

Preliminary Programme



UNITED NATIONS ENVIRONMENT PROGRAMME
INTERNATIONAL INSTITUTE OF REFRIGERATION
AREA EUROPEAN RAC ASSOCIATION
ASSOCIAZIONE TECNICI DEL FREDDO
RENEWABLE ENERGY INSTITUTE
CENTRO STUDI GALILEO

20th EUROPEAN CONFERENCE

THE LATEST TECHNOLOGIES IN REFRIGERATION AND AIR CONDITIONING

*REFRIGERANTS, HEAT PUMPS, COLD CHAIN, ENVIRONMENT, ENERGY,
TRAINING, CERTIFICATION, LEGISLATION, STRANDARD, SAFETY*

UNDER THE AUSPICES OF:



MINISTERO DELL'AMBIENTE
E DELLA SICUREZZA ENERGETICA

8th – 9th June 2023

Politecnico di Milano, De Donato Room

Simultaneous translation: English - Italian

In Association with Global Leading Researchers and Experts from:

United Nations Environment Programme (UNEP)

United Nations Industrial Development Organization (UNIDO)

European Commission DG Clima

International Institute of Refrigeration (IIR-IIR)

Association Française du Froid (AFF)

AREA - ASERCOM - ASHRAE - AHRI - EPEE

Politecnico di Milano, Torino

Universities of Ancona, Genova, Padova

and all the AC&R European Associations

Politecnico di Milano

Piazza Leonardo Da Vinci, 32 - Milano (Italia)

Updated 23/05/2023

9 – 9.30 am, **Thursday** – 8th June 2023

General Introduction

INTRODUCTION TO THE TOPICS OF THE CONFERENCE.
EUROPEAN AND GLOBAL RAC SITUATION. THE COLD CHAIN.
TECHNOLOGIES. EQUIPMENT AND COMPONENTS.
F-GAS AND REFRIGERANTS. ENERGY EFFICIENCY AND
RENEWABLES. POLICY AND REGULATIONS.

M. Buoni Air Conditioning & Refrigeration Association – AREA

S. Wagner United Nations Environment Programme – UNEP

D. Coulomb International Institute of Refrigeration – IIR-IIR

9.30 am – 12.30 pm, **Thursday** – 8th June 2023

First Session

NEW REFRIGERANTS AND FUTURE PERSPECTIVES IN
REFERENCE TO EU 517/2014, F-GAS REGULATION,
ENERGY SAVING.

MODERATOR: **S. Corgnati** PoliTo

CHAIRPERSONS: **D. Coulomb** IIR-IIR, **S. Wagner** UNEP,

N. Kagawa JSRAE, **F. Polonara** TEAP-RTOC

New low GWP refrigerants. Developments, perspectives and
forecasts on new alternative refrigerants. New synthetic and
natural refrigerants, pure and mixtures HFC, R32, HFO-
1234yf/ze/za, HFO mixtures, CO₂, ammonia, hydrocarbons;
secondary refrigerants. Mobile air conditioning.

Speakers: **D. Coulomb** IIR-IIR – **F. Polonara** TEAP-RTOC –

N. Kagawa JSRAE – **G. Righetti** Padova University – **A. Pardiñas**

NTNU – **C. Malvicino** Stellantis – **C. Macri** Daikin Chemical Europe

– **J. De Bernardi** Honeywell – **F. Codella** Chemours – **C. Marotta**

General Gas – **C. Di Pasquale** Nippon Gases Refrigerants

Debate

With the participants in the conference

Coffee break: 11 – 11.30 am

Lunch buffet: 1 – 2 pm

2 – 5.30 pm, **Thursday** – 8th June 2023

Second Session

NEW COMPONENTS & EQUIPMENT WITH ALTERNATIVE
REFRIGERANTS, CONSIDERING THEIR ENERGY EFFICIENCY
AND ENVIRONMENTAL ISSUES, RESULTS AND UPDATES.

MODERATORS: **E. Macchi**, **G. Lozza** PoliMi

CHAIRPERSONS: **D. Coulomb** IIR-IIR, **C. van de Sande** AREA,

Ina Colombo IIR-IIR, **S. Wagner** UNEP

Energy issues in relation to the air conditioning and refrigeration
components and plants optimization. Secondary refrigerant
plants, CO₂, HC systems. Compressors and systems. Energy
optimization. New components for domestic, commercial, and
industrial refrigeration and air conditioning. Process and design.
Lubricants for synthetic refrigerants.

Speakers: **M. Azzolin** Padova University – **R. Giaimo**

Angelantoni Life Science – **L. Basso** Emerson – **K. Nourrice**

Frascold – **M. Bassi** Embraco – **P. Olalla** Huayi Compressor

Barcelona – **P. Trevisan** Bitzer – **M. Arena** Officine Mario

Dorin – **F. Volontè** LU-VE Group – **N. Galato** Carel Industries –

S. Pompeo ERRECOM

Special Session

WOMEN IN REFRIGERATION AND AIR CONDITIONING.

MODERATOR: **S. Wagner** UNEP

Speakers: **I. Colombo** IIR-IIR – **C. Keyworth** INWIC

Debate

With the participants in the conference

AWARD: EU Women in Cooling Video Competition

Coffee break: 3 – 3.30 pm

Cocktail reception: 5.30 – 6.30 pm

PRESIDENTS & KEYNOTE SPEAKERS

SONJA WAGNER, *Programme Officer*

United Nations Environment Programme, OzonAction – UNEP

DIDIER COULOMB, *Director General*

International Institute of Refrigeration – IIF-IIR

MARCO BUONI, *Former President w/ "International Affairs" mandate*

AREA, Segretario Generale ATF, Direttore Centro Studi Galileo

BENTE TRANHOLM-SCHWARZ, *Deputy Head of Unit DG Clima,*

European Commission

ANDRÉS SEPULVEDA, *Director*

American Society of Heating and Air-Conditioning Engineers – ASHRAE

XIANTING LI, *Executive Board Member*

Chinese Association of Refrigeration – CAR

RUSSEL PATTEN, *Director General*

European Partnership for Energy and the Environment – EPEE

NOBORU KAGAWA, *Board Member*

Japan Society of Refrigerating and Air Conditioning Engineers – JSRAE

COEN VAN DE SANDE, *President*

Air conditioning and Refrigeration European Association – AREA

CLARE PERRY, *Climate Campaign Leader*

Environmental Investigation Agency– EIA

MARCO MASINI, *President of the Association of European Refrigeration*

Component Manufacturers – ASERCOM

FRANCESCO SCUDERI, *Secretary General*

European Industry Association – Eurovent

MADI SAKANDÉ, *President of the Union of Associations of African Actors in*

Refrigeration and Air Conditioning – U-3ARC

ERIC DEVIN, *Secretary General*

Association Française du Froid – AFF

ANDREA VOIGT, *Executive Board Member*

Cool Coalition

GIACOMO DI STEFANO, *Technical Officer*

Associazione costruttori sistemi climatizzazione – Assoclimate

FRANCESCO MASTRAPASQUA, *President*

Associazione Costruttori Tecnologie per il Freddo – ASSOCOLD

ENNIO MACCHI, *Professor Emeritus at Politecnico di Milano*

GIOVANNI LOZZA, *Professor Energy Dept at Politecnico di Milano*

STEFANO CORGNATI, *Professor at Politecnico di Torino*

FABIO POLONARA, *Co-chair TEAP RTOC &*

Director Industrial Engineering Dept., Università Politecnica delle Marche

LUCA TAGLIAFICO, *Professor at Università di Genova*

CLAUDIO ZILIO, *Professor at Università di Padova*

DAVIDE DEL COL, *Professor at Università di Padova*

9 – 10.30 am, **Friday** – 9th June 2023

Third Session

**POLICY: GLOBAL F-GAS PHASE DOWN AND EU REGULATION
REVIEW, TRAINING AND CERTIFICATION, PFAS.**

MODERATOR: **S. Wagner** UNEP

CHAIRPERSONS: **B. Tranholm-Schwarz** DG Clima, **R. Patten** EPEE,

C. Perry EIA, **M. Masini** ASERCOM, **F. Mastrapasqua** Assocold,

C. van de Sande AREA

The Kigali Amendment: HFC Phase-down, flammable refrigerants' standards, illegal refrigerants, inspections, logbook, maintenance. Containment, recovery and recycling. Training and certification in Europe and Italy. Safety issues. Products and components' certification.

Speakers: B. Tranholm-Schwarz EU Commission DG Clima - **R. Patten** EPEE - **C. Perry** EIA - **C van de Sande** AREA - **M. Masini** ASERCOM - **F. Mastrapasqua** Assocold - **M. Pushkareva** Öko-Recherche

11 am – 2.30 pm, **Friday** – 9th June 2023

Fourth Session

GREEN COOLING, HEAT PUMPS AND ENERGY EFFICIENCY.

MODERATOR: **M. Perino** PoliTo

CHAIRPERSONS: **A. Sepulveda** ASHRAE, **F. Scuderi**

Eurovent, **X. Li** CAR, **A. Voigt** Cool Coalition,

L. Tagliafico Genova University

European Green Deal, ecodesign. Energy efficiency in plants. Heat pumps, cooling with absorption and adsorption plants. Renewable energy and chemistry in air conditioning and refrigeration. Space cooling. Evaporative cooling, district cooling and magnetic cooling.

Speakers: M. Perino PoliTo - **A. Sepulveda** ASHRAE - **F. Scuderi** Eurovent - **A. Voigt** Cool Coalition - **E. Devin** AFF - **X. Li** CAR - **G. Di Stefano** Assoclimate - **T. Funder-Kristensen** Danfoss - **A. Bocanegra** Genova University - **A. Pastore** Camfridge

Coffee breaks: 10.30 – 11 am / 2.30 – 3 pm

Lunch buffet: 1 – 2 pm

3 – 5 pm, **Friday** – 9th June 2023

Fifth Session

**THE COLD CHAIN, FOOD AND VACCINES DISTRIBUTION
AND CONSERVATION, COLD STORAGE AND TRANSPORT,
CONTROLS AND DATA LOGGERS.**

MODERATOR: **D. Coulomb** IIF-IIR

CHAIRPERSONS: **M. Sakandé** U-3ARC, **E. Devin** AFF,

M. Buoni Air Conditioning and Refrigeration Association – AREA

New technology in the cold chain: vaccines and food preservation; vehicles, trains, ships, cold storages; applications in commercial and domestic refrigeration, supermarkets, hospitals, vaccination centres and industry. Energy saving optimization. Solar refrigeration. Insulation; environmental control in food processes, safety control in the cold chain ATP.

Speakers: S. El Harch U-3ARC - **M. Mubashir Ahsan** CNR Padova - **K. Berglöff** ClimaCheck - **D. Coulomb** IIF-IIR

Debate

With the participants in the conference

Conclusions and Recommendations

D. Coulomb International Institute of Refrigeration – IIF-IIR
S. Wagner United Nations Environment Programme – UNEP
M. Buoni Air Conditioning and Refrigeration Association – AREA

Conference Organizer & Secretariat

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Participation fee to the conference:

- **Euro 450 + VAT (22%)**