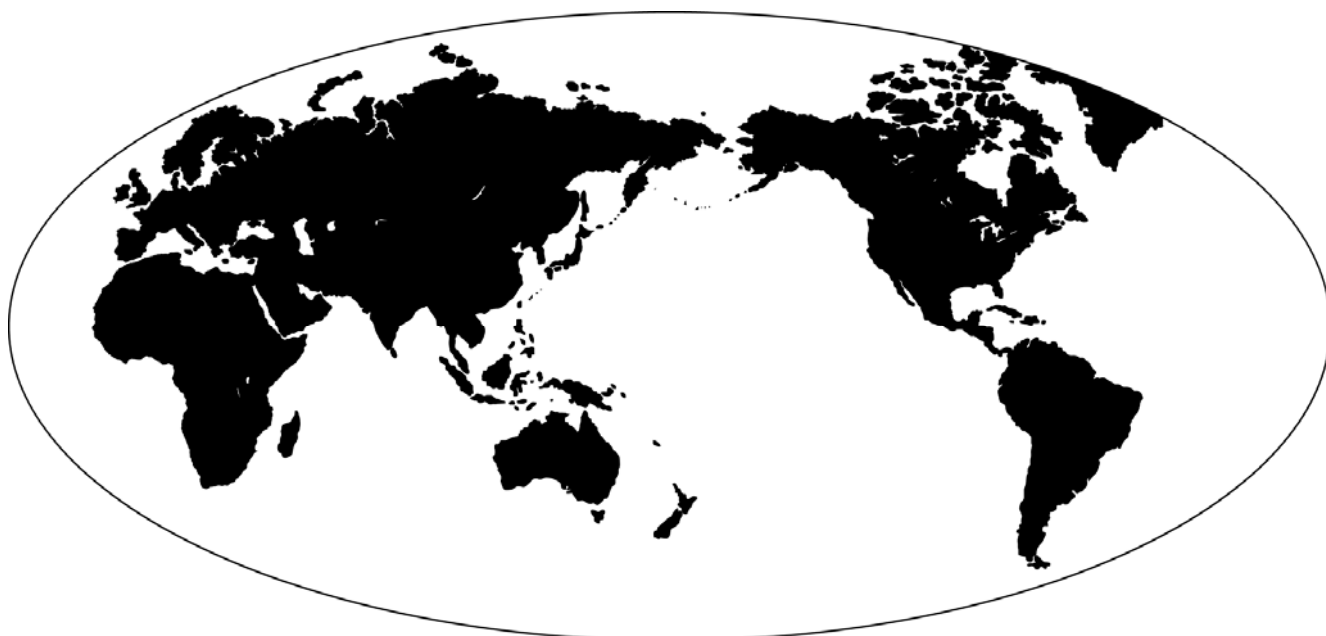


The International Symposium on New Refrigerants and Environmental Technology 2012

*- Latest Technology of Energy Conservation, New Refrigerants and Environment issue on
Air conditioning and Refrigeration Equipment including Automotive A/C for lead up to the 21st Century -*



(Ver.2)

November 8 - 9, 2012
International Conference Center Kobe, Main Hall

JRAIA

THE JAPAN REFRIGERATION AND AIR CONDITIONING
INDUSTRY ASSOCIATION

Dates & Venue

November 8 - 9, 2012
International Conference Center Kobe
6-9-1, Minatojima, Nakamachi, Chuo-ku, Kobe 650-0046 JAPAN
Tel: +81-78-302-5200 Fax: +81-78-302-6485

Organized and Sponsored by

The Japan Refrigeration and Air Conditioning Industry Association (JRAIA)
Address: Kikai Shinko Bldg. 201, 5-8, Shibakoen 3-chome, Minato-ku, Tokyo 105-0011, JAPAN
Tel: +81-3-3432-1671 Fax: +81-3-3438-0308

Co-sponsored by (Tentative)

International Council of Air-Conditioning, Refrigeration, and Heating Manufacturers' Associations (ICARHMA)
— Brazilian Refrigeration, Air Conditioning and Ventilation Industry Association (ABRAVA)
— The Air-Conditioning, Heating, and Refrigeration Institute (AHRI)
— Air Conditioning and Refrigeration Equipment Manufacturers Association of Australia (AREMA)
— China Refrigeration and Air Conditioning Industry Association (CRAA)
— The European Partnership for Energy and the Environment (EPEE)
— European Committee of Air-Handling, Air-Conditioning and Refrigeration Equipment Manufacturers (EUROVENT)
— Heating, Refrigerating and Air-Conditioning Institute of Canada (HRAI)
— Korea Refrigeration Air-Conditioning Industry Association (KRAIA)

In Cooperation with (Tentative)

Association for Electric Home Appliances (AEHA)
Heat Pump and Thermal Storage Technology Center of Japan (HPTCJ)
Industrial Network for Fluorocarbon Recovery Promotion (INFREP)
Japan Lubricating Oil Society (JALOS)
Japan Automobile Manufacturers Association, Inc. (JAMA)
Japan Association of Refrigeration and Air Conditioning Contractors (JARAC)
Japan Association of Refrigerated Warehouse (JARW)
Japan Air Conditioning and Refrigeration Testing Laboratory (JATL)
Japan Electrical Manufacturers' Association (JEMA)
Japan Fluorocarbon Manufacturers Association (JFMA)
Japan Industrial Conference for Ozone Layer Protection (JICOP)
Japan Refrigerants and Environment Conservation Organization (JRECO)
Japan Society of Refrigerating and Air Conditioning Engineers (JSRAE)
Osaka Refrigeration and Air Conditioning Industry Association (ORAIA)

Supported by (Tentative)

Ministry of Economy, Trade and Industry (METI)
Kobe City

Languages

The symposium will be conducted in English and Japanese with simultaneous interpretation.

PROGRAM

Thursday, November 8		
08:00 - 09:00		Registration
09:00 - 09:10	1	Opening Address
	2	Kobe City
09:10 - 10:00		Shinya Okada, Chairman of the board, JRAIA
		Keynote Address
		Tetsuro Kishimoto, President, JRAIA
		<i>to be determined</i>
10:00 - 10:10		Refreshment Break
Main Moderator of Technical Session: Makoto Kaibara, Panasonic Corporation, Japan		
10:10 - 11:30		Technical Session 1 : Environment issue
		Moderator: Makoto Kaibara, Panasonic Corporation, Japan
		Toru Nikaido, Hitachi Appliances, Inc., Japan
	1.1	Satoshi Sadatani, Minister of Economy, Trade and Industry (METI), Japan
		<i>R-32 Promotion Activities by Japanese Industry-Government Partnership to protect Ozone Layer and the Climate for Future Generation</i>
	1.2	Hilde Dhont, European Partnership for Energy and the Environment(EPEE), Belgium
		<i>The F Gas Regulation in Europe – State of Play</i>
	1.3	Zhang Zhaohui, China Refrigeration and Air Conditioning Industry Association (CRAA) , China
		<i>HPMP and Risk Assessment of R32being Processed in China</i>
	1.4	Karim Amrane, The Air-Conditioning, Heating, and. Refrigeration Institute (AHRI), U.S.A
		<i>AHRI Low-GWP Alternative Refrigerants Evaluation Program</i>
11:30- 13:00		Lunch & Poster Session
13:00 - 14:20		Technical Session 2 : Energy Conservation
		Moderator: Masanori Kando, Mayekawa Mfg Co., Ltd., Japan
		Kazuhisa Mishiro, Sharp Corporation, Japan
	2.1	Takuho Hirahara, Working Group for Reviewing Heat Pump Technology , JRAIA, Japan
		<i>Theoretical COP of Heat Pump Systems</i>
	2.2	Satoko Sugisaki, Toshiba Carrier Corporation, Japan
		<i>Study of Energy Efficient Field Operations of Multi-Split Type Air-Conditioning Systems for Buildings</i>
	2.3	Motoshi Matsushita, Sharp Corporation, Japan
		<i>Examination of Un-smooth Inverter of Compressor Motor Drive Using Power Factor Control</i>
	2.4	Takayuki Kobayashi, Mitsubishi Heavy Industries, Ltd., Japan
		<i>Commercial Use CO₂ Heat Pump Water Heater with Scrotary Compressor</i>
14:20 - 14:30		Refreshment Break
14:30 - 16:05		Technical Session 3 : Safety Analysis of 2L Refrigerants 1
		Moderator: Satoru Fujimoto, Chairman, Risk Assessment of A2L Refrigerant committee, JRAIA, Japan
	3.1	Eiji Hihara, Chairman, A2L Risk Evaluation Committee, JSRAE, Japan
		<i>to be determined</i>
	3.2	to be determined, University of Tokyo, Japan
		<i>to be determined</i>
	3.3	Osami Sugawa, Tokyo University of Science, Suwa, Japan
		<i>Evaluation of Fire Hazards of A2L Class Refrigerants</i>
	3.4	Tei Saburi, National Institute of Advanced Industrial Science and Technology (AIST), Japan
		<i>Combustion Characteristics of Flammable Refrigerant Gases</i>
	3.5	Kenji Takizawa, National Institute of Advanced Industrial Science and Technology (AIST), Japan
		<i>Flammability Property of 2L Refrigerants</i>
16:05 - 16:15		Refreshment Break
16:15 - 18:20		Technical Session 4 : Safety Analysis of 2L Refrigerants 2
		Moderator: Hiroichi Yamaguchi, Toshiba Carrier Corporation, Japan
		Tatsumi Kannon, Mitsubishi Heavy Industries, Ltd., Japan
	4.1	Denis Clodic, EReE Energy Research Innovation Engineering, France
		<i>Risk Assessment of R-1234yf in Stationary Applications</i>
	4.2	Xudong Wang, The Air-Conditioning, Heating, and. Refrigeration Institute (AHRI), U.S.A
		<i>Risk Assessment of Residential Heat Pump System Using 2L Flammable Refrigerants</i>
	4.3	Atsushi Ooki, Japan Automobile Manufacturers Association, Inc (JAMA), Japan
		<i>to be determined</i>
	4.4	Kenji Takaichi, Risk Assessment of A2L Refrigerant committee, JRAIA, Japan
		<i>Risk Assessment of Mini Split Air-conditioner with A2L Refrigerant in Progress</i>
	4.5	Ryuzaburo Yajima, Risk Assessment of A2L Refrigerant committee, JRAIA, Japan
		<i>Risk Assessment of VRF System with A2L Refrigerant in Progress</i>
	4.6	Kenji Ueda, Risk Assessment of A2L Refrigerant committee, JRAIA, Japan
		<i>Risk Assessment of Chillers with A2L Refrigerant in Progress</i>
18:20 -		Move to Portopia Hotel
18:45 - 20:45		Welcome reception
		at Room “Kairaku” Portopia Hotel (Main Building/ B1F)

Friday, November 9

08:30 - 09:00		Registration
09:00 - 10:20		<u>Technical Session 5 : Lubricants and Compressors 1</u> Moderator: Kenji Tojo, Hitachi Appliances, Inc., Japan Takashi Kaimai, JX Nippon Oil & Energy Corporation, Japan 5.1 Joe Healy, Emerson Electric Co., U.S.A <i>Low Ambient Performance of Vapour Injected Variable Speed Scrolls on Low GWP Refrigerants</i> 5.2 Sonny G. Sundaresan, Sundaresan Consulting Services, LLC, U.S.A <i>Compressor Lubrication in HVACR Industry-Proven Road Map</i> 5.3 Masao Tani, Mitsubishi Electric Corporation, Japan <i>Development of High Efficiency Twin Rotary Compressor by Adopting a New Manufacturing Method</i> 5.4 Masaki Koyama, Hitachi Research Laboratory, Japan <i>Wide-range Scroll Compressor for Heat Pump System That Improves Annual Efficiency by Fitting the Actual Air-conditioning Load</i>
10:20 - 10:30		Refreshment Break
10:30 - 12:10		<u>Technical Session 6: New Refrigerants and Their System 1</u> Moderator: Isao Kondo, Daikin Industries Co., Ltd., Japan Takuho Hirahara, Mitsubishi Electric Corporation, Japan 6.1 Shigeru Koyama, Kyushu University, Japan <i>Development on Low GWP Refrigerants Suitable for Heat Pump Systems</i> 6.2 Thomas J Leck, DuPont Chemicals and Fluoroproducts / Mitsui – DuPont Fluorochemicals, U.S.A <i>Laboratory Studies of Stability of Low GWP Refrigerants</i> 6.3 Hitomi Arimoto, Tatsumi Tsuchiya, Daikin Industries, Ltd., Japan <i>Low GWP Refrigerants For Stationary AC&R Applications</i> 6.4 Osamu Kuwabara, Panasonic Corporation, Japan <i>Development of CO₂ Refrigeration System for Convenience Stores and Evaluation from the User's Point of View</i> 6.5 Samuel F Yana Motta, Honeywell, U.S.A <i>Low GWP Replacements for R404A in Commercial Refrigeration Applications</i>
12:10- 13:40		Lunch & Poster Session
13:40 - 15:00		<u>Technical Session 7 : Lubricants and Compressors 2</u> Moderator: Kenji Tojo, Hitachi Appliances, Inc., Japan Takashi Kaimai, JX Nippon Oil & Energy Corporation, Japan 7.1 Tomoya Matsumoto, Idemitsu Kosan Co.,Ltd, Japan <i>Development of PVE Refrigeration Lubricants for R32</i> 7.2 Rei Saito, Japan Sun Oil Company, Ltd., Japan <i>Suitable Refrigeration Oil for Many Kinds of Low GWP Refrigerant</i> 7.3 Joe Karnaz, CPI Engineering / Lubrizol, U.S.A. <i>So Many Refrigerants – Is One Lubricant Possible?</i> 7.4 Teru Shibata, JX Nippon Oil & Energy Corporation, Japan <i>Development of Refrigeration Oil for Use with R32</i>
15:00 - 15:10		Refreshment Break
15:10 – 16:50		<u>Technical Session 8 : New Refrigerants and Their System 2</u> Moderator: Isao Kondo, Daikin Industries Co., Ltd., Japan Takuho Hirahara, Mitsubishi Electric Corporation, Japan 8.1 Ryo Akasaka, Kyushu Sangyo University, Japan <i>A Thermodynamic Equation of State for Low-GWP Refrigerant HFO-1234ze(Z) and its application to heat pump cycle analysis</i> 8.2 Mark W. Spatz, Honeywell, U.S.A <i>Recent Developments in Low GWP Refrigerants for Air Conditioning Applications</i> 8.3 Kazuki Wajima, Mitsubishi Heavy Industries, Ltd., Japan <i>Study of Application Low GWP Refrigerant HFO-1234ze(E) for the Centrifugal Heat Pump</i> 8.4 Shigeharu Taira, Daikin Industries, Ltd., Japan <i>Development and Practical Use of Air Conditioning Equipment, Using Low GWP Refrigerant(R32) as an Urgent Countermeasure Against Global Warming</i> 8.5 Konstantinos Kontomaris, DuPont Fluoroproducts, U.S.A. <i>Low GWP Working Fluids for Low Temperature Heat Utilization</i>
16:50 - 17:00		Closing Remarks

Poster Session

Poster session leader : Yutaka Ishii, Sanden Corporation, Japan
Takao Kojima, Fujitsu General Limited.,Japan

Saga University	<i>Thermal Conductivity Measurement of Saturated Liquid of HFOs and HFO+HFC mixtures</i>
Iwaki Meisei University	<i>Thermodynamic Properties of Low GWP Refrigerant Mixtures</i>
Kobe University/ KEPCO	<i>Heat Transfer and Two-phase Flow Characteristics in a Single-channel Plate Fin Evaporater</i>
Tokyo University of Marine Science and Technology	<i>Heat Transfer Characteristics of Low-GWP Refrigerants Inside Horizontal Internally Helical-grooved Small-Diameter Tubes</i>
National Institute of Advanced Industrial Science and Technology (AIST)	<i>Experimental Evaluation of The Fundamental Properties for Low-GWP Refrigerant</i>
Japan Air Conditioning and Refrigeration Testing Laboratory	<i>Research on The Improvement in Testing Accuracy of Air Conditioners and Spread It to Rising Countries</i>
Saga University, Kyushu University, The Japan Society of Refrigerating and Air Conditioning Engineers (JSRAE)	<i>Survey on Technical Subjects of Heat Exchanger for Refrigerating and Air-Conditioning</i>
Japan Refrigerants and Environment Conservation Organization	<i>Reducing The Refrigerant Emission and The Realty of Management System</i>
ASADA CORPORATION	<i>Automatic Monitor and Detector for Refrigerant Leak from HVAC Application "MIHARI series"</i>
ASADA CORPORATION	<i>Introduction of service tools for refrigeration and air conditioning equipment using the HFC-32</i>
TASCO JAPAN CO., LTD.	<i>About R32 Service Tools</i>
DENGEN Co., Ltd.	<i>Development of Applications Improve Refrigerant Recovery Efficiency and Rate</i>
Pro-Step Co.,Ltd.	<i>"Air Driven Typed Recovery Equipment For Mildly Flammable Low GWP Refrigerants</i>
FUSO Co.,Ltd.	<i>About The Newest Chlorofluocarbon Disclosure Detection Technology and Poofreading of A Detector Machine</i>
Ziehl-Abegg Japan Co. Ltd.	<i>The Innovative Products to Realize Energy-saving</i>
Mitsubishi Heavy Industries, Ltd.	<i>Development of CO2 Two Stage Compressor for Commercial Heat Pump Water Heater</i>
Fukuoka University	<i>Cooling heat transfer characteristics of CO2 inside a thin smooth tubeat supercritical pressure</i>
JRAIA	<i>10th Anniversary, History of Kobe Symposium</i>

More new information and Registration, access to JRAIA Site;

http://www.jraia.or.jp/frameset_english.html



Symposium

The Registration Secretariat

All inquiries related to this Symposium should be directed to the following address:

JRAIA Symposium DESK
c/o Kinki Nippon Tourist Co., Ltd.
Global Business Management Branch
Sumitomo-shoji Kanda-Izumi-Cho Bldg., 12F, 1-13 Kanda-Izumi-cho,
Chiyoda-ku, Tokyo 101-0024, JAPAN
Tel: +81-3-6891-9600 Fax: +81-3-6891-9599
E-mail: jraia2012-gbm@or.knt.co.jp

WEB Registration: http://www.jraia.or.jp/frameset_english.html

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Symposium

Registration Fee

Early Bird Registration before Sep. 30, 2010	¥30,000
After Oct. 1, 2010 or On-Site Registration	¥40,000
Welcome Reception	¥10,000

Accommodation

*A sufficient number of rooms have been reserved at following hotels in Kobe by Kinki Nippon Tourist Co., Ltd.

*Dead line for hotel reservation: Sep. 30

*Please ensure us for a hotel reservation after the dead line.

*Kobe Portopia Hotel, adjacent to the conference center is the main hotel for this Symposium.

[Hotel Accommodations]

<u>Name of Hotel</u>	<u>Single</u>	<u>Deposit(Single)</u>	<u>Twin</u>	<u>Deposit</u>
1) Kobe Portopia Hotel	¥12,600	¥12600	¥21,000	¥21,000
2) Hotel Pearl City Kobe	¥9,975	¥9,975	¥15,750	¥15,750
3) Kobe Tokyu Inn	¥11,025	¥11,025	¥19,950	¥19,950
4) Sannomiya Treminal Hotel	¥7,875	¥7,875	¥12,600	¥12,600

*A service charge, tax and breakfast are included.

*Accommodation can be arranged through Registration Secretariat of the symposium.

*If all available rooms of the desired hotel are fully booked, you will be assigned a room in the other hotel.

Payment

Please refer to Registration and Hotel application form.

Confirmation

Upon receipt of the Form and confirmation of your payment of the appropriate fees, a confirmation letter will be sent to you after September 30, 2012 by Kinki Nippon Tourist Co., Ltd.

Confirmation

Upon receipt of the Form and confirmation of your payment of the appropriate fees, a confirmation letter will be sent to you after November 1, 2010 by Kinki Nippon Tourist Co., Ltd.

Change or Cancellation

Any change or cancellation notice must be made in writing to Kinki Nippon Tourist Co., Ltd. to prevent troubles.

[Registration]	On or after 30 September or no notice given.....	100%
[Hotel]	Up to 14 days prior to check-in date	No charge
	13-7 days prior to check-in date	10% of daily room charge
	6-3 days prior to check-in date	40% of daily room charge
	Less than 3 days, or no notice given	100% of daily room charge

Refunds

Refunds will be made after deducting bank and/or credit card service charges and the above cancellation penalties either during or after the Symposium. If payment was made by credit card, reimbursement will be made through the credit card company.

General Information

Climate and Clothing

The symposium will be held under the Pleasant early winter weather, the temperatures ranging between a daytime high of 14° C (57° F) and a low of 8° C (46° F). Dress for all events will be informal.

Passports and Visas

Participants are requested to ensure possession of all essential travel documents. For details, please contact a local travel agent or the carrier for your own security.

Exchange

Foreign currency may be exchanged at banks at airport and around the symposium site. Most hotels are able to exchange from US dollar to Japanese Yen for their guests.

Electrical Appliances

Japan operates on 100-110 volts for electrical appliances. The frequency is 60 cycles (Hz) in western Japan including Kobe and 50 cycles (Hz) in eastern Japan including Tokyo.

Shopping

Saturdays and Sundays are major shopping days in Japan. All department stores and other shops are usually open until approximately 8:00 p.m.

Travel Information Desk

A travel Information Desk will set up in the registration area for those from overseas during the period.

Access to Conference Hall

Narita International Airport ----- Tokyo Sta. ----- Shin-Kobe Sta.

Narita Express (60min. ¥3,140) Shinkansen Line (194min. ¥14,670)

Narita International Airport ----- Itami Airport

Airline ANA/JAL (75min. ¥22,500)

Shin-Kobe Sta. ----- Sannomiya Sta. -----Shiminhiroba Sta. (International Conference Center Kobe)

Subway (3min. ¥200) Portliner(10min. ¥240)

Shin-Kobe Sta. -----International Conference Center Kobe

Taxi (about 15min. ¥1,500~¥2,000)

Kansai International Airport --- Sannomiya Sta... --- Shiminhiroba Sta.(International Conference Center Kobe)

Airport Bus (75min. ¥1,900) Portliner (10min. ¥240)

Kansai International Airport ----Kobe Airport -----Shiminhiroba Sta. (International Conference Center Kobe)

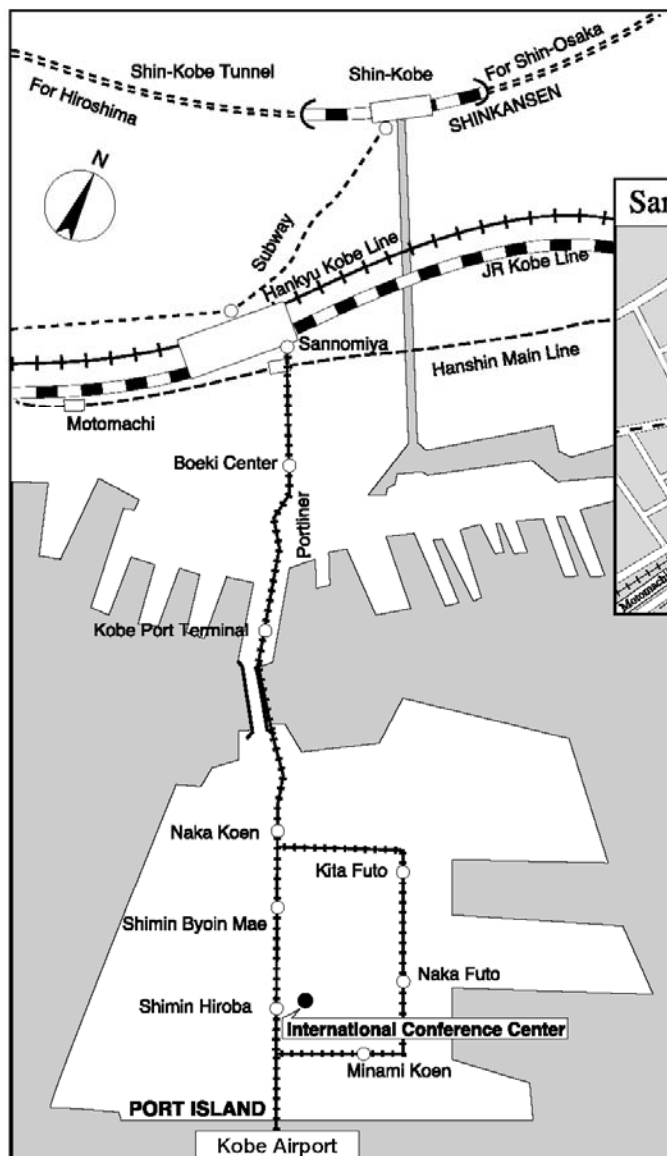
Speedy Craft(30min. ¥1,500) Portliner (8 min. ¥240)

Itami Airport ----- Sannomiya Sta. ----- Shiminhiroba Sta. (International Conference Center Kobe)

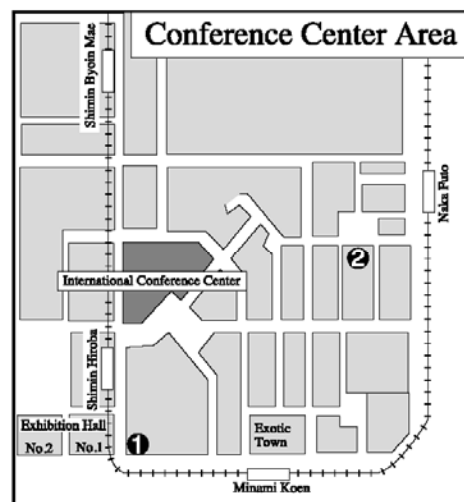
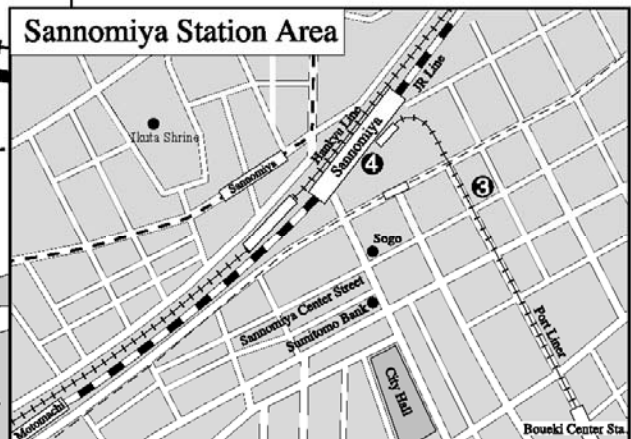
Airport Bus (40min. ¥1,020) Portliner(8 min. ¥240)

Kobe Airport ----- Shiminhiroba Sta. (International Conference Center Kobe)

Portliner (8 min. ¥240)

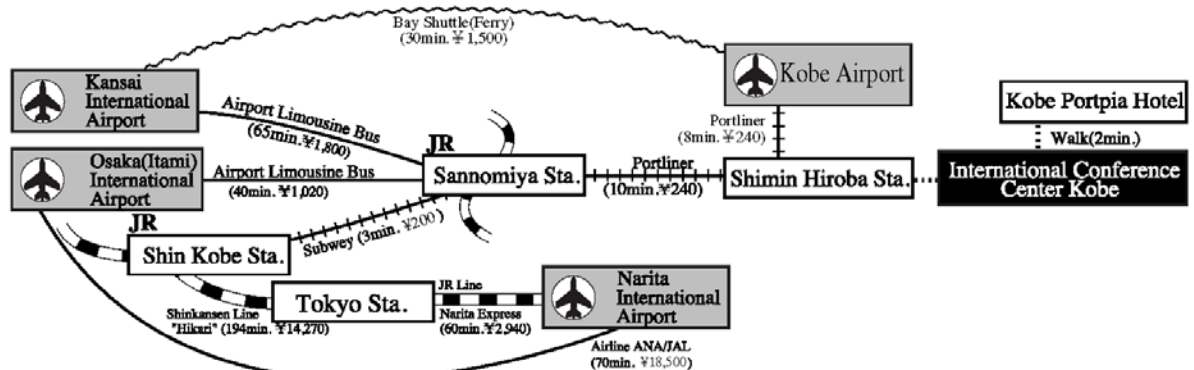


Map of Kobe



- ① Kobe Portpia Hotel ----- Adjacent to the Portliner Shimin Hiroba Station
- ② Hotel Pearl City Kobe ----- 2 min. walk from Portliner Naka Futo Station.
- ③ Kobe Tokyu Inn ----- 3 min. walk from JR Sannomiya Station.
- ④ Sannomiya Terminal Hotel --- 0 min. walk from JR Sannomiya Station.

ACCESS MAP to International Conference Center Kobe.



**The International Symposium on
New Refrigerants and Environmental Technology 2012**
November 8 - 9, 2012 Kobe

Registration and Hotel application Form
JRAIA Symposium DESK
c/o Kinki Nippon Tourist Co., Ltd.

Global Business Management Branch

Sumitomo-shoji Kanda-Izumi-cho Bldg 12F,1-13 Kanda-Izumi-cho, Chiyoda-ku, Tokyo 101-0023, JAPAN
Tel: +81-3-6891-9600 Fax: +81-3-6891-9599 E-mail: jraia2012-gbm@or.knt.co.jp

PLEASE FILL IN BLOCK LETTERS:

Title: ☐ Prof. ☐ Dr. ☐ Mr. ☐ Ms.

Last Name : _____ First Name: _____

Organization : _____ Dept : _____

*Please do not abbreviate:

☐ Office ☐ Home

Mailing Address : _____

_____ Country : _____

Tel : _____ Fax : _____ E-mail : _____

Registration

- ☐ Early Bird Registration before Oct. 31 ¥30,000
☐ After Nov. 1 Registration or on-site ¥40,000
☐ Welcome Reception ¥10,000

Total Registration Fee=¥_____ (A)

Hotel Accommodations

- ☐ (1) Kobe Portopia Hotel ☐ Single _____ room(s)
☐ (2) Hotel Pearl City Kobe ☐ Twin _____ room(s)
☐ (3) Kobe Tokyu Inn Check-in date: _____
☐ (4) Sannomiya Terminal Hotel Check-out date: _____ for _____ night(s)

Deposit : ¥_____ × _____ room(s) = ¥_____ (B)

Total Amount (A)+(B) = ¥_____

Payment

*Payment should be in Japanese yen and personal check is not acceptable.

I have enclosed a bank draft of ¥_____ payable to JRAIA SYMPO.

- ☐ I have remitted the sum of ¥_____ through _____ bank on _____ by direct transfer
total amount your bank date
in Japanese yen to the following bank.

*Please attach a copy of the bank receipt to this form.

Bank Name: Sumitomo Mitsui Banking Corp., Suzuran Branch
Account Name: Kinki Nippon Tourist Co., Ltd.
SWIFT Code: SMBCJPJT
Account Number: 6103610

- ☐ I have attached a copy of the bank receipt to this form.
☐ I am using the following credit card slip.

* I authorize the total amount to be charged to the following credit card.

<input type="checkbox"/> VISACARD <input type="checkbox"/> MASTER CARD <input type="checkbox"/> AMERICAN EXPRESS <input type="checkbox"/> DINERS <input type="checkbox"/> JCB									
Account No, (カードNo) : _____ Good Thru (有効期限) month/year _____ Name of Holder: _____ (カード記載ローマ字名) Date: _____ (申込日) Signature: _____ (サイン)	Amount (合計金額) ¥ _____ <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> Please fill out the area within the bold lines in block or type letters. This will be deemed invalid if the part of amount is altered in any way. </div> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> Reference: _____ </div> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="width: 30%;">承認番号</td> <td style="width: 10%;">サイン</td> <td style="width: 20%;">ムコウカード</td> <td style="width: 40%;">期限</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>	承認番号	サイン	ムコウカード	期限				
承認番号	サイン	ムコウカード	期限						

Date : _____ Signature : _____

《MEMO》



THE JAPAN REFRIGERATION AND AIR CONDITIONING
INDUSTRY ASSOCIATION

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