



International
Institute of
Refrigeration

INTERNATIONAL CONFERENCE
Ammonia Refrigeration Technology for Today and Tomorrow
April 19-21, 2007, Ohrid, Republic of Macedonia

MTC
Faculty of Mechanical
Engineering - Skopje

FINAL PROGRAMME

April 18, 2007 (Wednesday)

17:00 Registration
20:00 Welcome drink

April 19, 2007 (Thursday)

Time		
9:30	Opening ceremony: Didier Coulomb - Director of IIR	
	Plenary lectures, Chairman: Herman Halozan	
10:00	Lambert Kuijpers Technical University of Eindhoven (Netherlands)	Aspects involved in the replacement of refrigerants by low GWP gases
10:30	Anders Lindborg Ammonia Partnership (Sweden)	The future for ammonia as a refrigerant
11:00	Andy Pearson Star Refrigeration Ltd (UK)	Extending the life of ammonia systems
11:30	Coffee break	
	Technical innovation in the ammonia systems, Chairman: Predrag Hrnjak	
12:00	Forbes Pearson Star Refrigeration Ltd (UK)	Ultra-efficient ammonia systems
12:20	Valérie Gibert Axima Refrigeration (France)	Ammonia water solution as secondary refrigerant – advantages and drawbacks
12:40	R. Handschuh, Güntner AG (Germany) and B. Kaltenbrunner, KWN Engineering GmbH (Austria)	Calculation of the energy consumption of a realised NH ₃ -brine plant and comparison of the calculation with metered values
13:00	Vasile Minea Inst. de recherche d'Hydro-Québec (Canada)	Ammonia refrigeration system with heat recovery for a retrofit cold warehouse
13:20	Lunch break	
	Improving operation of ammonia systems, Chairman: Ray Clarke	
14:20	Hans Haukås Hans Haukås AS (Norway)	Liquid hammer in industrial ammonia refrigeration systems
14:40	Dermot Cotter, Star Refrigeration Ltd; J. Missenden, G. Maidment, South Bank University (UK)	Contaminants in ammonia refrigeration systems
15:00	Andrew Gigiel, CCC Consultants; Judith Evans, FRPERC University of Bristol (UK)	Experience of operating an older ammonia plant and the energy consumption
Hall B	Various applications, Chairman: Klaas Visser	
14:20	Gert Nielsen Opticonsult AS (Norway)	The behavior of heating systems at off-design conditions and the influence on heat pump design performance
14:40	A. Lecuona, Universidad Carlos III de Madrid; J. Roa, M. Venegas, A. Zacarias (Spain)	Test rig for ammonia based absorption chiller components
15:00	Mihail-Dan Staicovici S.C. Varia Energia s.r.l. (Romania)	Coabsorbent Cycle Technology for Ammonia/Water Heat Pumping Applications
15:20	Coffee break	
	Regulations and administrative barriers using ammonia equipment, Chairman: Anders Lindborg	
15:50	Bernhard Schrempf TÜV Sud Industrie Service GmbH (Germany)	Revision of the standard EN 378 and the refrigerant ammonia
16:10	Carole Prier ECSLA (Belgium)	A comparative EU national legislation and unfair competition for end users in some EU Member States
16:25	Peter Horrocks, EU Commission, DG Environment	F-Gases Regulation and future perspectives
16:40	Panel discussion	
17:20	Initiative for establishing a Natural Refrigerants Fund - discussion	
	<ul style="list-style-type: none"> - Michael Bellstedt (Australia): "A big project with natural refrigerants supported by the Australian Government" - Risto Ciconkov (Macedonia): Elaboration for establishing a Natural Refrigerants Fund - Discussion 	

April 20, 2007 (Friday)

Time		
	Plenary lectures, Chairman: Andy Pearson	
9:00	Predrag Hrnjak University of Illinois (USA)	In-tube heat transfer Issues of NH ₃ and CO ₂
9:30	Zahid Ayub Isotherm Inc. (USA)	Current and future prospects of enhanced heat transfer in ammonia systems
10:00	Björn Palm Royal Institute of Technology (Sweden)	Ammonia in small capacity heat pump and refrigeration systems
10:30	Coffee break	
	Improvement of ammonia systems, old and new technologies, Chairman: Björn Palm	
11:00	Herman Halozan Graz University of Technology (Austria)	HFCs or the old refrigerants?
11:20	Klaas Visser KAV Consulting Pty Ltd. (Australia)	Comparison of total energy intensity of conventional central AC systems with transcritical CO ₂ AC systems
11:40	G. Belozarov, N. Mednikova, V. Pytchenko, E. Serova, VNIHI (Russia)	Cascade type refrigeration systems working on CO ₂ /NH ₃ for technological processes of products freezing and storage
12:00	Ray Clarke Iseco Consulting Services Pty Ltd (Australia)	Next generation adiabatic condensers and fluid coolers
12:20	A. Andrusenko, Odessa Port Plant; G. Mnatsakanov, Odessa State Academy of Refrigeration (Ukraine)	Experimental investigation of noncondensable gases influence on the condensers operation of high-capacity refrigerating system at the ammonia terminal
12:40	Lunch break	
	Reducing releases of ammonia; Improved lubricating systems, Chairman: Hans Haukås	
13:40	Kent Anderson, IAR (USA) Peter Jordan, MDB Risk Management Services	Reducing releases of ammonia – lessons learned from industrial workshops
14:00	Titus Bartholomeus, GEA Grasso (Netherlands)	System and component solutions, to significant reduction off oil-fouling in ammonia refrigeration plants", 1st part
14:20	Titus Bartholomeus, GEA Grasso (Netherlands)	System and component solutions, to significant reduction off oil-fouling in ammonia refrigeration plants", 2nd part
14:40	Poster session, Chairman: Zahid Ayub	
	Ash Bhadsavle, GEA FES Systems; Sam Kumar, APV (USA)	Advances in plate heat exchangers used as DX evaporators
	M. Peran, K. Jelušić, B. Pavković, University in Rijeka (Croatia)	Charge minimization in a multi-stage ammonia refrigeration system by introducing carbon dioxide
	M. Khmelnyuk, V. Vozny, E. Korba, V. Chepurenko, Odessa State Academy of Refrigeration (Ukraine)	Analysis of cycle of cascade refrigeration machine with using mixtures of refrigeration fluids
	Dieter Krauss Schick GmbH + Co.KG (Germany)	Use of ammonia/dimethyl-ether (schick R723) blend in medium refrigeration plants
	M. Khmelnyuk, V. Zhyvitsya, V. Vozny, V. Shevchenko, Odessa Academy of Refrigeration (Ukraine)	Experimental research of the refrigerating machine working on mixes on the basis of ammonia
	S.J. Metcalf, R.E. Critoph and Z. Tamainot-Telto School of Engineering, University of Warwick (UK)	Carbon-ammonia adsorption cycle mobile air conditioning system
	J. Peranić, A. Božunović, B. Pavković University in Rijeka (Croatia)	Feasibility of introducing ammonia - water absorption refrigeration systems for fishing vessels
	V. Kota Reddy, Girish Panchal, S. Amogh, Rodrigues Institute of Technology, Mumbai (India)	Ammonia-liquid desiccant based hybrid air conditioning system
	O. Diachenko, Iceblick Ltd; T. Diachenko, Odessa State Academy of Refrigeration (Ukraine)	Application of ammonia for heat-and-cold supply systems in processes of purifying technical gases
	Risto Ciconkov, Ana Lazarevska, Vasil Ciconkov University "Sv. Kiril and Metodij" (Macedonia)	Ammonia cold stores renewal coupled with the Clean Development Mechanism of the Kyoto Protocol

16:00 Sightseeing in the old town of Ohrid
20:00 Gala dinner

April 21, 2007 (Saturday)

9:00	Workshop: Operation, Maintenance, Trouble Shootings	
	Gert Koster Grasso International B.V. (The Netherlands)	Maintenance of refrigerating plants: costs or savings?
	Brian Marriott York America - JCI (USA)	Designing for operation of ammonia systems
	Discussion	
11:00	Closing ceremony - Resume	

Accompanying Persons Programme

Presence at all social events of the conference: welcome drink, conference gala dinner, sightseeing in the old town of Ohrid
 April 19, 14:00: Excursion in "Sv. Naum" (18 km far from Hotel Metropol along the lake)
 April 20, 10:00: Visit at the Ohrid old bazaar with special jewels, filigree and Ohrid pearls