unit, Institute for Energy and Transport (IET), Joint Research Centre (JRC) - European Commission, Ispra (VA), Italy
Fabrizio Quarta, Alessandro Canoletta, Antonio Martì, Luciano Ostuni, Department of Economic Sciences, University of Salento

17.00 Adaptive reuse with low budget: a new methodology for the renovation of historical buildings. The former fire station in Ferrara
Claudia Pacchiega, ArchLivIng S.r.l – Ferrara Ilaria Fabbri, Marco Negri, Gabriele Lelli, OURlab – Ferrara
TECHNICAL SESSION 3 SALA GRANDE
Cultural heritage and historical buildings: conservation and sustainability
Chairman: Francesca R. d’Ambrosio, Dip. Ingegneria Industriale, Università degli Studi di Salerno, Presidente AICARR

9.00 Heritage and Climate Changes in Romania: The St. Nicholas Church of Densus, from Degradation to Restoration
Mihaela Stela Georgescu, Cristina Victoria Ochincuc, University of Architecture and Urbanism “Ion Mincu”, Bucharest, Romania
Emil Sever Georgescu, NIRD URBAN-INCERC, Bucharest, Romania
Ioana Colda, Technical University of Civil Engineering, Bucharest, Romania

9.15 UNESCO’s Historic Centre of Porto: rehabilitation and sustainability
Paulo Valenca, Architect and Director at Porto Vivo, Society for Urban Rehabilitation, Porto, Portugal
Hugo Santos, R&D Unit Director at INEGI, Porto, Portugal
Eduardo Oliveira Fernandes, Emeritus Professor at the Faculty of Engineering of the University of Porto, Portugal

9.30 Learning from Casbah of Algiers for more Sustainable Environment
Nagme Ebru Aydeniz, Department of Interior Architecture, Yasar University, Izmir, Turkey
Nadja Fellahi, Department of Architecture, Batna University, Algeria

9.45 Analysis of the evapotranspiration processes in The Sassi of Matera
Francesca R. d’Ambrosio Alfano, Department of Industrial Engineering, DIIN, University of Salerno
Settimio Ferlisi, Department of Civil Engineering, DICIV, University of Salerno
Boris I. Palella, Giuseppe Riccio, Università di Napoli Federico II

10.00 An analysis on technological plant retrofitting on the behaviour structures of 19th century Traditional Historical Buildings (THB) in Rome
Rosa Flavio, CITERA Centro di Ricerca Interdipartimentale Territorio Edilizia Restauro Ambiente, Architecture Faculty Sapienza University of Rome
Carbonara Elisa, Department of Astronautical, Electrical and Energy Engineering (DIAEE), Sapienza University of Rome

10.15 Heritage BIM, Numerical Simulation and Decision Support Systems: an integrated approach for historical buildings retrofit
Elena Gigliarelli, Filippo Calcerano, Luciano Cessari, Institute for Technologies Applied to Cultural Heritage, National Research Council of Italy, Montelibretti

Sat. May 13th

TECHNICAL SESSION 3 SALA DELLA MUSICA
HVAC systems: equipment performance in historical buildings
Chairman: Marco Filippi, Dip. Energia, Politecnico di Torino

9.00 HVAC solutions for energy retrofitted hotel in Mediterranean area
Cristina Becchio, Stefano P. Corgnati, Giulia Crespi, Department of Energy, Politecnico di Torino
Michele Vio, RHOSS Consultant – Arquà Polesine, Rovigo
Leonardo Prendin, Mattia Magagnini, RHOSS, Gruppo IRSAP – Arquà Polesine Rovigo

9.15 Air distribution systems for historic buildings – A case study
Luigi Cinquanta, Benedetta Bedendo, Sagicoifm spa, Cemusco sul Naviglio, Milano
Claudio Bertolini, Luca Dagrada, General Planning srl, Milano

9.30 The inclusion of chillers and heat pumps in historical contexts: the case of Venice
Michele Vio, Studio Associato Vio - Venice - AICARR Past President
Alessandra Vio, Studio Associato Vio - Venice

9.45 The polyvalent heat pumps technology in retrofit of existing HVAC systems
Michele Vio, RHOSS Consultant – Arquà Polesine, Rovigo
Michele Babuin, Silvia Morassutti, RHOSS, Gruppo IRSAP – Arquà Polesine Rovigo
Cristina Becchio, Stefano P. Corgnati, Giulia Crespi, Department of Energy, Politecnico di Torino

10.00 Energy and economic analysis of an underground water source heat pump system for a historical valuable building
Marco Noro, Renato Lazzarin, Department of Management and Engineering, University of Padova
Andrea D’Ascanio, Studio Centro Energia srl – Vicenza

10.15 Ground source heat pump systems in historical buildings. two Italian case studies
Giuseppe Emmi, Angelo Zarrella, Michele De Carli, Stefano Moretto, Department of Industrial Engineering - University of Padova
Antonio Galgaro, Matteo Cultura, Department of Geoscience - University of Padova
Adriana Bernardi, CNR-ISAC of Padova
TECHNICAL SESSION  4 SALA GRANDE
HVAC systems: application of new techniques for HVAC
Chairman: Cesare Maria Joppolo, Dipartimento Energia, Politecnico di Milano

10,45 Dynamic setpoint calculation including collection and comfort requirements: energy impact for museums in southern Europe
Rick Kramer, Jos Van Schijndel, Henk Schellen, Department of the Built Environment, Eindhoven University of Technology – Eindhoven, the Netherlands

11,00 Innovative Hybrid CHP systems for high temperature heating plant in existing buildings
Livio de Santoli, Gianluigi Lobasso, Department of Astronautics, Electrical and Energy Engineering (DIAEE), Sapienza University of Rome
Benedetto Nastasi, Department of Architectural Engineering & Technology, Environmental & Computational Design Section, TU Delft University of Technology, NL

11,15 Low thickness radiant systems for renovation and better efficiency
Roberto Torreggiani, Matteo Pastore, Giacomini S.p.A. San Maurizio d’Opaglio Novara

11,30 Application of new equipment for retrofit in the historical buildings: comparative analysis of systems in three different Mediterranean areas
Filippo La Rosa, Daniela Petrocelli, Daikin Air Conditioning Italy, San Donato Milanese, Milano

11,45 Smart metering and HVAC retrofit of an ancient Vanvitellian building: proof of Concept
Carmine Gigante, Freelance Professional, Rome
Mauro Cerbone, Remi Giovannone, Tecnorad Italia Srl – Rome
The registration fee includes Entrance to the Scientific Meeting and business Lunch

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