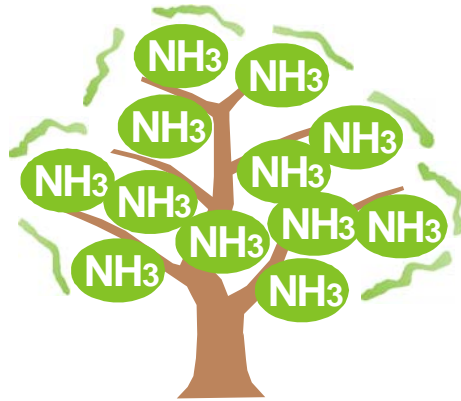




INTERNATIONAL INSTITUTE OF REFRIGERATION

ANNOUNCEMENT AND CALL FOR PAPERS

INTERNATIONAL CONFERENCE



Ammonia Refrigeration Technology - for Today and Tomorrow

IIR Commissions: B2 with B1, D1

April 19-21, 2007, Ohrid, Republic of Macedonia



Organized by
Faculty of Mechanical Engineering, University "Sv. Kiril and Metodij" - Skopje
www.mf.ukim.edu.mk

Programme Sponsors: **eurammon**, and **iir** (International Institute of Ammonia Refrigeration)

ABOUT THE CONFERENCE

Since 1990, new alternative refrigerants are being placed on the market; these include HFCs which are ozone friendly, but these synthetic refrigerants are greenhouse gases that are targeted by the Kyoto Protocol. Several European countries decided to phase out the HFCs or introduced very high taxes; there are hot debates in European Parliament on F-gases legislation.

Depending on the applications, many refrigeration experts prefer the use of natural refrigerants such as ammonia, carbon dioxide and hydrocarbons. Ammonia has already well-proven in practice: it has been used for over 130 years.

According to the type of application, the size of the system, the cooling temperature, the environment, safety and other considerations, there is no single criterion governing the choice of a refrigerant. The task of the engineers is to find ways enabling more of the above-mentioned criteria to be satisfied. One is very clear: by using more ammonia refrigeration, we are employing environmentally friendly technology.

What is the right direction? It is difficult to decide because there are many groups with varying interests. Therefore, academics and experts from the industrial sector and institutions are kindly invited to submit papers which will contribute to knowledge on new, improved technologies and to exchange experiences in ammonia refrigeration and related themes.

MAIN TOPICS

Design of modern ammonia systems and technological innovation

Current and future use of natural refrigerants
Low charge NH₃ technology, factory-made units, systems at a new level of quality improvement
Plate type heat exchangers; Direct expansion of ammonia systems
Expansion in applications with lower size capacity; Test of components
Compatibility of ammonia and metals; Ammonia and (miscible) oils for small DX systems

Energy efficiency of ammonia refrigeration

Comparison: ammonia and fluorocarbon-based systems
Ammonia - indirect cooling compared with direct evaporation of HCFCs and HFCs
NH₃/CO₂ and other cascade systems

Applications of ammonia refrigeration

Cold stores, Agro-food industries, Supermarkets, Air-conditioning systems, Heat pumps

Ammonia systems in developing countries

Renewal and improvements, technical assistance
Replacing of old refrigeration equipment in the context of substantial energy savings

Technical and safety standards

Regulations on the construction and operation of ammonia refrigerating systems

Guidelines, instructions and training materials

Education and training for: best practices, operating procedures, handling of ammonia and safe operation

Public awareness of the image and benefits of natural refrigerants

Crucial and sustainable contributions to a better environment; Barriers to market penetration

KEYNOTE SPEAKERS



Anders Lindborg, Sweden
Ammonia Partnership AB
Honorary member of IIR
Commission D1
**"The Future for Ammonia
as a Refrigerant"**



Predrag Hrnjak, USA
University of Illinois
Secretary of IIR Commission E2
IIAR Board of Directors
**"Heat Transfer Issues
in NH₃ and CO₂"**



Andy Pearson, UK
Star Refrigeration
Member of IIR Commission E1
IIAR Board of Directors
**"Extending the Life of
Ammonia Systems"**



Bjorn Palm, Sweden,
Royal Institute of Technology
Vice-President of IIR Commission B1
**"Ammonia in Small Refrigeration
and Heat Pump Systems"**



Lambert Kuijpers, Netherlands
Technical University Eindhoven
Co-chair UNEP TEAP
IPCC AR4
**"Ammonia Refrigeration in
International Technology
Assessments"**



Brian Marriott, USA
York America
IIAR Board of Directors
**"Designing for Operation
of Ammonia Systems"**

International Scientific/Technical Committee

President: Anders Lindborg (Honorary member of IIR Commission D1), Sweden
Risto Ciconkov (Member of IIR Commission B2 and E2), Macedonia
Ray Clarke (Former President of AIRAH), Australia
Dieter Gorenflo (President of IIR Commission B1), Germany
Eric Granryd (President of the General Conference of the IIR), Sweden
Herman Halozan (President of IIR Commission E2), Austria
Robert Heap (President of the Science and Technology Council of the IIR), UK
Predrag Hrnjak (Secretary of IIR Commission E2; IIAR Board of Directors), USA
Brian Marriott (IIAR Board of Directors), USA
Bjorn Palm (Vice-President of IIR Commission B1), Sweden
Andy Pearson (Member of IIR Commission E1; IIAR Board of Directors), UK
Sietze van der Sluis (President of IIR Section D), Netherlands
Thomas Spänich (*eurammon* Executive Board), Germany
David Tanner (President of IIR Commission D2), Australia
Branislav Todorovic (Member of IIR Commission E2), Serbia and Montenegro
Koichi Watanabe (President of IIR Section B), Japan

Organizing Committee

President: Risto Ciconkov, (Skopje University), Member of IIR Commission B2 and E2
Didier Coulomb, Director of the IIR
Karin Jahn, (*eurammon* Management)
Dragan Bitrakovski (Skopje University)
Vasil Ciconkov (Skopje University)
Ljubomir Hadzi Pecov (LTH company), Member of IIR Commission D1
Milan Šarevski (Skopje University), Member of IIR Commission B2

IIR Conference Manager: Mrs. Susan Phalippou

INFORMATION FOR AUTHORS

Abstracts are to be written in English, submitted electronically and must be compatible with Microsoft Word. Author of the accepted abstracts will be invited to submit a full paper. At least one author of each paper must attend the conference to present the paper.

The abstract should be no longer than 250 words, on A4 paper with top and side margins of 2 cm and a bottom margin of 2.5 cm. It should include:

- Title of the paper
 - Up to five keywords
 - Name(s), address, e-mail address, phone & fax numbers
- Please indicate the preferred mode of presentation (oral or poster).

Submit the abstract or paper in electronic form

- by e-mail to: ristoci@ukim.edu.mk , or info@energija.com.mk
- by mail to: Faculty of Mechanical Engineering

Prof. Risto Ciconkov
PO Box 464
1000 Skopje
Macedonia

Timetable

Deadline for submission of abstracts	September 30, 2006
Notification of acceptance	October 20, 2006
Deadline for submission of full paper	January 10, 2007
Notification of acceptance	February 10, 2007

Instructions for manuscript preparation and all information are available on the conference web site

www.mf.ukim.edu.mk

All papers will be subjected to review by the scientific committee. Accepted papers presented at the conference will be available as registered separate papers during the conference. All papers will be printed or published on CD-ROM in the final proceedings.

REGISTRATION AND FEES

Full conference fee includes: participation at the conference, supply of the separate printed papers, final proceedings after the conference, coffee breaks, conference dinner and sightseeing in the old town of Ohrid (or another excursion).

Registration fee

Full registration	
by March 15, 2007	350 EUR
after March 15, 2007	400 EUR
Accompanying persons	120 EUR

ACCOMMODATION

Accommodation is not included in the conference fee. Accommodation is available at the conference facility, in a five-star hotel, and in four- and three-star hotels. More information are available on the web site www.ohrid.org.mk.

Venue:

Hotel Metropol *****
www.metropol-ohrid.com
metropol@mt.net.mk

Hotel Metropol is situated in the most beautiful part of the Ohrid Lake on one side and the mountain Galicica on the other side. Capacity: 200 rooms, five suites and one residence apartment. Facilities: restaurant, snack bar, dancing bar, casino, salon with satellite TV, spacious sun terraces, bowling alley, tennis, billiards, hire of windsurfers, rowing boats.

Hotel prices:

	Bed&Breakfast	Half board
Single room	52 EUR	58 EUR
Double room	40 EUR	50 EUR (per person)



OTHER INFORMATION

Ohrid: www.ohrid.org.mk
Flights: www.airports.com.mk
Visa information: www.mfa.gov.mk
(Visa is not necessary for most of the countries.)

OHRID

Ohrid is a city-museum with numerous archaeological treasures, with a number of early Christian basilicas, a great number of churches, luxurious mosaics, valuable archaeological sites and an antique theatre, which confirm that Ohrid was a cultural centre of the ancient era.

Lake Ohrid, the blue Macedonian pearl, is one of the oldest and best-preserved lakes in the world. It lies at an altitude of 695 m, has an area of 358 km² and maximum depth of 289 m. The crystal-clear lake water and the unpolluted environment afford a breath of untouched nature.

Ohrid and Lake Ohrid have been named a world cultural and natural heritage listed city under the protection of UNESCO since 1980.

Over the centuries, an enormous and colourful heritage of beautiful architecture, crafts and traditions has evolved. Combined with its scenic lake and mountainscape, interesting town and village architecture, local hospitality, climate and delicious fresh food, a visit to the Ohrid area will be deeply rewarding.



IIR

The International Institute of Refrigeration (IIR) is a scientific and technical intergovernmental organization enabling pooling of scientific and industrial know-how in all refrigeration fields on a worldwide scale.

The IIR's mission is to promote knowledge of refrigeration technology and all its applications in order to address today's major issues, including food safety and protection of the environment (reduction of global warming, protection of the ozone layer), and the development of the least developed countries (food, health).

The IIR has 61 member countries representing 80% of the global population, and corporate and individual members in all refrigeration spheres; it is rigorously neutral and aims to express balanced, constructive viewpoints. The head office of the IIR and its entire staff are located in Paris.

The conference is a joint conference of Commission B1 (Thermodynamics and transfer processes), and Commission B2 (Refrigerating equipment), with Commission D1 (Refrigerated storage).