

10th IIR Gustav Lorentzen Conference 2012

25 - 27 June 2012 | Delft The Netherlands
natural refrigerants – real alternatives

Preliminary programme and related activities (technical tours and social events) :

Sunday June 24

Evening Welcome reception

Monday June 25

Morning Plenary & Parallel Sessions

Afternoon Parallel sessions

Evening Cocktail party / free evening

Tuesday June 26

Morning Plenary & Parallel Sessions

Afternoon Parallel sessions

Evening Conference dinner all delegates and partners

Wednesday June 27

Morning Plenary & Parallel Sessions

Afternoon Parallel sessions

Evening Conference ending / reception

Thursday June 28

Technical Tours (optional)

Keynote speakers:

Predrag Hrnjak, USA, University of Illinois (receiver of the IIR Gustav Lorentzen Medal during the 23rd IIR International Congress of Refrigeration) : *"Research advances related to Natural Refrigerants"*

Andy Pearson, UK, Star Refrigeration Ltd.: *"Market successes of Natural Refrigerants"*

Alberto Cavallini, Italy, University of Padova: *"Heat transfer and pressure drop of natural refrigerants in mini-channels (low charge equipment)"*

Ekkas Bruck, NL, Delft University of Technology: *"Magnetic refrigeration for industrial applications"*

Notes:

This programme is tentative - a final programme will be concluded shortly after the abstracts deadline.

The morning session will include plenary sessions to promote networking and interaction between conference delegates.

Prospective technical tours and social events:

- Prospective technical tours :
 - tour to an industrial ammonia refrigeration plant;
 - tour to supermarket-systems with natural refrigerants like ice slurry and/or CO₂ ;
 - tour to the energy systems of a flower distribution centre;
 - tour to a combined low temperature/high temperature energy system (e.g. swimming pool/ice rink refrigeration plant);
 - tour to a low energy heat pump based greenhouse.
- Partners tours - shopping, places of interest tours of Delft, Leyden and Amsterdam - over three days, simultaneous with the conference sessions. Walking tours of Delft and neighbouring

Important Dates

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|--|--|
| Abstract submission deadline (max 500 words) : | October 15, 2011 |
| Notification to authors of abstract acceptance : | November 12, 2011 |
| Full papers due : | December 24, 2011 |
| First review : | January 31, 2012 |
| Final manuscripts submitted : | March 31, 2012 |
| Deadline for pre-registration of at least one author : | May 15, 2012 |
| Welcome reception : | June 24, 2012 (registration opens) |
| Conference opening : | June 25, 2012 |
| Conference closing : | June 27, 2012 |

Leyden, which includes the Museum Boerhaave, an important collection from the Dutch Noble Prize winner and founder of the KNVvK, Prof. Dr. Heike Kamerlingh Onnes.

IIF/IIR

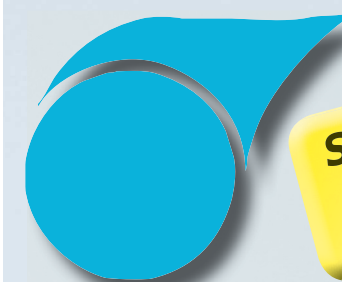
The *International Institute of Refrigeration (IIR)* is the only independent intergovernmental science and technology based organization which promotes knowledge of refrigeration and associated technologies that improve quality of life in a cost-effective and environmentally sustainable manner including :

- Food quality and safety from farm to consumer
- Comfort in homes and commercial buildings
- Health products and services
- Low temperature technology and liquefied gas technology
- Energy efficiency
- Use of non-ozone depleting and low global warming refrigerants in a safe manner

The IIR's Gustav Lorentzen conferences are acclaimed as the leading cutting-edge series of events covering all natural refrigerants. These events enable participants to keep abreast of progress and trends in this field. The IIR's focus on the importance of the exchange of knowledge in the field of refrigerants is reflected not only in the Gustav Lorentzen events but also in other IIR events: a series of conferences on ammonia technology, another series of events on the thermophysical properties of refrigerants, and a number of technical sessions staged during IIR congresses. Moreover, the IIR's Fridoc database contains thousands of articles on refrigerants, including many on natural refrigerants. Specific IIR guides such as *Ammonia as a Refrigerant* also enable readers to enhance their knowledge in this sphere, and many articles published in the *International Journal of Refrigeration* deal with natural refrigerants and technological trends in this field.

Web site

The dedicated website for the Gustav Lorentzen conference can be visited at <http://www.gi2012.nl>
The website from the KNVvK [www.knvk.nl] will also support the conference with a special section.



**Second Call
for Papers :**
visit www.gi2012.nl

The 10th IIF/IIR Gustav Lorentzen Conference on Natural Refrigerants

Delft, The Netherlands
June 25-27, 2012



Conference organizers

- **KNVvK** (Royal Dutch Association of Refrigeration)
- **TU Delft** - Delft University of Technology



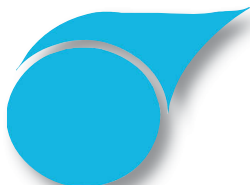
Location

**TU Delft,
The Netherlands**

Contact name

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About Delft, The Netherlands

Delft is one of the world's most beautiful university towns. Close to Amsterdam, Delft's perfectly preserved historical quarter offers visitors spectacular stately mansions, pubs, grand cafes and galleries alongside interconnecting canals. Surrounding the city are flower and bulb fields and the North Sea with long beaches and relaxing locals. Delft has an extensive program of summer festivals, memorable art and cultural activities, first class restaurants and excellent shopping. Delft's temperate climate makes it an ideal destination whatever the season - the mean summer daily temperature is 25°C.

Conference information

This conference will present an invaluable program of international speakers appealing to both the local refrigeration and heat pump community and international delegates.

With the HCFC phase out taking place between 2010 and 2015, and the Kyoto and Copenhagen agreements in mind, the conference will be an excellent opportunity to convince the Netherlands refrigeration market of the opportunities and benefits that natural refrigerants and renewable cooling holds in reducing carbon emissions. The Gustav Lorentzen biennial conference will be a unique opportunity to approach and network with the Netherlands refrigeration market in one assembly.

Objectives of the conference

Substances as ammonia, hydrocarbons, water, air and carbon dioxide are all naturally present in the biosphere. The process of replacing CFC, HCFC and HFC chemicals with natural refrigerants is increasingly adopted by the refrigeration, air conditioning and heat pump industries.

The main objective of the conference will be to discuss the latest research results and advances related to the use of natural working fluids in different types of systems and application areas.

Areas due to be discussed

| Systems with natural refrigerants | Cooling with natural resources | Low energy cooling systems | Sustainable cooling systems |
|---|---|--|--|
| Natural primary refrigerants | Sorption systems | Energy efficiency in relation with used refrigerants | Low emission and low charge systems |
| Natural refrigerants systems | Evaporative cooling | Refrigeration - Combined Heat and Power (CHP) | Non-conventional refrigeration systems |
| Natural refrigerants and oil behaviour / properties | Recovering heating and cooling energy in soil and buildings | | Secondary coolants and (ice) slurries |
| High temperature heat pumps | | | Solar energy use in refrigeration |
| Supermarket cooling | | | Thermal energy storage |
| Cheese conditioning | | | Energy neutral systems |
| Heat transfer and fluid flow | | | Zero-energy greenhouses |
| Water impact in ammonia systems | | | |
| Safety | | | |

A detailed technical overview will be completed by the Scientific Committee.

Previous Gustav Lorentzen events took place mostly in Europe, and the KNVvK anticipates a conference in The Netherlands will attract a large number of local participants and international delegates. The event will also be a unique opportunity for international delegates to learn where the Netherlands currently stands on the research into and application of natural refrigerants.

Conference organizing committees

Conference Chair

Gerard Vos (KNVvK, Ede)

Organizing Committee

Didier Coulomb (IIF/IIR, Paris)

Ing. Kees van Heiningen (Danfoss BV, Schiedam)

Ir. Bob van den Hoogen (KNVvK, Ede)

Ir. Erik Hoogendoorn (Cofely Refrigeration BV, 's-Hertogenbosch)

Dr. Carlos Infante Ferreira (TU Delft, Delft)

Gerard Vos (KNVvK, Ede)

Secretariat Gustav Lorentzen Conference 2012

for pre- and post-conference correspondence :

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Scientific Committee

Dr. Pradeep Bansal (*The University of Auckland, New Zealand*)

Dr. Robert de Boer (*ECN, The Netherlands*)

Prof. Clark Bullard (*University of Illinois, USA*)

Dr. Piotr Domanski (*NIST, Gaithersburg, USA*)

Dr. Geert Doornbos (*Alfa Laval Groningen BV, The Netherlands*)

Prof. Michel Feidt (*LEMETA-GESPE, France*)

Ing. Dick Havenaar (*KNVvK, The Netherlands*)

Dr. Neil Hewitt (*University Ulster Jordanstown, United Kingdom*)

Dr. Carlos Infante Ferreira (*TU Delft, The Netherlands*)

Prof. Yong Tae Kang (*Kyung Hee University, South Korea*)

Prof. Michael Kauffeld (*Karlsruhe University of Applied Sciences, Germany*)

Dr. Min Soo Kim (*Seoul National University, South Korea*)

Ir. Gerrit Jan Koster (*Gea Grasso BV, The Netherlands*)

Prof. Renato Lazzarin (*Padova University, Italy*)

Prof. Per Lundquist (*KTH Stockholm, Sweden*)

Dr. William Murphy (*University of Kentucky, USA*)

Prof. Joachim Paul (*Danish University of Technology, Denmark*)

Ir. Fons Pennartz (*KWA Business Consultants, The Netherlands*)

Format of the conference

The major part of the conference will follow the guidelines of Scientific IIR conferences.

This format will enable the KNVvK to promote the conference to a wider group of people involved in the use of natural fluids in refrigeration and heat pump applications.

It will also allow the scientific community to network with the community of the natural refrigerants industry.

Joint conference of the IIR Commissions

B1 - Thermodynamics & transfer processes

B2 - Refrigerating equipment

E1 - Air conditioning

E2 - Heat pumps & energy recovery

