JSRAE Annual Conference, Presentation Program

(1) The available time for presentation is 15 minutes + 5 minutes discussion for general speech.
(2) Symbol (○/◎) shows speakers.
(3) In the case of multiple authors from same institution, the affiliation of the first author from each institution is mentioned. The affiliation(s) of other author(s) is same as the preceding author.

-------- #1 Day -----

Room A 21 October (Wed.)

Organized Session OS-2
"Technological Development in Heat Exchangers"
Organizers: Masafumi Hirota (Mie Univ.), Norihiro Inoue (Tokyo Univ. Marine Sci. & Tech.), Naoe Sasaki (Nihon Univ.)

10:40 ～ 12:00 OS-2(1) [Chairperson:Norihiro Inoue (Tokyo Univ. Marine Sci. & Tech.)]

A111 Hydrophilic characteristics of aluminium foil coated with various material for heat exchangers of Air-conditioner○HAYASE Gaku （ SAMSUNG ELECTRONICS CO. LTD）,YOON Kyung-jin

A112 Effect of the Film Component on the Hydrophilic Property of Aluminium Fin Sheets in the Heat Exchanger○SEKO Yoshiya （ UACJ Corporation）,TOYAMA Tomoaki,UEDA Kaoru

A113 Effect of the Fin Stocks Surface Treatment on Frost and Defrost Characteristics of the Heat Exchanger for the Room Air-conditioner.○OGIHARA Kana （UACJ Corporation）,UEDA Kaoru,SASAZAKI Mikine

A114 New surface coating of outdoor unit○TASHIRO Yusuke（Mitsubishi Electric）,HAYAMARU Yasuhide

13:00 ～ 15:00 OS-2(2) [Chairperson:Gaku HAYASE (Samsung Electronics)]

A121 Performance Advances of Cryogenic Heat Exchanger by Frost Suppression Method Using Arrowhead-Shaped Obstacle◎SATO Sota（Shizuoka Univ.）,FUKIBA Katsuyoshi,YOSHIMURA Yusuke

A122 Influence of splitter plate length in a countermeasure against frost formation on a cooled cylinder◎ YOSHIMURA Yusuke （ Grad. School of Eng.,Shizuoka Univ.）,FUKIBA Katsuyoshi,SATOU Souta

A123 Experimental Study on Heat Transfer Performance of Finless Flat Tube Heat Exchanger for Air Conditioner under Frost Condition◎SHIMAMOTO Takahiro（Kanazawa Univ.）,ONISHI Hajime,TADA Yukio

A124 Experimental research on the mechanism of impurities deposits and sticks to be comprised of water related to three dimensions smart hollow structured○WANG Kaijian（Fujitsu General Institute of Air-Conditionding Technology LTD.）,TAKAHASHI Toshihiko

A125 Optimization of finned tube heat exchanger for air conditioner with Generic algorithm ◎ KUNITA Daisuke （ Waseda Univ. ）,OHNO Keisuke,NAKAMURA Hiroo,TOJO Kenji,SAITO Kiyoshi,TAKAFUJI Ryoichi （ Hitachi Appliances ,Inc.）

A126 Effect of Tube diameter on Void Fraction of One-Component Gas-Liquid Two-Phase Flow ◎ GOMYO Taisaku（Kobe Univ.）,ASANO Hitoshi

Workshop WS-4
"Trends in Development of Heat Exchangers"
Moderators: Daisuke Ito (MITSUBISHI ELECTRIC CORPORATION), Hirokazu Fujino (), Hitoshi Asano (Kobe Univ.)

15:20～17:20 WS-4(0) [Chairperson:Hirokazu FUJINO (DAIKIN Industries)]

A131 [KEYNOTE] Corrosion and its interaction of heat-exchanger ○ HOSOGI Tetsuro （Kobelco & Materials Copper Tube LTD.,）,ITO Shinichi

A132 The Visualization of Two-Phase Flow Distribution in Vertical Header ○ONAKA Yoji（Mitsubishi Electric Co.）,MATSUMOTO Takashi（Mitsubishi Electic Co.）

A133 Study of refrigerant retention influence in the multi-type packaged air conditioner○NISHIYAMA Takumi（MitsubishiElectric）

A134 Development of dehumifier equipped with inveter compressor○NAKAMURA Hiroshi （ Mitsubishi Electric Home Appliance Co., Ltd.）,SHIBATA Hideo （Mitsubishi Electric）,FUJITA Yuka（Mitsubishi Electric Home Appliance Co., Ltd.）,ITO Daisuke （Mitsubishi Electric）

Room B 21 October (Wed.)

Organized Session OS-4
"Performance Evaluation of Air-conditioners, Chillers and Heat Pump Water Heaters"
Organizers: Nobuya Nishimura (Osaka City Univ.), Choyu Watanabe (Chubu Electric Power), Kiyoshi Saito (Waseda Univ.)

10:40～12:00 OS-4(1) [Chairperson:Nobuya Nishimura (Osaka City Univ.)]

B111 Study on Evaluation of Annual Energy Consumption of Multi-split type EHP Air-conditioner for Builings. The Influence on APF with the Revision of JIS○MIYAOKA Yoichi（Chubu Electric Power Co., Inc. ） ,NAGAMATSU Katsuaki,NAMIWO Takashi,KASAHARA Shinichi （ DAIKIN INDUSTRIES,LTD ） ,KOTANI Takuya,HIROTA Masafumi（Mie Univ.）,TERANISHI Yuta

B112 Development of the new VRF system which has the high energy efficiency from the middle load zone to the light load zone.○KASAHARA Shinichi（Daikin Indasutries,Ltd. ） ,KOTANI Takuya,HIROTA Masafumi （ Mie University ） ,TERANISHI Yuta,MIYAOKA Youichi（Chubu Electric Power Co.,Inc ） ,NAGAMATSU Katsuaki,NAMIWO Takashi

B113 The Influence that an LED Light gives to the Air-Conditioning Load and the Energy Consumption of the Bulidings 1st report :An Examination based on BEST ◎ TERANISHI Yuta （ Mie Univ. ） ,KABASHIMA Nobutaka,HIROTA Masafumi,MIYAOKA Yoichi （ Chubu Electric Power ） ,NAGAMATSU Katsuaki,NAKAYAMA Hiroshi,NAMIWO Takashi

B114 Study on high-efficiency Ground Source Heat Pump (GSHP) ◎ LIU Hongzhi （ Hokkaido University ） ,NAGANO Katsunori,KATSURA Takao,ZHENG Yu,KUBO Kento

13:00～14:40 OS-4(2) [Chairperson:Masafumi Hirota (Mie Univ.)]

B121 [KEYNOTE] Development of the Turbo Chiller using Water as a Refrigerant ○SAKAMOTO Hayato（Kawasaki Heavy Industries）

B122 Optimization of Operating Conditions of a Multi-split Type Air-conditioning System for Buildings Searching of Optimal Operating Condition in a System with Multiple Outdoor Units WAKUI Tetsuya （ Osaka Prefecture Univ. ） ,○HASHIKAWA Takahiro,YOKOYAMA Ryohei,KANEKO Takashi（Samsung R & D Institute Japan）

B123 Evaluation method of compression type heat pump for actual driving performance, Estimation approach for energy consumption in intermittent driving◎ BAN Toshiori （ Waseda univ. ） ,OHNO Keisuke,SAITO Kiyoshi,YAMAGUTI Hideki （ NILIM ） ,MIYATA Masato,SAWACHI Takao,ENTERIA Napoleon （ Building research institute）,KUWASAWA Yasuo

B124 Withdrawn

15:00～16:00 OS-4(3) [Chairperson:Tetsuya WAKUI (Osaka Prefecture University)]

B131 Energy efficiency evaluation for VRF system with unbalanced load operation Part1: Analysis of energy efficiency for actual experimental data ○ YAMAGUCHI Hideki （ NILIM ） ,ENTERIA Napoleon（Building Research Institute）,MIYATA Masato（NILIM）,SAWACHI Takao,KUWASAWA Yasuo（Building Research Institute）

B132 Energy efficiency evaluation for VRF system with unbalanced load operation Part2: Analysis of energy efficiency based on refrigerating cycle ○ENTERIA Napoleon （ Building Research Institute）,YAMAGUCHI Hideki（NILIM）,MIYATA Masato,SAWACHI Takao,KUWASAWA Yasuo （Building Research Institute）

B133 Energy efficiency evaluation for VRF system with unbalanced load operation Part3: Evaluation of primal energy consumption for building ○MIYATA Masato（NILIM）,ENTERIA Napoleon（Building Research Institute ） ,YAMAGUCHI Hidkei （NILIM）,SAWACHI Takao,KUWASAWA Yasuo （Building Research Institute）

16:20 ～ 17:40 OS-4(4) [Chairperson:Kiyoshi Saito (Waseda Univ.)]

B141 Performance Evaluation of Heat Pump Cycle Using Zeotropic Mixtures of R32/R1234ze(E) and R32/R1234yf as Working Fluids ◎KOJIMA Hideki （Kyushu Univ.）,FUKUDA Sho,KONDOU Chieko （ Nagasaki Univ. ） ,TAKATA Nobuo （ Kyushu Univ.）,KOYAMA Shigeru

B142 CO_2 Cycle Simulation for Car Air-Conditioning System Evaluation of the Cycle Transient Behavior at the start up, KATSUTA Masafumi （ Waseda Univ. ） ,SATO Ryo, ◎ SANO Koki,NOHTOMI Makoto

B143 A study for the energy saving performance of new refrigerant NF-01 ◎KATSUMATA Ikuma（Graduate school of Kanagawa Institute of Technology.）,NARUMI Tadashi（Kanagawa Institute Of Technology.）,YADA Naoyuki,OOKUBO Tetuo （FUJIOX CO.,LTD.）,MIZUNO Yasunori

B144 Performance Evaluation of Air Conditioner using New Refrigerants TAIRA Shigeharu （ DAIKIN

INDUSTRIES,LTD.） ,HAIKAWA Tomoyuki, ◎ NUNO Hayato

Room C 21 October (Wed.)

Organized Session OS-7
"Desiccant/Humidity Control/Open Cycle Air Conditioning"
Organizers: Takahiko Miyazaki (Kyushu Univ.), Mitsuhiro Kubota (Nagoya Univ.), Takuya Tsujiguchi (Kanazawa Univ.), Seiichi Yamaguchi (Waseda Univ.)

10:40～12:00 OS-7(1) [Chair: Mitsuhiro Kubota (Nagoya Univ.)]

C111 Dehumidification Performance of Gas-Liquid Contactor with Ionic Liquid ◎KOBAYASHI Yuto（Waseda Univ.）,YAMAGUCHI Seiichi,SAITO Kiyoshi,NAKAYAMA Hiroshi（Chubu Electric Power Co.）,MIYAOKA Youichi,WANG Xinming（Evonik Japan Co.）

C112 Visualization of Wetting Characteristic in Gas-Liquid Contactor for Liquid Desiccant System ◎ USUZAKA Tadashi（Waseda Univ.）,YAMAGUCHI Seiichi,SAITO Kiyoshi,NAKAYAMA Hiroshi（Chubu Electric Power Co.）,MIYAOKA Youichi

C113 Dehumidification Characteristics of Thin Honeycomb Unit with Sorbent Material HORIBE Akihiko（Okayama Uinv.）,HARUKI Naoto, ◎ TANINO Kazuya,NAKAMURA Takashi（Calsonic Kansei）,MARUYAMA Tomohiro

C114 Sorption and Desorption Characteristics with Composite Sorbent Particle in a Fluidized bed HORIBE Akihiko（Okayama Uinv.）,HARUKI Naoto,SANO Yoshihiko（Shizuoka Univ.）,◎YUKI Kanamitsu（Okayama Uinv.）,FUJITA Takuya

13:00 ～ 14:20 OS-7(2) [Chair: Seiichi Yamaguchi (Waseda Univ.)]

C121 Dehumidification behavior of air-cooled cross flow heat exchanger type adsorber ◎HANAOKA Noriko（Nagoya Univ.）,KUBOTA Mitsuhiro,MATSUDA Hitoki,KODAMA Akio（Kanazawa Univ.）

C122 Effect of the Pore Properties on the Dehumidifying Performance of the Adsorbent Desiccant Wheel ◎ TSUJIGUCHI Takuya（Kanazawa Univ.）,KITAGAWA Daichi,OSAKA Yugo,KODAMA Akio

C123 Potential assessment of fiber adsorbent desiccant air conditioning system ◎OSAKA Yugo（Kanazawa Univ.）,TSUJIGUCHI Takuya,KODAMA Akio

C124 Evaluation of desiccant air conditioning applicability for agricultural sector of Pakistan ○MAHMOOD Muhammad Hamid（Kyushu University）,SULTAN Muhammad,MIYAZAKI Takahiko,KOYAMA Shigeru

Organized Session OS-6
"Refrigerators/Heat Pumps based on Absorption, Adsorption or Chemical Reactions"
Organizers: Atsushi Akisawa (Tokyo Univ. of Agriculture and Technology), Nobuya Nishimura (Osaka City Univ.), Kiyoshi Saito (Waseda Univ.), Yoshinori Hamamoto (Kyushu Univ.)

14:40～16:20 OS-6(1) [Chairperson:Nobuya Nishimura (Osaka City Univ.)]

C131 [KEYNOTE] R/D Tends of Absorption Heat Pump in ISHP2014 ○IKUMI Yonezo（Waseda University）

C132 Analytical expression of heat and mass transfer coefficients on a partially wetted horizontal tube of falling film absorber ◎ NICCOLO Giannetti（Waseda Univ.）,YAMAGUCHI Seiichi,SAITO Kiyoshi,ANDREA Rocchetti（Florence Univ.）

C133 Characteristics of a Smearing Surface Type Absorber ○TOMITA Akifumi（AISIN SEIKI Co.,Ltd.）,TSUBOUCHI Osamu,INADA Takaaki（National Institute of Advanced Industrial Science and Technology）,SOMEYA Satoshi,TAKEMURA Fumio,DANG Chaobin（Tokyo Univ.）,HIHARA Eiji

C134 Simulation study of a novel vapor absorption refrigeration system combined with the hollow fiber membrane-type generator and solution heat exchanger as an automobile application ◎HONG Sung Joo（University of Tokyo）,DANG Chaobin,HIHARA Eiji

16:40 ～ 18:00 OS-6(2) [Chairperson:Mikio KUMITA (Kanazawa University)]

C141 Sensitivity analysis of the cycle time for the cooling ability of the three-bed tow-stage adsorption refrigerator. ◎ TAKAHASHI Fumiya（Tokyo University of Agriculture and Technology）,NAKAYAMA Masayuki,AKISAWA Atsushi

C142 Evaluation of improvement of cooling capacity and COP for an adsorption chiller with an adsorption heat exchanger synthesized film adsorbent on heat transfer plates ◎ OUCHI Takafumi（Kyushu Univ.）,HAMAMOTO Yoshinori,MORI Hideo

C143 CFD simulations of heat exchanging adsorber/desorber employing activated carbon-ethanol pair ◎ JRIBI Skander（Kyushu University）,MIYAZAKI Takahiko,JERAI Fauziah,SAHA Bidyut Baran,KOYAMA Shigeru,MAEDA Shinnosuke（Calsonic Kansei Corporation）,MARUYAMA Tomohiro

C144 Investigation of alternative adsorbent/refrigerant pairs for cooling application ○EL-SHARKAWY Ibrahim I.（Kyushu University）,MIYAZAKI Takahiko,SAHA Bidyut Baran,KOYAMA Shigeru

Room D 21 October (Wed.)

Organized Session OS-8
"Thermophysical Properties of Refrigerants"
Organizers: Ryo Akasaka (Kyushu Sangyo Univ.), Yohei Kayukawa (AIST)

10:40 ～ 12:00 OS-8(1) [Chairperson: Ryo Akasaka (Kyushu Sangyo Univ.)]

D111 Vapor pressures, saturated densities and critical parameters for new refrigerant R1123 ○HIGASHI Yukihiro（Iwakio Meisei Univ.）,AKASAKA Ryo（Kyushu Sangyo University）

D112 Measurements for vapor pressures and PVT properties for low-GWP refrigerant, HFO1123, by a magnetic levitation densimeter ○KAYUKAWA Yohei（AIST）,KANO Yuya,FUJITA Yoshitaka,HASHIMOTO Mai（AGC）,FUKUSHIMA Masato

D113 Measurement of Thermal Conductivity and Investigation of the Correlation of Low GWP Refrigerant ◎ ISHIDA Hirotaka（Saga Univ.）,ISLAM M.a.,KARIYA Keishi,MIYARA Akio

D114 Optimization of Hydrocarbon Refrigerant Mixture Composition in Rankine cycle with Generic algorithm ◎ OHNO Keisuke（waseda univ.）,KIMURA Takeru,SAITO Kiyoshi

13:00～14:00 OS-8(2) [Chairperson: Yohei Kayukawa (AIST)]

D121 Thermodynamic properties of R-1243zf, International collaboration on the development of equations of state for Low-GWP refrigerants ○AKASAKA Ryo（Kyushu Sangyo University）

D122 Relation between the absolute humidity and the combustion of mildly flammable refrigerants. ○KAWASHIMA Mitsuru（Mitsubisi electric corporation）,MAEDA Akira,KOMAI Takao

D123 Measurements of vapor pressure and saturated liquid density for HCFO-1233zd(E) and HCFO-1233xf ○TANAKA Katsuyuki（Nihon Univ.）

International Session IS-1
"Advancement in HVAC&R in Asia"

14:20 ～ 15:40 IS-1(1) [Chairperson:Niccolò Giannetti (Waseda Univ.)]

D131 Numerical Study of the Thermo-Hydraulic Field within an Indoor Unit of the Small-Sized Split-Type Air-Conditioner ○SHIH Yang-cheng（National Taipei University of Technology）,LAI Jin-da,WU Hua-lin

D132 Numerical simulation of CO_2 heat pump for hybrid desiccant air conditioning system ○VARELA Richard Jayson（Waseda univ.）,KEISUKE Ohno,YAMAGUCHI Seiichi,SAITO Kiyoshi

D133 Withdrawn

D134 Experimental assessment of the performance of electric vehicle air-conditioning system ○CHUAH Yew-khoy（Department of Energy and Refrigerating Air-Conditioning Engineering, National Taipei University of Technology）,SHIH Chang-an

General Session GS

16:00～17:40 GS-1(1) [Chairperson: Seiichi Yamaguchi (Waseda Univ.)]

D141 Diesel Combustion of Oil and Refrigerant Mixture during Pump Down of Air Conditioners ◎ HIGASHI Tomohiro（The University of Tokyo）, TAMAI Syou, SAITOH Shizuo,DANG Chaobin,HIHARA Eiji

D143 Experimental investigation on characteristics of shock wave inside ejectors ◎CHEN Zuozhou（The University of Tokyo）,HIHARA Eiji,DANG Chaobin

D144 Preparation and Thermal Properties Evaluation of Heat Storage Silica Fume for the Application of Concrete Admixture ◎ KANG Yujin（Soongsil Univ.）,JEONG Su-gwang,CHANG Seong Jin,WI Seunghwan,SEO Jungki,KIM Sumin

D145 Utilization of air source heat pump to water-sprinkler snow melting system ○ YAMAGUCHI Keisuke（East Japan Railway Company）,FUDA Setsuo,HASEGAWA Seiji（JR East Mechatronics Co.,Ltd）,HASHIMOTO Masahide（Mitsubishi Electric Corporation）,TOGAWA Kimio（Mitsubishi Electric Building Techno-service Co.,Ltd）

Room E 21 October (Wed.)

Organized Session OS-5
"Simulation Techniques for Air-conditioners, Chillers and Heat Pump Water Heaters"
Organizers: Kiyoshi Saito (Waseda Univ.)
Masayuki Nonaka (Hitachi Appliances)

11:00～12:00 OS-5(1) [Chairperson: Masayuki Nonaka (Hitachi Appliances)]

E111 Evaluate VRF air-conditioner system by simulation methods and experimental study, Consideration of heating driving ○MATSUMOTO Kuniyasu（Kansai Electric Power Co. Inc.,）,OHNO Keisuke（Waseda University）,SAITO Kiyoshi

E112 Simulation of Gas Engine driven compression type heat pump ◎ OHNO Keisuke （ waseda univ. ） ,NAKAGAWA Yasuaki,SAITO Kiyoshi,WAKABAYASHI Tsutomu （ osaka gas）,HIROTA Kazuma（toho gas）,HURUHASHI Yuma（tokyo gas）

E113 Optimum control of compression type heat pump systems, 1st report : Non-linearity of process gain and interaction ◎ YOSHIDA Tokitaka （Waseda Univ）,OHNO Keisuke,SAITO Kiyoshi（Waseda）

13:00 ～ 14:00 OS-5(2) [Chairperson: Kiyoshi Saito (Waseda Univ.)]

E121 Development of Drop Impact Simulation for Indoor Unit Packing Design ○KUGA Kazunori（MITSUBISI HEAVY INDUSTRIES, LTD ） ,KANAMORI Azusa,TAKAHASHI Shinichi,HASHIMOTO Isao,KYUNO Hiroaki

E122 Clearance analytical technique in consideration of transformation at the time of the assembling YOSHIKAWA Genta（Mitsubishi Heavy Industries, Ltd.） ,○TAMAKI Hitoshi,WATANABE Kazuhide （Mitsubishi Heavy Industries Automotive Thermal Systems Co., Ltd.）,KUWAHARA Takayuki

E123 CFD simulation on the inner structure of heat exchanger ○KIMURA Naoki （ UACJ Corpration）,HAYASHI Hiroaki（UACJ Copper Tube Corporation ） ,HOUFUKU Mamoru （ UACJ Corpration）

Workshop WS-2
"Cold storage and cooling by using ice slurry"
Moderators: Koji Matsumoto (Chuo Univ.), Hiroyuki Kumano (Aoyama Gakuin Univ.)

14:20～17:50 WS-2(0) [Chairperson: Koji Matsumoto (Chuo University) , Hiroyuki KUMANO(Aoyama Gakuin University)]

E131 Characteristics of Ice Slurry and Its Manufacturing System ○UNO Mitsuyo（Nissin Refrigeration & Engineering LTD. Development department）

E132 Examples of the utilization of ice slurry for effective food cooling ○WATANABE Manabu （ Tokyo University of Marine Science and Technology）

E133 What advantage when you use ice slurries Characteristics of ice slurries and potential of industrial use systems ○SEKI Mitsuo（NATOMICS Corporation）

E134 Advantages of using ice slurry in each application ○YAMADA Ikuhiro（Shinryo Corporation）

E135 Prospective society ○MATSUMOTO Koji（Chuo University）

E136 Use of slurry-ice in fisheries ○OKANO Toshiyuki （Fishing Boat And System Engineering Association of Japan）

E137 The Challenges in the Global Cold Chain Management and the potential use of Ice Slurries' ○HARAOKA Tetsuya （ BUSINESS DEVELOPMENT & PLANNING DEPT. YUSEN LOGISTICS CO.,LTD.）

-------- #2 Day -----

Room A 22 October (Thu.)

Organized Session OS-2
"Technological Development in Heat Exchangers"
Organizers: Masafumi Hirota (Mie Univ.), Norihiro Inoue (Tokyo Univ. Marine Sci. & Tech.), Naoe Sasaki (Nihon Univ.)

09:10～10:50 OS-2(3) [Chairperson:Naoe Sasaki (Nihon Univ.)]

A211 Liquid-vapor two-phase pressure drop and boiling heat transfer of a refrigerant in a horizontal triangular mini-channel ◎ HIRATA Kento （ Kyushu Univ. ） ,NAKATURU Takuya （ Honda Motor）,MIYATA Kazushi（Kyushu Univ.）,MORI Hideo,HAMAMOTO Yoshinori

A212 Withdrawn

A213 Vapor-liquid Two-phase Flow Patterns and Effects of Oscillation in Small Rectangular Tube ◎ NAGAYAMA Kunihiro （ Tokyo university of agriculture and thechnology）,ENOKI Koji（The university of electro-communications ） ,ONO Masaharu,AKISAWA Atsushi（Tokyo university of agriculture and thechnology）,OKAWA Tomio（The university of electro-communications ）,MIYATA Kazushi（Kyushu University）,MORI Hideo

A214 Refrigerant Gas-Liquid Flow Distributions in Multi-Pass Channels ○NAKAO Yuuki（Mie University）,NOMOTO Hidetaka（DENSO CORPORATION）,EKAWA Akira（Mie University）,HIROTA Masafumi

A215 Flow Rate Characteristics of CO_2 with Inlet Subcooling Condition through an Orifice ○ASANO Hitoshi（Kobe Univ.）,MIZOTA Daisuke,TSUCHIYA Toshiaki（Fuji Electric）,ISHIDA Shin,TAKIGUCHI Koji

Seminar SN-2
"Refrigeration engineer seminar"
Moderators: Kiichi Irie (EBARA REFRIGERATION EQUIPMENT & SYSTEMS CO.,LTD), Kimihide Saishoji(Mitsubishi Heavy Industries Air-Conditioning & Refrigeration Corporation)

14:50～16:50 SN-2 [Chairperson:Kiichi Irie (EBARA REFRIGERATION EQUIPMENT & SYSTEMS CO.,LTD)]

A221 今こそ日本の食品を海外に美味しく運ぶ最新事例○KITADA Yuri（NIPPON EXPRESS）

A222 Techniques for Preserving Fresh Agricultural Produces during Distribution ○UCHINO Toshitaka（Kyushu Univ.）

A223 Introduction of Environmental Control System for aircraft, operation in high altitude flight ○KAWAGUCHI Yasuhiko（MITSUBISHI HEAVY INDUSTRIES, LTD.）

Room B 22 October (Thu.)

Organized Session OS-10 "Refrigeration and Freezing of Foods and Biomaterials" Organizer: Shigeaki Ueno (Saitama Univ.), Toru Suzuki (Tokyo Univ. of Marine Science and Technology)

09:10～10:50 OS-10(1) [Chairperson:Tomoaki Hagiwara（Tokyo University of Marine Science and Technology）]

B211 Effect of the freezing on color of dark colored meat of mackerel ○MATSUBARA Hisashi（Aomori Prefectural Industrial Technology Center）,TAKEUCHI Megumi,TAKAHASHI Tadashi,KOSAKA Yoshinobu,KUDOH Ken-ichi,SUZUKI Toru（Tokyo University of Marine Science and Technology）

B212 Effect of freezing on death of Anisakis larvae, condition for killing of larvae in mackerel body ○TAKEUCHI Megumi（Aomori Prefectural Industrial Technology Research Center）,MATSUBARA Hisashi,TAKAHASHI Tadashi,KOSAKA Yoshinobu,KUDOH Ken-ichi,WATANABE Manabu（Tokyo University of Marine Science and Technology）,SUZUKI Toru

B213 Effect of Frozen Storage Temperature and Period on the Quality of Frozen Chub Mackerel Meat ◎MORIYA Keisuke（Tokyo University of Marine Science and Technology）,NAKAZAWA Naho,OSAKO Kazufumi,OKAZAKI Emiko

B214 Analysis of Temperature Response Property of Fresh Produce ○SHIINA Takeo（Chiba University）,ORIKASA Takahiro（Iwate University）,THAMMAWONG Manasikan（Gifu University）,NAKAMURA Nobutaka（National Food Research Institute, NARO）

B215 Moving boundary problem for solid-liquid interface during thawing of food with freezing point depression by freeze concentration ○ARAKI Tetsuya（Tokyo Univ.）

14:50 ～ 16:50 OS-10(2) [Chairperson:Shigeaki Ueno（Saitama University）,Ryo Shirakashi（The University of Tokyo）]

B221 [KEYNOTE] Dielectric Spectroscopy of biological water ○SHIRAKASHI Ryo（Institute of Industrial Science, The University of Tokyo）

B222 The feedback of CFD analysis on complicated air flow to the optimally-designed model structure of industrial large scale food freezer ◎MASUDA Kazunori（MAYEKAWA MFG. CO., LTD.）,SATOH Hiroshi,TSUBATA Kouichi,MAENO Kazuo（NIT, Kisarazu College）

B223 Study on effective food cooling by considering the characteristics of air flow from coolers ○WATANABE Manabu（Tokyo University of Marine Science and Technology）,BABA Yota,SUZUKI Toru

B224 Simultaneous heat and mass transfer during thawing and heating of beef using superheated steam ○ARAKI Tetsuya（Tokyo Univ.）

B225 Acceleration of drying at frozen condition by utilizing temperature fluctuation ◎YAMADA Ryosuke（Tokyo University of Marine Science and Technology）,SUZUKI Toru,WATANABE Manabu

Room C 22 October (Thu.)

Organized Session OS-7
"Desiccant/Humidity Control/Open Cycle Air Conditioning"
Organizers: Takahiko Miyazaki (Kyushu Univ.), Mitsuhiro Kubota (Nagoya Univ.), Takuya Tsujiguchi (Kanazawa Univ.), Seiichi Yamaguchi (Waseda Univ.)

09:30～10:50 OS-7(3) [Chairperson: Takahiko Miyazaki (Kyushu Univ.)]

C211 Withdrawn

C212 Development of Desiccant Air Conditioning System using Wakkanai Siliceous Shale Part 21: Summer period performance evaluation of a detached house installed with a ground source heat pump and desiccant ventilation unit in a cold region◎OGURA Ryo（Hokkaido Univ. Faculty and Graduate School of Engineering, Environmental System Research Lab., Human Environmental Systems ）,NAGANO Katsunori,NAKAMURA Makoto,TOGAWA Junya,SATO Reo,NABESHIMA Yuki（Toyohashi University of Technology Department of Architecture and Civil Engineering）,AOKI Chiemi（Frontier Ltd.）,NIKI Kohsuke（Sunpot Ltd.）,FURUKAWA Osamu

C213 Development of Desiccant Air Conditioning System using Wakkanai Siliceous Shale, Part 22:Experimental Study of The Odor Transfer of the Elements in The Desiccant Ventilation Unit. ○AOKI Chiemi（Techno Frontier Co.Ltd.）,NAKAMURA Makoto （ Hokkaido Univ. ） ,NAGANO Katsunori,TOGAWA Junya,KOMAKI Ayumi,NABESHIMA Yuki（Toyohashi University of Technology）

C214 Development of Desiccant Air Conditioning System using Wakkanai Siliceous Shale, Part 23 Desiccant rotor performance examination based on the effect of a purge zone ◎NABESHIMA Yuki（Toyohashi Univ. of Technology ）,KOMAKI Ayumi （ Hokkaido Univ. ） ,NAKAMURA Makoto,NAGANO Katsunori,NAKAJIMA Toshimitsu（Techno frontier Co.,Ltd. ） ,AOKI Chiemi,TOGAWA Jun-ya （Wakkanai green factory Co.,Ltd.）

Organized Session OS-7
"Desiccant/Humidity Control/Open Cycle Air Conditioning"
Organizers: Takahiko Miyazaki (Kyushu Univ.), Mitsuhiro Kubota (Nagoya Univ.), Takuya Tsujiguchi (Kanazawa Univ.), Seiichi Yamaguchi (Waseda Univ.)

14:50～16:10 OS-7(4) [Chairperson: Takuya Tsujiguchi (Kanazawa Univ.)]

C221 Withdrawn

C222 Evaluation of theoretical performances of Maisotsenko cycle air-conditioning systems with dehumidification ○MIYAZAKI Takahiko（Kyushu Univ.）,KOYAMA Shigeru,MAISOTSENKO Valeriy S.（Idalex and Coolerado）

C223 The study on Ventilation System equipped with a desicant, Evaluation of energy-saving and thermal environment ○KAWANAMI Takayuki （ Topre corporation）,SAWACHI Takao（National Institute for Land and Infrastructure Management）,KUWASAWA Yasuo（Building Research Institute）,TSUDA Takashi （Topre corporation）,MORIMOTO Shimpei

C224 Performance Test of Hybrid Dryer, PARK Seungtae （ Air Tech Engineering Co., Ltd. ） ,○LEE Hyunju,HONG Kyoungsu,KIM Youngil （ Seoul National Univ. of Science and Technology）,YU Youngwoo

Room D 22 October (Thu.)

General Session GS

09:10～10:50 GS-1(2) [Chairperson: Hisashi MIURA (National Institute for Land and Infrastructure Management)]

D211 Development of a Method for On-Site Evaluation of VRF System (1st Report) ◎ SUGIYAMA Yuki （ Tokyo University of Marine Science and Technology）,KAMETANI Shigeki

D212 Study on estimating an hourly energy consumption of buildings using DECC and Building Energy Simulation Tool ◎TSUNEKAWA Hiroki（Tokyo University of Marine Science and Technology）,KAMETANI Shigeki

D213 Study on concentrated solar photovoltaic and solar thermal cogeneration system ○DANG Chaobin（The University of Tokyo）,IWASAKI Sukai,HIHARA Eiji

D214 Effect of distribution ratio of light and heat energy of illumination device on air-conditioning load of plant factory ○MORIUCHI Koji（Seiken Co., Ltd.）,UEDA Yasushi,YOSHIDA Atsumasa （ Osaka Prefecture University）,KINOSHITA Shinichi

D215 Verification of Variable Fresh Air Volume System using Aluminum Heat Exchanger ○TOMURO Yasuhiro（Sanken Setsubi Kogyo Co.,Ltd.）,SATO Hideki

International Session IS-1
"Advancement in HVAC&R in Asia"

14:50～16:30 IS-1(2) [Chairperson:TAIRA Shigeharu (DAIKIN INDUSTRIES)]

D221 Study of Air-Water Two-Phase Flow in a Plate Heat Exchanger ○MAHMUD Mohammad Sultan（Saga Univ. ）,KAWAZOE Akitoshi,KARIYA Keishi,MIYARA Akio

D222 Adopting the Transient CFD Technique to Simulate the Flow Characteristics of a Blower ○KUAN Yean-der （ National Chin-Yi University of Technology）,HUANG Jeng-min（KENDA RUBBER Industrial Co. Yuanlin Township）,WONG Jia-hong （ National Chin-Yi University of Technology）,SUNG Min-feng

D223 On the minimization of oxygen concentration and moisture content inside a 450 mm wafer box (front opening unified pod (FOUP)) when FOUP door is in open condition ○LIN Ti（National Taipei University of Technology ）,HU Shih-cheng,YANG Young-tung,SHIUE Angus

D224 Performance Evaluation of Absorption Chiller Using Solar Energy in Tropical Regions ○ARNAS（Waseda Univ.）,JEONG Jongsoo,SAITO Kiyoshi,YABASE Hajime,ALHAMID Muhammad （ Indonesia Univ.）,NASRUDDIN Nasruddin

D225 Performance Analysis of a Single Stage Compressor Air-Source Heat Pump Utilizing a Flash Tank Vapor Injection under Different Operating Conditions ○LUO Win-jet （ Dept. of Refrigeration, Air Conditioning Engineering, National Chin-Yi University of Technology ）,LAI Jin-chang,LIN Jia-ming

Room E 22 October (Thu.)

Organized Session OS-1
"Present Status and Future Development of Compressor"
Organizers: Mitsuhiro Fukuta (Shizuoka Univ.), Tsutomu Nozaki (Hitachi Ltd.)

09:50 ～ 10:50 OS-1(1) [Chairperson: Kazuhiro FURUSHOU (DAIKIN INDUSTRIES):]

E211 Study of measurement of mechanical loss of linear compressor ◎KINO Kyohei （ Shizuoka Univ.）,FUKUTA Mitsuhiro,MOTOZAWA Masaaki

E212 Hydrodynamic Lubrication Analysis in Sliding Bearing of Refrigeration Compressors ◎IKEDA Yoshimi （ Mitsubishi Electric Co. ）,SASAKI Tatsuya,NAKAO Hideto,TAKAMURA Yuji

E213 Effect of Surface Texturing on Crank Shaft for Reciprocating Compressors in Refrigerator ◎NAGATA Shuhei（Hitachi Ltd.）,SEKIYAMA Nobuya,KANOU Masakazu（Hitachi Appliances, Inc.）

Seminar SN-1 "Seminar on compressor technology"
Moderators: Kenji TOJO (TOJO R&D Design office), Takashi Morimoto (Panasonic)

14:50～16:50 SN-1 [Chairperson: Kenji TOJO (TOJO R&D Design office), Takashi Morimoto (Panasonic)]

E221 ECS STEP2 ○OGATA Gota （ DENSO CORPORATION）,SUZUKI Tatsuhiro

E222 Hybrid Air-Conditioning System for Data Centers ○UDAGAWA Yosuke （ NTT FACILITIES ）,SEKIGUCHI Keisuke,KOHATA Yuji,YANAGI Masahide,NAITO Yasuhiro（Hitachi Appliances）

E223 Exploitation of Additive Manufacturing and Materials Development. ○KUWABARA Kosuke（Hitachi Ltd.）,FUJIEDA Tadashi,KATO Takahiko

E224 Technology status on air conditiong systems for train ○SHIRAISHI Kazuhiko （ Mitsubishi Electric Corporation）

-------- #3 Day -----

Room A 23 October (Fri.)

Organized Session OS-2
"Technological Development in Heat Exchangers"
Organizers: Masafumi Hirota (Mie Univ.), Norihiro Inoue (Tokyo Univ. Marine Sci. & Tech.), Naoe Sasaki (Nihon Univ.)

09:20～11:00 OS-2(4) [Chairperson:Kousaku NISHIDA (Mayekawa Mfg. Co., Ltd.)]

A311 Effect of Fin Geometry on Condensation Heat Transfer and Flow Mode on Enhanced Surface Tubes ◎AKADA Ikuro（Tokyo University of Marine Science and Technology）,NOGUCHI Terutaka,JIGE Daisuke,INOUE Norihiro,MATSUNO Tomonobu（Kobelco & Materials Copper Tubes Co. LTD.）

A312 Condensation heat transfer of R1234ze(Z) on a vertical finned surface ◎FUKUDA Sho（kyushu Univ. ） ,ZHANG Hongcheng （ Kyushu Univ.）,TAKATA Nobuo,MATSUMOTO Tatsuya,九州大学 Kyushu Univ.

A313 Condensation Characteristics of Refrigerant Mixture R245fa/R134a in a Horizontal Smooth Tube ◎KURAYAMA Shin（Tokyo University of Marine Science and Technology ） ,WATANABE Kazuhide,JIGE Daisuke,INOUE Norihiro

A314 Condensation Heat Transfer and Pressure Drop of R32 inside an Internally Grooved Small-diameter Tube,Condensation Characteristics in Range of Low Mass Velocities ◎HIROSE Masataka （ Tokyo University of Marine Science and Technology）,FUJIMA Kouhei,JIGE Daisuke,INOUE Norihiro,HABA Tsuneo （ Kobelco & Materials Copper Tube CO., LTD）

A315 Condensing Heat Transfer Characteristic in Quadrilobed tube for Heat Pump ◎KAWAGUCHI Taihei（Kobe Univ.）,ASANO Hitoshi,TAKEDA Nobuhiro（Noritz）,KONDO Masaki,NISHIMURA Kazuhiro

13:00～14:40 OS-2(5) [Chairperson: Masafumi Hirota (Mie Univ.)]

A321 Experimental Study on Boiling and Condensation Heat Transfer in a Minichannel ◎NAKAISO Kyosuke（Saga Univ.）,KUDO Yasuhiro,KARIYA Keishi,MIYARA Akio

A322 Evaporation Heat Transfer and Pressure Drop of R32 in 4mm OD Microfin Tubes ◎SAGAWA Kentaro （ Tokyo University of Marine Science and Technology ） ,JIGE Daisuke,INOUE Norihiro,TAKAHASHI Hiroyuki （ Kobelco & Materials Copper Tube Co., Ltd）

A323 Evaporation Characteristics of Refrigerant Mixture R245fa/R134a in a Horizontal Smooth Tube ◎WATANABE Kazuhide （ Tokyo University of Marine Science and Technology ） ,KURAYAMA Shin,JIGE Daisuke,INOUE Norihiro

A324 Experimental Study on Evaporation of Refrigerant R1234yf in a Horizontal Micro-fin Tube ○NAKAMURA Shingo（Kyushu univ.）,MISHIMA Fumiya （ Kobelco & Materials Copper Tube LTD）,KONDOU Chieko（Nagasaki Univ.）,TAKATA Nobuo（Kyushu Univ.）,KOYAMA Shigeru

A325 Enhancement of pool boiling heat transfer of R1234ze(Z) on titanium tubes ◎NAGATA Ryuichi（Kyushu Univ.）,TESHIMA Kenichiro,KONDOU Chieko （ Nagasaki Univ. ） ,KOYAMA Shigeru（Kyushu Univ.）

General Session GS

15:00～17:00 GS-1(3)

A331 Application to the new heating medium of low environmental load type ionic liquids with high specific heat capacity ○KANEKO Kotaro（MIYOSHI OIL & FAT CO.,LTD.）,KAWAI Koji

A332 Study of condensation liquid jumping phenomena on a superhydrophobic surface YOSHIMURA Shun （ The University of Tokyo ） ,○DANG Chaobin,HIHARA Eiji

A333 Experimental Study on Influence of Wettability on Liquid Film Thickness of Slug Flow in Small Circular tube ◎YOSHINAGA Yuki （ The University of Tokyo）,DANG Chaobin,HIHARA Eiji

A334 Study of geothermal heat recovering corrugate thermos-syphon for CO_2 refrigerating system for cold climate district, Geometrical effect of corrugate pipe and effect of the ground surface temperature profile on heat pump ◎ SUGIURA Akiho （ Waseda Univ. ） ,KATSUTA Masafumi,NOHTOMI Makoto,SATOU Sou

A335 Effect of Inner Grooved Tube Shape on Performance Characteristics of Heat Exchanger ○MOROI Tsutomu（UACJ）,SANUKI Noriyoshi（UACJ Copper Tube）,HOUFUKU Mamoru（UACJ）

A336 Evaluation of R32 refrigerant concentration during its leakage from residential-use split-type and multi-split type air conditioners FUKUOKA Motohiko（DAIKIN INDUSTRIES, LTD.）, ◎ HATTORI Keita,TOMIOKA Keiji,MURATA Katsunori,TAIRA Shigeharu

Room B 23 October (Fri.)

Organized Session OS-10 "Refrigeration and Freezing of Foods and Biomaterials" Organizer: Shigeaki Ueno (Saitama Univ.), Toru Suzuki (Tokyo Univ. of Marine Science and Technology)

09:20～11:00 OS-10(3) [Chairperson: Rei Saito (JAPAN SUN OIL COMPANY,LTD.)]

B311 Study of quality changes during frozen storage in frozen soy bean gel prepared by supercooled freezing method ○KOBAYASHI Rika（Tokyo University of Marine Science and Technology ） ,WATANABE Manabu,SUZUKI Toru

B312 Effect of nonthermal treatment on internal structure and food constituent of soybean ◎SASAO Shoji （Graduate School of Agricultural and Life Sciences, The University of Tokyo）,ARAKI Tetsuya,IRYO Natsuko（Saitama University）,UENO Shigeaki

B313 Study on osmotic dehydrofreezing of fruits ○KAWAI Kiyoshi（Hiroshima Univ.）,NAGAMATSU Rie,KODAMA Airi,HAGURA Yoshio

B314 Study of freezing damage in Lactobacillus delbrueckii subsp.bulgaricus ◎SEKIGUCHI Yuki（Tokyo University of Marine Science and Technology）,WATANABE Manabu,SUZUKI Tooru

B315 Quantative Prediction of Changes of Quality in Food during Freezing and Thawing ○TADA Yukio（Kanazawa Univ.）,NAKA Nobuyuki（JFE Steel Corp.）,ONISHI Hajime（Kanazawa Univ.）

13:00～14:40 OS-10(4) [Chairperson:Toru Suzuki（Tokyo University of Marine Science and Technology）,Shigeaki Ueno（Saitama University）]

B321 [KEYNOTE] Non-destructive Observation of Ice Structure in Frozen Food by X-ray CT with Synchrotron Radiation ○SATO Masugu（Japan Synchrotron Radiation Research Institute）

B322 Ice Recrystallization of Suspended aqueous solution ○KIMIZUKA Norihito（Miyagi Univ）

B323 Measurement of ice crystals within cooked rice during long-term frozen storage ◎YAMAMOTO Reto（College of Bioresource Sciences, Nihon University）,DO Gabsoo,SONG Min-seok（CJ Japan Corporation）,KANG Ki-moon（CJ ChilJedang Corporation）,SASE Sadanori（College of Bioresource Sciences, Nihon University）

B324 Study on the Thawing Conditions of Shari in Frozen Nigiri Sushi ○SUZUKI Toru（Tokyo University of Marine Science and Technology）,MIZUKOSHI Chiho,KOMICHI Yushi

15:00～16:20 OS-10(5) [Chairperson:Manabu Watanabe（Tokyo University of Marine Science and Technology）]

B331 Effect of Antifreeze polysaccharide on the quality of Refrigeration fish ○KAWAHARA Hidehisa（Kansai Univ.）,ENOMOTO Karin,MIZOBATA Yukari,SUMITOMO Mariko

B332 Purification of antifreeze protein from Pacific cod Gadus microcephalus caught in Tohoku area sea ◎TAGUCHI Takamaro（Tokyo Univ.Marine Sci. & Technol.）,TAKAHASHI Kouki,SHIBATA Mario,HAGIWARA Tomoaki

B333 Intermediate purification of antifreeze protein from Hippoglssoides dubius Schimidt and Pseudopleuronectes yokohamae caught in Tohoku area sea and their characteristic analysis ◎TAKAHASHI Koki（Tokyo Univ.Marine Sci. & Technol.）,TAGUCHI Takamara,SHIBATA Mario,HAGIWARA Tomoaki

B334 Effect of freezing storage on high pressure inactivation of E.coli in liquid whole egg with sucrose ○HAYASHI Mayumi（Niigata University of Pharmacy and Applied Life Sciences (NUPALS)）,IGUCHI Akinori,SHIGEMATSU Toru,UENO Shigeaki（Saitama University）

16:40～18:00 OS-10(6) [Chairperson:Tetsuya Araki（The University of Tokyo）]

B341 Effect of processing and storage conditions on imidazole dipeptide content in chicken breast ◎NAGATA Kimika（Saitama University）,IRYO Natsuko,SHIMADA Reiko,UENO Shigeaki

B342 Effect of freezing on the quality of octopus, NAGAI Mami（Saitama University）,◎AOYAMA Haruka,UENO Shigeaki

B343 Optimization of thawing method of squid in cooking ◎SHIBATA Naomi（Gifu Univ.）,FUJII Remi,SUZUKI Toru（Tokyo University of Marine Science and Technology）

B344 Study on the changes in the nucleic acid-related substances and amino acids of shellfish by freezing process ◎SOPAJITWATANA Thunyaporn（Tokyo University of Marine Science and Technology）,THANATUKSORN Pariya,SUZUKI Toru

Room C 23 October (Fri.)

Organized Session OS-6
"Refrigerators/Heat Pumps based on Absorption, Adsorption or Chemical Reactions"
Organizers: Atsushi Akisawa (Tokyo Univ. of Agriculture and Technology), Nobuya Nishimura (Osaka City Univ.), Kiyoshi Saito (Waseda Univ.), Yoshinori Hamamoto (Kyushu Univ.)

09:20 ～ 11:00 OS-6(3) [Chairperson:Yoshinori Hamamoto (Kyushu Univ.)]

C311 Effect of Particle Size of Silica-gel on Enhancement of Moisture Adsorption Rate by Sound Wave ◎MASUDA Yasuyuki（Tokyo Univ. of Agriculture and Technology）,OKUBO Kenichi（Graduate School of Tokyo Univ. of Agriculture and Technology）,UEDA Yuki,AKISAWA Atsushi

C312 Adsorption and Heat Transfer Characteristics of Particle Packed Bed in the HFC-134a/Activated Carbon ○MATSUDA Takayuki（Nagoya Univ.）,KOBAYASHI Noriyuki,ESAKI Takehiro,KUWATA Kazuki

C313 Water vapor adsorption characteristics of a densified mesoporous silica adsorbent ◎YAMAWAKI Naohiro（Kanazawa Univ.）,OYA Takumi,SUWA Yuji,KUMITA Mikio,HIGASHI Hidenori,SETO Takafumi,OTANI Yoshio

C314 Study on Adsorption Heat Pump using Natural Mesoporous Material, part-1 Outline of Research work and Evaluation of Cooling Capacity using Laboratory scale Heat Exchanger with Adsorbent ○TOGAWA Junya（Hokkaido Univ.）,MORITA Atsushi,LIU Hongzhi,NAKAMURA Makoto,NAGANO Katsunori,KUROISHI Hiroaki（Nihon Netsugen Systems CO.,LTD.）,HARADA Katsuhiko

C315 Study on Adsorption Heat pump using Natural Mesoporous Material, Part 2 : Evaluation of Water Vapor Sorption / Desorption Characteristics of Chloride Impregnated Adsorbent under Vacuum Condition ◎MORITA Atsushi（Hokkaido Univ.）,TOGAWA Jyunya,LIU Hongzhi,NAKAMURA Makoto,NAGANO Katsunori

Workshop WS-3
"Smart City with Thermal Energy Network Technologies"
Moderators: Atsushi Akisawa (Tokyo Univ. of Agriculture and Technology), Akio Kodama (Kanazawa Univ.), Kiyoshi Saito (Waseda Univ.), Yukitaka Kato (Tokyo Institute of Technology)

13:00～15:30 WS-3

C321 [KEYNOTE] The future of the smart energy systems ○KASHIWAGI Takao（Tokyo Institute of Technology）

C322 The Role of Demand Response in Power System Operation ○ASANO Hiroshi（Central Research Institute of Electric Power Industry）

C323 Examples of Smart Energy Networks ○SHINJI Takao（Tokyo Gas Co.,Ltd）

C324 Home energy management synchronized with community energy balance ○MURAKAMI Tomoyuki（Sekei University）

C325 Thermochemical Energy Storage for efficient heat recovery and utilization ○KATO Yukitaka（Tokyo Institute of Technology）

C326 Case Study: Feasibility Study in Honjoh Smart Community Town Concept for the Next Generation Commercial Facility ○KATSUTA Masafumi（Waseda University）

Organized Session OS-6
"Refrigerators/Heat Pumps based on Absorption, Adsorption or Chemical Reactions"
Organizers: Atsushi Akisawa (Tokyo Univ. of Agriculture and Technology), Nobuya Nishimura (Osaka City Univ.), Kiyoshi Saito (Waseda Univ.), Yoshinori Hamamoto (Kyushu Univ.)

15:50 ～ 17:10 OS-6(4) [Chairperson:Chaobin DANG (The University of Tokyo)]

C331 Effect of Controllability and Refrigerant and Solution Receiver on 10000 m Transport Pipe of Solution Transportation Absorption Chiller Using NH_3-H_2O: Dynamic Simulation ◎WATANABE Fumi（Graduate School of Tokyo Univ. of Agriculture and Technology）,TANAKA Seigo（TORAY Industries, Inc.）,ENOKI Kouji（The Univ. of Electro-Communications）,AKISAWA Atsushi（Graduate School of Tokyo Univ. of Agriculture and Technology）,TAKEI Toshitaka

C332 Performance evaluation of double-lift absorption heat transformer assumed to generate 180℃ vapor ◎SAKAMOTO Takeru（Waseda Univ.）,YAMAGUCHI Seiichi,SAITO Kiyoshi,INOUE Naoyuki（Waseda Univ. Research Institute）

C333 Characteristic Analysis of Solar-assisted Absorption Air-conditioning System, Comprehensive evaluation of solar energy utilization ◎NAKAGAWA Hiroyuki（Graduate school of Eng. Osaka City Univ.）,NISHIMURA Nobuya（Osaka City Univ.）,TERAO Kazutaka（Osaka Gas Co.Ltd）

C334 Performance of Solar Air-conditioning System in Indonesia ○YABASE Hajime（Waseda University）,HIRAI Akira（Kawasaki Thermal Engineering）,SAITO Kiyoshi（Waseda University）,JEON Jongsoo,OHNO Keisuke,ARNAS

Room D 23 October (Fri.)

Organized Session OS-3
"System Performance Improvement of Heat Pumps"
Organizers: Rei Saito (JAPAN SUN OIL COMPANY,LTD.), Masato Yosomiya (MITSUBISHI ELECTRIC CORPORATION)

10:00～11:00 OS-3(1) [Chairperson: Rei Saito (JAPAN SUN OIL COMPANY,LTD.)]

D311 Development and Field Measurements of Heat Recovery Type Heat Pump for Industrial Use MIYAOKA Yoichi（Chubu Electric Power Co.,Inc.）,NAGAMATSU Katsuaki,IWATA Tomohiro,

○ MATSUSHITA Kaoru （ Toshiba Carrier Corporation）,IBA Isao

D312 Deveropment of Hybrid Variable Refrigerant Flow ○TAKENAKA Naofumi（Advanced Technology R&D Center,Mitsubishi Electric Corporation）,WAKAMORO Shinichi,MOTOMURA Yuji（Air-Conditioning & Refrigeration System Works, Mitsubishi Electric Corporation）,YAMASHITA Koji（Head Quarters, Mitsubishi Electric Corporation）

D313 Evaluation of compression type heat pump which considering frost phenomenon on heat exchanger ◎YOKOTA Kentaro （ Waseda Univ. ）,ONO Keisuke,SAITO Kiyoshi,MIYAOKA Youichi（Chubu Electric Power Co., Inc.）,NAGAMATSU Katsuaki

13:00～14:00 OS-3(2) [Chairperson: Masato Yosomiya (MITSUBISHI ELECTRIC CORPORATION)]

D321 Performance Test of Heat pump Hot-air Dryer, PARK Seungtae（Air Tech Engineering Co., Ltd.）,○LEE Hyunju,HONG Seokgyun,LEE Hojoon（Korea Food Research Institute）,JEONG Mooncheol

D322 Development of the Evaporator Composed of Refrigerant Tube with 5mm Outer Diameter for CO_2 Refrigerant Heat Pump Water Heater ◎WATANABE Michiharu（Hitachi, Ltd., Research & Development Group, Center for Technology Innovation -Mechanical Engineering ）,ISHIZAKI Satoshi （Hitachi Appliances, Inc.）,KITAMURA Tetsuya

D323 Development of Gas-Liquid Two-Phase Flow Distributor for Improving Energy Efficiency in Air-Conditioners ○AOKI Yasutaka （ Mitsubishi Heavy Industries, Ltd.）,ITO Takahide,ICHIKAWA Gento,ITAMOTO Takao

Workshop WS-1
"Globalization and Internet of Heat Pumps"
Moderators: Toyotaka Hirao （Mitsubishi Heavy Industries）, Fumino Matsuoka （Heat Pump Inc.）

14:20～15:20 WS-1(1) [Chairperson: Fumino Matsuoka （Heat Pump Inc.）]

D331 [KEYNOTE] Automated Demand Response Aggregation and Building Energy Management System ○NINAGAWA Chuzo（GIFU Univ.）

D332 Development of Low-GWP Alternative Refrigerants ○FUKUSHIMA Masato（ASAHI GLASS）

15:30～17:00 WS-1(2) [Chairperson: Toyotaka Hirao （Mitsubishi Heavy Industries）]

D341 Air-conditioning and remote management system ○NAKATA Masanori （ Mitsubishi Electric ）,YOSOMIYA Masato,SAKAMOTO Tadaaki

D342 [KEYNOTE] Recent Trends of M2M System Technology to Support Smart Society-M2M Network Technology- ○INOUE Masahiro（Shibaura Institute of Technology）,KITAGAMI Shinji（MITSUBISHI ELECTRIC BULIDING TECHNO-SERVICE）

D343 [KEYNOTE] Recent Trends of M2M System Technology to Support Smart Society ― M2M Platform Technology ― ○KITAGAMI Shinji （ MITSUBISHI ELECTRIC BULIDING TECHNO-SERVICE）,INOUE Masahiro（Shibaura Institute of Technology）

Room E 23 October (Fri.)

Organized Session OS-5
"Simulation Techniques for Air-conditioners, Chillers and Heat Pump Water Heaters"
Organizers: Kiyoshi Saito (Waseda Univ.)
Masayuki Nonaka (Hitachi Appliances)

09:40～11:00 OS-5(3) [Chairperson: Masayuki Nonaka (Hitachi Appliances)]

E311 Refrigerant leak simulation of compression type heat pump ◎OHNO Keisuke（waseda univ.）,SAITO Kiyoshi

E312 Metaphysics simulation of heat pump and thermal environment for vending machine ○FUSHINO Tomoyuki（Waseda Univ.）,OHNO Keisuke,SAITO Kiyoshi,TSUCHIYA Toshiaki （FUJI ELECTRIC Co.）,HORIGUCHI Tsuyoshi

E313 Study on High Efficiency Air Conditioner for Data Centers, Part1: High-precision Mathematical Modeling ○UDAGAWA Yosuke（NTT FACILITIES, Inc.）,FUTAWATARI Naoki,KOHATA Yuji,YANAGI Masahide,SAITO Kiyoshi （ WASEDA University）,OHNO Keisuke,OKUMURA Kenta

E314 Study on High Efficiency Air Conditioner for Data Centers, Part2: Static Characteristic Analysis ◎FUTAWATARI Naoki （ NTT FACILITIES, Inc.）,UDAGAWA Yosuke,KOHATA Yuji,YANAGI Masahide,SAITO Kiyoshi （ WASEDA University）,OHNO Keisuke,OKUMURA Kenta

Organized Session OS-1
"Present Status and Future Development of Compressor"
Organizers: Mitsuhiro Fukuta (Shizuoka Univ.), Tsutomu Nozaki (Hitachi Ltd.)

13:00 ～ 14:00 OS-1(2) [Chairperson:Tsutomu Nozaki (Hitachi Ltd.)]

E321 A study on the flow characteristics of the oil viscosity pump for refrigerant compressor ◎DOI Manabu（Hiroshima Institute of Technology）,SAWAI Kiyoshi,ISHII Noriaki （ Osaka Electro Communication University ） ,IIDA Noboru （Panasonic Corporation）,KINJO Kenji

E322 Surface tension measurement of oil/refrigerant mixture by maximum bubble pressure method ◎SUMIYAMA Junki（Shizuoka Univ.）,FUKUTA Mitsuhiro,MOTOZAWA Masaaki

E323 DEVELOPMENT OF HIGH EFFICIENCY AND LARGE CAPACITY SCROLL COMPRESSOR FOR VRF SYSTEMS ○TAKASU Yogo （ MITSUBISHI HEAVY INDUSTRIES,LTD.）,SATO Hajime（ITSUBISHI HEAVY INDUSTRIES,LTD. ） ,KIMATA Yoshiyuki,TAKAHASHI Kazuki,TATEISHI Taichi

Organized Session OS-9
"Heat and Mass Transport Phenomena with Solid-Liquid Phase Change"
Organizers: Yoshikazu Teraoka (Kanazawa Univ.), Tatsunori Asaoka (Shinshu Univ.)

14:20～15:40 OS-9(1) [Chairperson: Tatsunori Asaoka (Shinshu Univ.)]

E331 Investigation on Rapid Prediction Method of Freezing Process by using Transient Thermal Network Method ○FUKUE Takashi （ Iwate Univ.）,HIROSE Koichi,KONISHI Kenta

E332 Study on Solid-Liquid Phase Change Problem around Heat Transfer Tubes, Ice Bridging Phenomena around Two Elliptical Tubes ◎WANG Qiangsheng（Graduate School of Iwate Univ.）,HIROSE Koichi（Iwate Univ.）,FUKUE Takashi,ZHANG Qingming（Graduate School of Iwate Univ.）

E333 Investigation on influence of dimensions of ice containing ozone MB on concentration of ozone gas released due to melting ◎SEKINE Koki（Chuo Univ. ） ,MATSUMOTO Koji,FURUDATE Yuta,MINAMIYA Kazuyuki（Chuo Univ）

E334 Freeze-Concentration by ice making system using metallic belt, Effect on the partition coefficients changing initial concentration and each temperature condition ○TAMURA Akira （ Kanazawa Univ.）,TERAOKA Yoshikazu,OKA Kunihiro

16:00～17:20 OS-9(2) [Chairperson: Yoshikazu Teraoka (Kanazawa Univ.)]

E341 Melting Characteritics of Sodium Acetate Trihydrate – Water Mixture ○HIRASAWA Yoshio （ Univ. TOYAMA）,KOJIMA Hiroki

E342 Influence of submicro-bubble on freezing of supercooled water using ultrasonic waves ◎TSUCHIYA Mitsumasa（Tokyo Tech）,YAKOU Jun,OKAWA Seiji,HOZUMI Tsutomu

E343 Velocity Profile Mesurement of Ice slurry in Pipe Flow using UVP ◎SONO Keima（Aoyama Gakuin Univ）,MAKINO Yuki,KUMANO Hiroyuki

E344 Investigation of Operation Method of Absorption Refrigerator for Ice Slurry Formation ◎ENDO Yusuke （ Shinshu Univ. ） ,HUANG Chengcheng,ASAOKA Tatsunori