



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

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)
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)

General Introduction

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

M. Buoni Air Conditioning & Refrigeration Association – AREA
J. Curlin United Nations Environment Programme – UNEP
D. Coulomb International Institute of Refrigeration – IIR

First Session

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

CHAIRPERSONS: **A. Cavallini** Padova University – IIF-IIR,
D. Coulomb IIF-IIR, **N. Kagawa** JSRAE, **W. Chakroun** ASHRAE,
C. Zilio Padova University, **A. Hafner** NTNU

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; lubricants for synthetic refrigerants.

Speakers: **D. Coulomb** IIR - **N. Kagawa** JSRAE - **W. Chakroun** ASHRAE - **A. Hafner** NTNU - **C. Zilio** Università di Padova - **S. Filippini** LU-VE Group - **F. Codella** Chemours - **C. Marotta** General Gas - **M. Lorusso** Nippon Gases Refrigerants - **C. Macri** Daikin Chemical Europe

Debate

With the participants in the conference

Tentative timetable: 9 am – 1 pm / 2 pm – 6 pm
Coffee break: 11-11.30 am – Lunch break: 1-2 pm

Second Session

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

CHAIRPERSONS: **E. Macchi**, **G. Lozza** Polytechnic of Milan,
D. Del Col Padova University, **S. Minetto** CNR Padova,
D. Coulomb IIF-IIR, **C. van de Sande** AREA

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.

Speakers: **D. Del Col** Università di Padova - **S. Minetto** CNR Padova - **S. Capanelli** Carel Industries - **G. Dorin** Officine Mario Dorin - **P. Trevisan** Bitzer - **B. Bella** Emerson - **K. Nourrice** Frascold - **M. Bassi** Embraco - **M. Barilari** Rivacold - **S. Pompeo** ERRECOM

Debate

With the participants in the conference

Conference Organizer & Secretariat
CENTRO STUDI GALILEO &
ASSOCIAZIONE TECNICI DEL FREDDO

To participate, please get in touch with us:
conference@centrogalileo.it / +39 0142 452403
www.centrogalileo.it/conference/

Participation fees to the conference:

- **Temporary discounted fee**
Euro 360 + VAT (22%) – until 31st March 2023
- **Standard fee**
Euro 450 + VAT (22%) – starting 1st April 2023

PRESIDENTS & KEYNOTE SPEAKERS

JIM CURLIN, *Head of OzonAction, Law Division*
United Nations Environment Programme – UNEP

DIDIER COULOMB, *Director General*
International Institute of Refrigeration – IIR

OLE NIELSEN, *MP Division Chief*
United Nations Industrial Development Organization – UNIDO

BENTE TRANHOLM-SCHWARZ, *Deputy Head*
European Commission, Climate Action DG Clima

STEPHEN YUREK, *President and CEO*
Air Conditioning, Heating and Refrigeration Institute – AHRI

FAROOQ MEHBOOB, *President*
American Society of Heating and Air-Conditioning Engineers – ASHRAE

XIANTING LI, *Executive Board Member*
Chinese Association of Refrigeration – CAR

TBA
European Partnership for Energy and the Environment – EPEE

NONORU 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*
European 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*

GERALD CAVALIER, *President*
CEMAFROID | Association Française du Froid – AFF

LUCA BINAGHI, *President*
Associazione costruttori sistemi climatizzazione – Assoclima

FRANCESCO MASTRAPASQUA, *President of Assocold*

ENNIO MACCHI, *Professor Emeritus at Politecnico di Milano*
GIOVANNI LOZZA, *Professor Energy Dept at Politecnico di Milano*

FABIO POLONARA, *Co-chair TEAP RTOC & Director Industrial Engineering Dept., Università Politecnica delle Marche*

LUCA TAGLIAFICO, *Professor at Università di Genova*

SILVIA MINETTO, *Researcher at ITC-CNR Padova*

ARMIN HAFNER, *Professor at Norwegian University NTNU*

CLAUDIO ZILIO, *Professor at Università di Padova*
DAVIDE DEL COL, *Professor at Università di Padova*

Third Session

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

CHAIRPERSONS: J. Curlin UNEP, **B. Tranholm-Schwarz** DG Clima, **TBA EPEE**, **C. Perry** EIA, **M. Masini** ASERCOM, **S. Yurek** AHRI, **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 - **TBA EPEE** - **M. Masini** ASERCOM - **F. Mastrapasqua** Assocold - **C. Perry** EIA - **J. Curlin** UNEP - **S. Yurek** AHRI - **X. Li** CAR - **C van de Sande** AREA - **K. Kelly** Business Edge

Fourth Session

GREEN COOLING, HEAT PUMPS AND ENERGY EFFICIENCY

CHAIRPERSONS: A. Cavallini Padova University - IIF-IIR, **F. Scuderi** Eurovent, **L. Binaghi** Assoclima, **L. Tagliafico** Genova University, **F. Polonara** TEAP-RTOC

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. Mobile air conditioning. LNG.

Speakers: M. Masoero ATF & Politecnico di Torino - **D. Coulomb** IIR - **F. Scuderi** Eurovent - **L. Binaghi** Assoclima - **L. Tagliafico** Università di Genova - **F. Polonara** TEAP-RTOC - **C. Malvicino** Stellantis - **K. Berglöf** ClimaCheck - **T. Funder-Kristensen** Danfoss - **L. Rollino** C2R, Centro Studi Galileo - **G. Pellegrini** TEON

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Fifth Session

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

CHAIRPERSONS: M. Masoero ATF & Poli Torino, **O. Nielsen** UNIDO, **M. Sakandé** U-3ARC, **G. Cavalier** AFF, **D. Coulomb** IIF-IIR

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: O. Nielsen UNIDO - **M. Sakandé** U-3ARC - **G. Cavalier** AFF - **D. Coulomb** IIR

Debate

With the participants in the conference

Conclusions and Recommendations

D. Coulomb International Institute of Refrigeration – IIR
J. Curlin United Nations Environment Programme – UNEP
M. Buoni Air Conditioning and Refrigeration Association – AREA

Conference Organizer & Secretariat

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