



**March 25 - 26, 2026**

**MCE Milan, Italy**

# **54<sup>th</sup> AiCARR International Congress**

**Decarbonising our future:  
energy, economic and social  
aspects of smarter and  
digitalized buildings and cities.**



**AiCARR**

Cultura e Tecnica per Energia Uomo e Ambiente

## INDUSTRY MEMBERS



## SCIENTIFIC COMMITTEE

### AiCARR PRESIDENT

*Claudio Zilio*

### PRESIDENT OF CULTURAL COMMISSION

*Marco Noro - Università di Padova*

*Francesco Asdrubali - Università per Stranieri Perugia*

*Marco Beccali - Università degli studi di Palermo*

*Umberto Berardi - Politecnico di Bari*

*Nicola Bianco - Università degli Studi di Napoli Federico II*

*Michele De Carli - Università degli Studi di Padova*

*Davide Astiaso Garcia - Università La Sapienza Roma*

*Gianpiero Evola - Università degli Studi di Catania*

*Enrico Fabrizio - Politecnico di Torino*

*Giorgio Ficco - Università degli Studi di Cassino e del Lazio Meridionale*

*Alessandro Franco - Università degli Studi di Pisa*

*Jaap Hogeling - EPB Center*

*Risto Kosonen - Vice-President REHVA - Aalto University*

*Livio Mazzarella - President REHVA - Politecnico di Milano*

*Akio Miyara - President SHASE, Saga University*

*Luca Molinaroli - Politecnico di Milano*

*Gian Luca Morini - Università degli Studi di Bologna*

*Alessandro Prada - Università degli Studi di Trento*

*Piercarlo Romagnoni - Università di Venezia - IUAV*

*Fabio Scurpi - Università degli Studi di Firenze*

*Fabio Serpilli - Università Politecnica delle Marche*

*Paolo Tartarini - Università di Modena e Reggio Emilia*

## ORGANIZING COMMITTEE

*Luca Alberto Piterà (AiCARR General Secretary)*

*Fabio Minchio (AiCARR Elected President)*

*Roberto Taddia (AiCARR Territorial Delegate Milano, Como, Lodi, Monza e Brianza, Pavia, Varese)*

*Sergio La Mura (AiCARR Territorial Delegation Lombardia)*

*Federico Pedranzini, Mara Portoso (AiCARR Executive Board)*

*Matteo Dongellini (AiCARR Cultural Commission)*

*Gabriella Lichinchi (AiCARR Secretariat)*

# WELCOME TO THE 54<sup>th</sup> AiCARR INTERNATIONAL CONGRESS

The urgent need to combat climate change has put decarbonisation at the forefront of global initiatives. Smart, digitalized buildings and cities play a crucial role in this endeavor, offering multifaceted benefits across energy, economic, and social domains.

Buildings are responsible for around 40% of total primary energy consumption in Europe, with air conditioning (HVAC) systems being the main users to ensure indoor thermal comfort. From an energy perspective, smart buildings utilize advanced sensors, IoT devices, and AI-driven systems to optimize energy consumption. These technologies enable real-time monitoring and adjustment of heating, cooling, and lighting, significantly reducing energy waste, while distributed energy systems—such as renewables, cogeneration and energy (electric and thermal) storage—allow build-

ings to become both consumers and producers of clean energy. As a consequence, the increasing use in recent years of AI-based systems—and in general of smart building automation—is rapidly increasing the energy consumption of data centers. This poses important challenges to the containment of their energy consumption and the best use of the resulting waste heat.

Moreover, the shift toward electrified heating and cooling systems pushes the challenge of increasing energy production from renewable sources and energy efficiency in use to ever higher levels. From this point of view, in smart cities, intelligent grid systems can balance energy supply and demand more efficiently, integrating renewable sources seamlessly.

Economically, while initial investments may be substantial, long-term savings in energy costs and

improved resource management due to the shift towards smarter infrastructure offer significant economic benefits.

Socially, digitalized buildings and cities can enhance quality of life. Improved air quality from reduced emissions, more efficient public transportation systems, and better urban planning all contribute to healthier, more livable environments. Smart technologies can also promote social equity by improving access to services and information for all citizens.

The transition to more efficient buildings and cities with the integration of renewable sources and heat reuse represents a decisive step towards a greener and more resilient digital economy. These are the main topics of the 54th AiCARR International Congress that will be held from 25th to 26<sup>th</sup> March 2026 in Milan.

## CONGRESS PARTNER



24-27 Marzo/March 2026 | Fiera Milano

## ENDORSED BY



INSTITUT INTERNATIONAL DU FROID  
INTERNATIONAL INSTITUTE OF REFRIGERATION



## HOW TO REACH MCE



**MCE takes up 12 halls of the Fiera Milano exhibition area in the Rho Exhibition Center.**

Twelve halls and a top-quality convention centre get busy over the four days of the show, hosting exhibitors and attendees from all over the world. The exhibition centre is connected by underground to the heart of Milan and visitors can get off right inside the fairgrounds. The centre, easily reachable from Linate and from the

international hub of Malpensa, is located near an important motorway intersection and has 14,000 parking lots.

In order to allow to both visitors and exhibitors a quick and easy access to the different sectors, a direct shuttle bus service between Gate Est and Gate Ovest will be activated in addition to the usual one linking all the different halls.



### By Tube

Red line M1 direction Rho-Fieramilano, East Gate entrance.

Warning: The Rho-Fieramilano Station can be reached using the Mi1-Mi3 ordinary ticket that costs 2,20€ one way or with the daily 24 hours Mi1-Mi3 ticket for 7,60€.



### By Train

Fiera Milano is served by Rho-Fiera railway station that can be reached using the Passante Ferroviario through line S5 (Varese-Gallarate-Milano Passante -Pioltello-Treviglio) and line S6 (Novara-Magenta-Milano -Passante-Treviglio) from the following stations: Milano Certosa, Villapizzone, Lancetti, Porta Garibaldi, Repubblica, Porta Venezia, Dateo e Porta Vittoria.

The following lines stop at Rho-Fiera Station too:

- All Turin-Novara-Milan Fast Regional trains;
- All Regional trains for Varese, Arona, Domodossola and Luino;
- Some S11 line Chiasso-Como-Milano Porta garibaldi-Rho trains

From Milano Centrale, Milano Porta Garibaldi and Milano Lambrate railroad stations:

Take the green line M2 underground direction Abbiategrasso, at Cadorna station change to red line M1 underground direction Rho-Fieramilano.

From Milano Cadorna railroad station:

Take the red line M1 underground direction Rho-Fieramilano. You can reach Fiera Milano also using Frecciarossa, Italo Treno e Eurocity trains.

## HOW TO REACH MCE



### By Airplane

#### FROM LINATE

**ATM BUS** Public service bus no. 73 from Arrivals exit to Piazza Duomo/Via Gonzaga change to red line M1 underground direction Rho-Fieramilano. M4 tube line is available to reach San Babila station. From San Babila station take the M1 line, direction Rho-Fieramilano to reach the fairground.

#### FROM MALPENSA TERMINAL 1

##### MALPENSA EXPRESS TRAIN

To Milano Cadorna railway station every 30', then take red line M1 underground direction Rho-Fieramilano.

#### FROM ORIO AL SERIO

##### SHUTTLE BUS

A paid shuttle bus service is available to reach Milano Centrale Station. From Milano Centrale station, take the M2 tube line to Milano Cadorna, then change to M1 line, direction Rho-Fieramilano.



### By Taxi

Taxis authorized to operate at Linate and Malpensa airports, on given pre-established routes, among which FieraMilano fairground, apply pre-established rates including all costs (handling time, motorway fee, night and holiday extracharge). Requests for intermediate stops make invalid the application or fixed rates. In Milan there are 50 taxis accessible to people with physical disabilities.

Those taxis can be booked by calling the number +39 02.7777.

The call is free.



### By Car

From A7-Genova (Genoa), A1-Bologna and A4-Torino (Turin) motorways: drive along Tangenziale Ovest (ringroad west) direction North, exit fieramilano.

From A4 Venezia (Venice) motorway: exit Pero-fieramilano.

From A8-Varese and A9-Como motorways: at Milano Nord barrier follow direction to A4-Venezia, exit fieramilano.

From Milan: A-8 motorway direction Varese-Como: exit fieramilano; or A-4 motorway direction Torino (Turin) exit Pero-fieramilano.

## REGISTRATION FEES

### PARTECIPANTS

From March 1st, 2026  
and on site  
VAT excluded 22%

Plenary Session + Workshop	Free
*Members AiCARR, ASHRAE, IIR and REHVA	€ 100.00
*Non Members AiCARR, ASHRAE, IIR and REHVA	€ 200.00
*Speaker Member AiCARR, ASHRAE, IIR and REHVA	€ 60.00
*SPEAKER NON MEMBER AICARR, ASHRAE, IIR AND REHVA	€ 200.00
*Student Member AICARR, ASHRAE, IIR AND REHVA	Free
*Student Non Members	€ 30.00
Gala Dinner	€ 90.00

\*Registration includes an entrance ticket to MCE.

AiCARR Industrial, Supporters and Business Members can register their employees at the same fee reserved to the Full Memebers.

## AiCARR IN MCE



PAD. 11 STAND U11



MARCH 25<sup>th</sup>

SAGITTARIUS ROOM  
Centro Congressi Stella Polare



9.00 p.m. PARTICIPANTS REGISTRATION

**OPENING SESSION - WELCOME ADDRESSES**

10.00 a.m. Claudio Zilio, *AiCARR President*  
Livio Mazzarella, *REHVA President*  
Francesco Fabris, *IIR Scientific Coordinator*  
Local Autothorities

10.15 a.m. PLATINUM SPONSOR'S SPEECH  
CORPORATE RESPONSABILITY AND AWARENESS

10.45 a.m. MEMBER 25 YEARS OLD AWARD

11.00 a.m. PLATINUM SPONSOR'S WORKSHOP  
BRIDGING HIGH-TEMPERATURE COOLING, VERIFIED  
REFRIGERATION PERFORMANCE, AND EU SUSTAINABILITY  
COMPLIANCE: A CROSS-SECTOR SCIENTIFIC WORKSHOP ON DATA  
CENTRES AND COLD-CHAIN SYSTEMS

12.00 a.m. MOVING TIME FOR PARALLEL SESSIONS

**FROM THE EPBD TO DESIGN | PRACTICE 1**

Chairman: Giorgio Ficco, *Università degli Studi di Cassino e del Lazio Meridionale*

12.05 p.m. SPONSOR SESSION INTRODUCTION

From Directive 2002/91/EC to Directive 2024/1275/EC: evolution  
of design criteria for ventilation systems. Past, present, and  
suggestions for future developments

12.10 p.m. Raisa Valentina, *Libera professionista, Modena, Italy*  
Peretti Clara, *Libera professionista, Bolzano, Italy*  
Zecchin Roberto, *Manens, Padova, Italy*

12.25 p.m. Building today for tomorrow: Trends Transforming the Building  
and HVAC Industry by 2050  
Quagliotti Paolo, *Belimo srl, Grassobbio (BG), Italy*

12.40 p.m. Future trajectories for EPBD-aligned incentives: evidence from  
Italy's superbonus programme  
Cardelli Riccardo, Nappa Sara, Dall'O' Giuliano, Ferrari Simone,  
*Politecnico di Milano, Italy*



MARCH 25<sup>th</sup>

SAGITTARIUS ROOM  
Centro Congressi Stella Polare



12.55 p.m. Standardising deep-renovation planning: an archetype-based  
methodology for generating building renovation passports  
Nardelli Chiara, Ferrando Martina, Causone Francesco, *Politecnico di  
Milano, Italy*

1.15 p.m. NETWORKING LIGHT LUNCH



MARCH 25<sup>th</sup>

AQUARIUS ROOM  
Centro Congressi Stella Polare



**DECARBONIZATION OF BUILDING SERVICES AND  
ENERGY INTEGRAZION I**

Chairman: Filippo Busato, *Università Mercatorum, Roma*

12.05 p.m. SPONSOR SESSION INTRODUCTION  
Innovations in the energy retrofitting of residential buildings  
Oreste Bottaro, *Innova srl*

12.10 p.m. Thermal comfort strategies and energy implications in office  
buildings: a case study  
Iatauro Domenico, *Lavinia Carmen, Nardi Iole, ENEA, Roma, Italy*  
Sannino Raniero, *ENEA, Portici Napoli, Italy*

12.25 p.m. Operation and performance of a novel centralized thermal system  
with multiple storage devices for domestic hot water  
Evola Gianpiero, Torrisi Michele, Costanzo Vincenzo,  
Gagliano Antonio, *Università degli Studi di Catania, Italy*

12.40 p.m. Energy Refurbishment of a public indoor swimming pool  
Malevolti Guglielmo, Magnani Valerio, *TEC ingegneria, Firenze, Italy* -  
Leoncini Lorenzo, *KEP energy, Firenze, Italy*

12.55 p.m. Optimal operational strategy for waste heat recovery from an it  
servers' room in al university campus  
Di Ciccio Alejandro Jose, Scorzetti Marilena, Scoccia Rossano, Aprile  
Marcello, *Politecnico di Milano, Department of Energy, Milan, Italy*

1.15 p.m. NETWORKING LIGHT LUNCH



MARCH 25<sup>th</sup>

SAGITTARIUS ROOM  
Centro Congressi Stella Polare



### INDOOR AIR QUALITY, COMFORT AND HEALTH

Chairman: Marco Beccali, *Univerità degli Studi di Palermo*,

Marco Noro, *Univerità degli Studi di Padova*

2.15 p.m. Sponsor session introduction  
The role of modern HVAC systems  
Giulia Ambrogio, *Samsung Elelectronics Italia spa*

2.20 p.m. Sensible heating and cooling of indoor building spaces by eliminating local in room humidity condensation (and the related drain pans and drainage path ways) by using calibrated humidity in air-renewal fan coil systems, for healthier NZEB, ZEB and ZCB  
Gandini Jacques, *Studio GANDINI S.R.L., Verona, Italy*

2.35 p.m. Mechanical ventilation as radon reduction strategy: methodologies for calculating flow rates and field experiences  
Peretti Clara, *Libera professionista, Bolzano, Italy*  
Savoia Paolo, *Libero professionista, Mantova, Italy*

2.50 p.m. Impact of window/door operation on indoor air quality and energy demand for residential buildings with single- flow and balance ventilation systems  
Kiani Zohreh, Nour Eddine Ali Alexandre, *Eurovent Certita Certification, Paris, France*  
Cordeiro Mendonça Kátia, *Plateforme Technologique du Bâtiment Durable, La gord, France, La Rochelle, France*  
Abadie Marc, *LaSIE UMR CNRS 7356, University of La Rochelle, La Rochelle, France*

3.05 p.m. Radon monitoring in public buildings: compliance with the ITACA D.1.5 criterion in Bolzano  
Di Loreto Samantha, *Università G. d'Annunzio di Chieti Pescara, Italy*  
Peretti Clara, *Consulente Provincia autonoma di Bolzano, Italy*  
Filippini Flavio, *Libero professionista, esperto in radioprotezione, Varese, Italy*  
Bagagli Massimiliano, *Istituto per l'innovazione e trasparenza degli appalti e la compatibilità ambientale, ITACA, Roma, Italy*



MARCH 25<sup>th</sup>

SAGITTARIUS ROOM  
Centro Congressi Stella Polare



Indoor air quality and thermal comfort in schools: comparative analysis of mechanical controlled and natural ventilation in northern and southern Italy

Peretti Clara, *Consulente Provincia autonoma di Bolzano, Italy*  
Verdi Luca, Fulci Gianmaria, *Università degli Studi G. d'Annunzio Chieti-Nereto, Dipartimento di Ingegneria e Geologia, Nereto, Pescara, Italy*

3.20 p.m. Montelpare Sergio, Guglielmi Leonardi, *Provincia autonoma di Bolzano – Bolzano Italy*  
Caggiano Giuseppina, Lopuzzo Marco, Triggiano Francesco, *Università degli Studi di Bari Aldo Moro, Bari Italy*  
Serpilli Fabio, Lori Valter, Di Perna Costanzo, *Università Politecnica delle Marche, Ancona, Italy*

3.35 p.m. Indoor air quality in school buildings: experimental monitoring and model validation across different climatic zone  
Di Loreto Samantha, Guglielmi Leonardo, Montelpare Sergio, *Università degli Studi G.d'Annunzio di Chieti-Pescara, Italy*  
Peretti Clara, *Consulente Provincia autonoma di Bolzano, Italy*  
Verdi Luca, *Provincia autonoma di Bolzano, Italy*

3.50 p.m. Indoor pollution: emission analysis and mitigation strategies through a building management system. The case of Carel industries s.p.a. offices  
Pagan Andrea, Gallon Marianna, Mastellaro Stefano, *CAREL Industries S.P.A., Brugine (PADOVA), Italy*  
Solomon Michael Tesfaye, *University of Cassino and Southern Lazio, Cassino, Italy*

4.05 p.m. On particulate matter PM and direct irradiation DI as confounding factors on the prediction of viruses viability and spread: the meaningful case of the SARS-COV-2 diffusion in Italy  
Spena Angelo, Bisio Francesco, *Dipartimento Ingegneria dell'Impresa, Università di Roma Tor Vergata, Italy*  
Spena Vincenzo Andrea, *Department of Aeronautical, Electrical and Energy Engineering, Sapienza University of Rome, Italy*

4.20 p.m. Microclimate in historic buildings: the role of in-field monitoring in the design of retrofit interventions  
Talamo Maria Francesca, Castaldo Veronica Lucia, Peduzzi Arianna, Borgarello Marco, Croci Lorenzo, *RSE, Milano, Italy*

4.35 p.m. DISCUSSION AND END OF THE SESSION



MARCH 25<sup>th</sup>

AQUARIUS ROOM  
Centro Congressi Stella Polare



### DIGITALIZATION AND SMART PERFORMANCE MANAGEMENT

Chairman: Umberto Berardi, *Politecnico di Bari*

2.15 p.m. **Sponsor session introduction**  
**Tools for performance monitoring and energy Optimization**  
Francesco Scopelliti, *Samsung Elelectronics Italia spa*

2.20 p.m. **Visual programming of the regulation and supervision of the new intensive care unit at the Cardarelli Hospital in Naples**  
Magri Massimiliano, *Coster Group srl, Milano, Italy*  
Ricciardi Fabrizio, *A&G Multiservice srl, Italy*  
Iodice Daniele, *Thermotechnical Representations Italy*

2.35 p.m. **Development of a digital governance method for BIM-based design of support and fastening systems for HVAC installations according to ESG principles**  
Khaliullina Dina, *Independent Postgraduate Researcher, Moscow State University of Civil Engineering (MGSU), Germany*

2.50 p.m. **BEM-based multidisciplinary design supported by artificial intelligence for the creation of cognitive and sustainable smart hospitals**  
Prete Daniele, *Department of Engineering for Innovation, University of Salento, Italy, Department of Technical Services and Heritage - Local Health Authority ASL Lecce, Italy*  
Piscitelli Prisco, *Local Health Authority ASL Lecce, Italy - Italian Society of Environmental Medicine (SIMA), Milan, Italy*  
Elia Gianluca, *Department of Engineering for Innovation, University of Salento, Italy*

3.05 p.m. **Integrating load profiling and multi-objective optimization: an open-source tool for the design of renewable energy communities**  
Dongellini Matteo, *Azzini Filippo, Naldi Claudia, Morini Gian Luca, Alma Mater Studiorum, Università di Bologna, Italy*  
Neri Alessandro, *Gamberini Rita, Università degli Studi di Modena e Reggio Emilia, Italy - Maria Angela Butturi, University of Modena and Reggio Emilia, DISMI, Reggio Emilia, Italy*

3.20 p.m. **A new experimentally validated archetype for model predictive control of residential buildings with heat pumps**  
Mugnini Alice, *Department of Theoretical and Applied Sciences, Università E-Campus, Novedrate, Italy - Evens Maarten, Arteconi Alessia, Department of Mechanical Engineering, KU Leuven, Belgium*



MARCH 25<sup>th</sup>

AQUARIUS ROOM  
Centro Congressi Stella Polare



3.35 p.m. **A framework for the digital energy management and decarbonization of sustainable and renewable energy communities**  
Chierici Matilde, *Ferrando Martina, Causone Francesco, Politecnico di Milano, Italy*

3.50 p.m. **Experimental characterization of a latent thermal storage integrated with a residential heat pump**  
Guarda Dario, *Righetti Giulia, Università di Padova, Vicenza, Italy*  
Campidelli Matteo, *Innova Engineering, Trento, Italy*

4.05 p.m. **A Patent, an Italian technology, a solution for energy efficiency in buildings to meet the EPBD 2024/1275**  
Salimbeni Roberto, *Direzione Tecnica, Black Box Green srl, Fiorano Modenese (MO), Italy*  
Sperduto Giuseppe, *Energy manager, Tecnimont Services, Milano (MI), Italy*

4.20 p.m. **From the chip to atmosphere: what the new opportunities for data centre cooling?**  
Maistro Massimiliano, *Miconi Enrico, Tagliapietra Piergiorgio, Zerbetto Alessandro, Vertiv, Piove di Sacco, Italy*  
La Greca Tommaso, *Ali Kanaan, Internship, Thermal Management, Italy*

4.35 p.m. **DISCUSSION AND END OF THE SESSION**



MARCH 26<sup>th</sup>

SAGITTARIUS ROOM  
Centro Congressi Stella Polare



9.00 a.m. PARTECIPANTS REGISTRATION

10.00 a.m. **Keynote speech**  
**Flexible Heating and Cooling: Unlocking Energy Flexibility with Heat Pumps**  
Alessia Arteconi, *Mechanical Engineering Department, KU Leuven, 3000 Leuven, Belgium*

11.00 a.m. MOVING TIME FOR PARALLEL SESSIONS

### DECARBONIZATION OF BUILDING SERVICES AND ENERGY INTEGRATION 2

Chairman: Ilaria Ballarini, *Politecnico di Torino*

11.05 a.m. SPONSOR SESSION INTRODUCTION

11.10 a.m. **Scaling positive energy districts through integrated active exoskeleton retrofitting: a rec-driven application to a social housing cluster**  
Stasi Roberto, Semeraro Simona, Vecchi Francesca, Ruggiero Francesco, Berardi Umberto, *Politecnico di Bari, Italy*

11.25 a.m. **Dual-use building rooftops for agrivoltaic applications in warm-temperate climates - a neutrosophic decision analysis**  
Minelli Federico, *University of Naples Federico II - Department of Industrial Engineering, Naples, Italy*

11.40 a.m. **Fifth-generation or cold district heating: comparative analysis of energy and environmental benefits**  
Capretta Emidio, *Ordine degli Ingegneri, Ascoli Piceno, Italy*

11.55 a.m. **District heating driven single-effect double-lift absorption chiller with optimized COP**  
Dmitriy Gorlovsky, *Johnson Controls Systems & Service GmbH, Mannheim, Germany*  
Fujii Tatsuo, *Johnson Controls Building Efficiency, Tsuchira, Japan*

12.10 p.m. **Perspectives of deployment of Large Heat Pumps (LHPs) combined with waste heat recovery and powered by renewable green electricity in fourth Generation District Heating (4GDH)**  
Gandini Jacques, *Managing Director of Studio GANDINI S.R.L. the Italian independent consulting company specialized in sustainable HVAC & decarbonization of Buildings, Verona, Italy*  
Colacchi Roberto, *Senior Product Manager, Strategic Marketing of Daikin Applied Europe S.P.A., Cecchina, Rome, Italy*



MARCH 26<sup>th</sup>

SAGITTARIUS ROOM  
Centro Congressi Stella Polare



12.25 p.m. **Electrifying residential heating systems toward carbon-neutral buildings: a retrofitted building stock in northern Italy**  
Mu Weixian, Cardelli Riccardo, Ferrari Simone, *Politecnico di Milano, Italy*  
Davoglio Guido, *Tekser s.r.l., Milano, Italy - Mannino*

12.40 p.m. **Control solutions for variable refrigerant flow (VRF) systems in office buildings**  
Truffo Davide, *Quintero Marin Desiree, Airzone Italia, Milano, Italy*  
Fernandes Hernandes Francisco, *Grupo de Energía de la Universidad de Málaga, Spain*  
Pena Suarez, *Bandera Cantalejo Juan Antonio, Gonzalez Muriano Mari Carmen, Altra Corporación, Malaga, Spain*

1.00 p.m. NETWORKING LIGHT LUNCH



MARCH 26<sup>th</sup>

AQUARIUS ROOM  
Centro Congressi Stella Polare



### DECARBONIZED, COMFORTABLE AND HEALTHY BUILDINGS AND HVAC SYSTEMS

Chairman: Evola Gianpiero, *Università degli Studi di Catania*

11.05 a.m. **Sponsor session introduction**  
**No way back: the energy transition**  
Claudio Carano, *Clivet sps*

11.10 a.m. **VMC in school classrooms: installation and management for optimal speech intelligibility**  
Serpilli Fabio, Lori Valter, Di Perna Costanzo, Summo Serena, Stazi Francesca, *Dipartimento di Ingegneria Industriale e scienze matematiche, Università Politecnica delle Marche, Ancona, Italy*  
Di Loreto Samantha, *Dipartimento di Ingegneria e geologia, Università degli studi G. D'Annunzio, Pescara, Italy*

11.25 p.m. **Impact on indoor and outdoor acoustic comfort in the decarbonization**  
Serpilli Fabio, Lori Valter, *Dipartimento di Ingegneria Industriale e scienze matematiche, Università politecnica delle Marche, Ancona, Italy*



MARCH 26<sup>th</sup>

AQUARIUS ROOM  
Centro Congressi Stella Polare



**11.40 a.m.** **DWC hydroponic roofs for building decarbonization: a parametric dynamic thermal analysis**  
Nocera Francesco, Detommaso Maurizio, *Department of Civil Engineering and Architecture, University of Catania, Italy*  
Evola Gianpiero, Costanzo Vincenzo, *Department of Electrical, Electronic and Computer Engineering, University of Catania, Italy*  
Mistretta Marina, *Department of Information Engineering, Infrastructure and Sustainable Energy, University Mediterranean of Reggio Calabria, Italy*  
Sonia Longo, *Department of Engineering, University of Palermo, Italy*

**11.55 a.m.** **Use of photovoltaic/thermal systems, heat pumps and electric and thermal storage for the energy self-sufficiency of residential buildings**  
Gagliano Antonio, Tina Giuseppe Marco, Aneli Stefano, *Department of Electrical, Electronic and Computer Engineering, University of Catania, Italy*

**12.10 p.m.** **Empirical Evaluation of Owner-Focused Education for Portfolio-Scale Building Decarbonization**  
Davide Dell'Oro, *Department of Architecture, Built Environment, and Construction Engineering, Politecnico di Milano, Milan, Italy*  
Tobias Maile, *Fakultät für Architektur und Bauwesen, Technische Hochschule Augsburg, Augsburg, Germany*  
Martin Fischer, *Department of Civil and Environmental Engineering, Stanford University, Stanford, CA, USA*

**12.25 p.m.** **Indoor air quality in schools: a comparative analysis between classrooms with natural and mechanical ventilation**  
Ballerini Vincenzo, Valdiserri Paolo, Rossi Di Schio Eugenia, *Università di Bologna, Italy*  
Coccagna Maddalena, Bisi Matteo, Volta Antonella, Mazzacane Sante, *Lab. Interdipartimentale CIAS - Università di Ferrara, Italy*  
Droghetti Lorenzo, *Liceo Classico L. Ariosto, Ferrara, Italy*

**12.40 p.m.** **Evaluating thermal comfort under zonal radiant ceiling control: design and testing of a novel monitoring setup**  
Alvich Alessia, Beccali Marco, Bonomolo Marina, Sharif Bilal, Testasecca Tanc, *edi Department of Engineering, Univeristy of Palermo, Italy*

**1.00 p.m.** **NETWORKING LIGHT LUNCH**



MARCH 26<sup>th</sup>

SAGITTARIUS ROOM  
Centro Congressi Stella Polare



## FROM THE EPBD TO DESIGN | PRACTICE 2

Chairman: Matteo Dongellini, *Università degli Studi di Bologna*

**2.00 p.m.** **SPONSOR SESSION INTRODUCTION**

**2.05 p.m.** **Assessment of HVAC Generation and Emission Performance Methods in the Context of Zero-Emission Buildings in Italy**  
Bianco Mauthe Degerfeld Franz, Ballarini Ilaria, Corrado Vincenzo, *Department of Energy "Galileo Ferraris", Politecnico di Torino, Italy*

**2.20 p.m.** **Assessing the relationship between smart readiness and energy performance in Italian residential buildings**  
Caracci Elisa, Canale Laura, Ficco Giorgio, Dell'Isola Marco, *Università degli Studi di Cassino e Del Lazio Meridionale, Cassino, Italy*  
Gugliandolo Alessandra, *ENEA, Bologna, Italy*  
La Notte Luca, Palma Alessandro Lorenzo, Monno Emilio, Puglisi Giovanni, Bertini Ilaria, *ENEA, Roma, Italy*  
Di Pietra Biagio, *ENEA, Palermo, Italy*

**2.35 p.m.** **Bringing together renovation passport and smart readiness indicator certificate: a case study**  
De Luca Giovanna, Gorrino Alice, *Edilclima S.r.l., Borgomanero, Italy*  
Bianco Mauthe Degerfeld Franz, Ballarini Ilaria, Corrado Vincenzo, *Politecnico di Torino - Dipartimento Energia "Galileo Ferraris", Torino, Italy*

**2.50 p.m.** **Building stock's renovation in urban area by BIPV design: energy, structural and fire safety considerations**  
Lamacchia Francesco Paolo, Berardi Umberto, *Department of Civil Engineering and Architecture, Polytechnic University of Bari, DICAR, Bari, Italy*

**3.05 p.m.** **Ventilation rates and control strategies in VAV systems: effects on energy consumption in non-residential buildings in consideration of the EPBD and EN 16798**  
Pedranzini Federico, *Politecnico di Milano, Italy*  
Piterà Luca Alberto, *AiCARR, Milano, Italy*

**3.20 p.m.** **Assessing cost-optimal energy performance in EU buildings: insights from the third calculation round**  
Maduta Carmen, D'Agostino Delia, Castellazzi Luca, *European Commission, Joint Research Centre, Italy*  
Tsemekidi Tzeiranaki Sofia, *Network Research Belgium S.A. (NRB), Belgium*  
Morini Marco, *ENEA, Italy*



MARCH 26<sup>th</sup>

AQUARIUS ROOM  
Centro Congressi Stella Polare



3.35 p.m. MOVING TIME TO PLENARY SESSION

3.40 p.m. CLOSING CEREMONY

3.55 p.m. CONGRESS END

### NEW AND SMART TOOLS FOR DESIGN AND MANAGEMENT OF EFFICIENT BUILDINGS AND PLANTS

Chairman: Marco Noro, *Università degli Studi di Padova*

2.00 p.m. SPONSOR SESSION INTRODUCTION

2.05 p.m. **Health based IAQ design: comparison among different approaches**  
*Mazzarella Livio, Politecnico di Milano, Italy*

2.20 p.m. **Energy efficiency in long term care facilities: results from the retrofit of heating control systems**  
*Carbone Andrea, Ghiringhello Lorenzo, Buso Tiziana, Politecnico di Torino, Italy*  
*Toniolo Jacopo, Politecnico di Torino, Italy, Enerbrain, Torino, Italy*

2.35 p.m. **Decarbonization in a mutualistic symbiosis IAQ and energy economy**  
*Capulli Domenico, Veltha Despoluição atmosferica, Rio de Janeiro, Brazil*

2.50 p.m. **Operational Protocol for the Digital Management and Monitoring of Buildings: The Case of the Rome Chamber of Commerce**  
*Caterina Mosca, Caterina Ercoli, Edoardo Maroder, Damiano Di Ciaccio, Rilo Digital Planning, Roma, Italy*

3.05 p.m. **The construction of a forecast meteorological year for the city of Milan: impact on building design and energy performance**  
*Marco Cigolotti, Studio Cigolotti, Novara, Italy*  
*Ilaria Giuliani, Comune di Milano, Italy*  
*Fabio Minchio, Studio 3F Engineering, Vicenza, Italy*  
*Filippo Busato, Universitas Mercatorum Roma, Italy - Studio 3F engineering, Vicenza, Italy*

3.35 p.m. MOVING TIME TO PLENARY SESSION

3.40 p.m. CLOSING CEREMONY

3.55 p.m. CONGRESS END

## GENERATING IDEAS FOR SUSTAINABLE ENERGY

AiCARR, the cultural network for energy efficiency in HVAC, creates and promotes the culture and technology for sustainable well-being, and contributes to the advancement of HVAC technology and to the definition of regulations for the production, distribution and use of energy for heating, cooling and air conditioning in buildings.

Founded in 1960 by Italian ASHRAE Members, AiCARR has more than 2000 members, including designers, professors, installers and maintainers, manufacturing companies, government agencies, local, national and international institutions, students and researchers. The authoritative presence in all academic and institutional bodies where the Country's energy future is designed makes AiCARR an essential reference point for the development of energy strategies and policies and an indispensable interlocutor for all those who deal with energy efficiency, environmental quality, renewable sources, conscious use of energy.

### SHARED COMPETENCES ARE BEHIND EVERY PROGRESS

Increasing the technical culture of the industry and the professionalism of Members, sharing the technological and scientific knowledge, preparing and spreading guidelines that help Members in their professional practice, giving solid support to the business world that deals with energy issues are the main commitments that AiCARR carries out through:

- National and International conferences, webinars, seminars, workshops and round tables
- Technical meetings and visits to facilities and cutting-edge plants
- Study commissions and coordination of technical, cultural and regulatory activities
- Technical committees active on specific issues
- Joint activities with Italian and international Associations, Universities, Italian and European authorities, both public and private

- Work groups created to give operational support to Institutions
- Participation in the definition of regulations, laws, guidelines and collaboration in the drafting of technical standards with the most important organizations for standardization.

### UPDATING AND TRAINING: A MUST

Keeping pace with technological development and the evolution of regulations it is today a condition of survival for professionals and companies in the industry. AiCARR offers high standard theory and practical courses through AiCARR Formazione, business unit of AiCARR Educational srl-SB, a ISO 9001: 2015 certified company. AiCARR Formazione is a provider of CNL and of CNPI (national councils for engineers and technical experts) for continuing professional education credits. The courses are aimed at designers, maintenance technicians, technical and sales staff of organizations and industries, students and researchers. Teachers are academics and professionals selected among the best experts in the field of HVAC&R.

### WHEN IDEAS GO AROUND, THEY BECOME MORE POWERFUL

AiCARR publishes the records of all conferences and the AiCARR technical book series which includes Volumes, Guides, Manuals and Vademecums, sends the fortnightly newsletter on associative, editorial, regulatory, legislative and training news and is the exclusive distributors for Italy of ASHRAE publications and standards, applying to Members favorable conditions for the purchase of the CEI (Italian electro-technical committee) regulations and discounts on publications by important technical publishers. The Association's library offers a wide selection of technical and scientific texts in free consultation. Moreover, on website [www.aicarr.org](http://www.aicarr.org), and through the App downloadable from website, it is possible to find technical articles and news. Members also receive AiCARR Journal, official magazine of the Association, for free.

CONGRESS PARTNER



**RX ITALY SRL**  
Mostra Convegno Expocomfort  
Via Marostica, 1  
20149 MILANO (MI )  
Tel. 02 4351701  
Fax 02 3314348  
info@mceexpocomfort.it



Built by  
**RX**  
In the business of  
building businesses

# HEAT PUMP TECHNOLOGIES

A 2 DAY EXHIBITION  
& CONFERENCE



**7-8** APRIL  
Allianz MiCo MILAN 2027  
[www.heatpumptechnologies.it](http://www.heatpumptechnologies.it)

PLATINUM SPONSOR

# EUROPE TRUSTS EUROVENT CERTIFICATION

The choice behind HVAC-R industry leaders

Independent performance certification that builds  
confidence in your HVAC-R products



We build trust.

## EUROVENT CERTIFICATION COMPANY

Rue de La Victoire 48-50

75003 PARIS

Tel. + 0039 33630499146



We build trust.

PLATINUM SPONSOR



### MITSUBISHI ELECTRIC EUROPE BV

Via Energy Park, 14  
20871 VIMERCATE (MB)  
Tel. 039 6053370  
Fax 039 6053211  
donatella.scova@it.mee.com



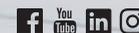
SCOPRI LE NOSTRE  
SOLUZIONI

## Mitsubishi Electric la precisione del clima per la tua continuità digitale.

Il settore dei data center in Europa sta vivendo una svolta strutturale: l'accelerazione della domanda, trainata dall'AI, impone un cambio di paradigma nell'architettura del raffreddamento.

Le nostre soluzioni - dal **liquid cooling** ai sistemi **Fanwall**, fino ai **chiller free-cooling** di nuova generazione da **2,1MW** - costituiscono un ecosistema integrato e scalabile, progettato per l'efficiamento termico del tuo Data Center.

Interdipendenza energetica con le nostre **pompe di calore ad alta temperatura** che trasformano il thermal waste del data center in risorsa per il teleriscaldamento, convertendo lo scarto termico in asset decarbonizzato per il territorio.



[climatizzazione.mitsubishielectric.it](http://climatizzazione.mitsubishielectric.it)

SESSION THEME SPONSOR



**CLIVET SPA**

Via Camp Lonc, 25  
32030 VILLAPAIERA FELTRE (BL)  
Tel. 0439 3131  
Fax 0439 313300  
info@clivet.it



Cool. Warm.  
Pure. You choose.



**FULLNESS** is the all-in-one heat pump without outdoor unit: heating, cooling, fresh air and hot water all year round without aesthetic compromises.

Easy to install thanks to air thermal transfer, ideal for Nearly Zero Energy homes.

Discover all the solutions for your natural comfort at [clivet.com](http://clivet.com)



Selezione Compasso d'Oro



**INNOVA SRL**

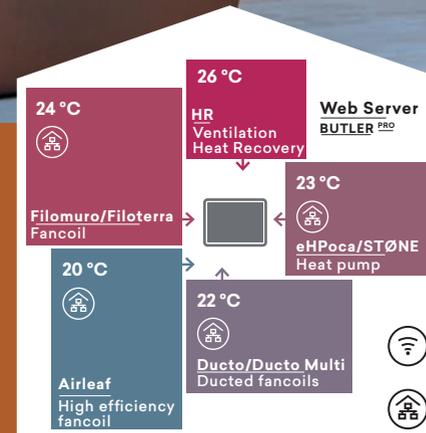
Via 1° Maggio 8  
38089 STORO (TN)  
Tel. 0465 670104  
Fax 0465 674965



# STØNE

The heat pump not to be hidden any more

A+++ 20 kW R32



- 1 **BUTLER PRO TOUCH** Advanced system control.
- 2 **Fancoils** Slim, silent, stylish.
- 3 **Pompe di calore** Monoblock, split, built-in.
- 4 **VMC** Passive, thermodynamic, with dehumidification.

## SESSION THEME SPONSOR

# SAMSUNG

**SAMSUNG ELECTRONICS AIR  
CONDITIONER EUROPE B.V.**

Via Mike Bongiorno, 9  
20124 Milano  
Tel. 02 92189380  
Fax 02 92103368



# SAMSUNG

## WindFree

Migliaia di microfori e AI, per il massimo comfort, senza getti d'aria diretti<sup>(1)</sup>



Scopri la famiglia WindFree

Unità a Parete

Cassetta 4 Vie

Cassetta 1 Via

## Cassetta360

Design circolare, massimo comfort.  
Il primo sistema di climatizzazione a 360°



## EHS

Pompe di calore EHS: l'alternativa al riscaldamento tradizionale, elettrica e connessa



## DVM & EHM

VRF con Intelligenza Artificiale nativa e Chiller modulari in pompa di calore



VENITE A TROVARCI A  
MICE mostra convegno  
expocomfort

Stand 5 P29/S18

Le migliori soluzioni Samsung uniscono **comfort, connettività e facilità d'installazione** per rendere unico ogni ambiente domestico o lavorativo.



**Comfort WindFree™**  
Diffusione omogenea senza getti d'aria diretti<sup>(1)</sup>



**Connettività<sup>(2)</sup>**  
Gestione e monitoraggio energetico tramite AI e App  
**SmartThings**



**Efficienza Energetica<sup>(3)</sup>**  
Alta efficienza energetica e prestazioni elevate

(1) Definizione identificata dall'ente terzo Ashrae. Per maggiori informazioni, consultare il sito <https://www.ashrae.org/about>.

(2) Le specifiche tecniche possono variare a seconda del modello.

(3) Sigillo rilasciato dall'Istituto Tedesco ITQF sulla base di un sondaggio online, rappresentativo della popolazione italiana, condotto tra luglio e agosto 2025 che ha raccolto 332.958 giudizi di clienti su 2.240 aziende, dietro pagamento di una licenza. Per maggiori informazioni consultare [www.istituto-qualita.com](http://www.istituto-qualita.com)

**Find Your Comfort**

CLIMATIZZAZIONE | VENTILAZIONE | POMPE DI CALORE



**7° anno  
consecutivo**



## SPONSOR



**SWEGON OPERATIONS SRL**

Via Valletta 5

30010 CANTARANA DI CONA (VE)

Tel. 0426 302511

filialeitalia@swegon.it



## CONGRESS PARTNER



## PLATINUM SPONSOR



We build trust.



CLIMATIZZAZIONE

## SESSION THEME SPONSOR



**SAMSUNG**

## SPONSOR



Cultura e Tecnica per Energia Uomo e Ambiente

AiCARR | Via Melchiorre Gioia 168 | 20125 Milano | Italia  
Tel. 02 67479270 | Fax 02 37928719 | info@aicarr.org | www.aicarr.org



**Swegon**

**Future-proof  
indoor climate**

Solutions for today, ready for tomorrow

Pav. **11P** | Stand **M01 N10** | 24/27 March 2026 - Fiera Milano