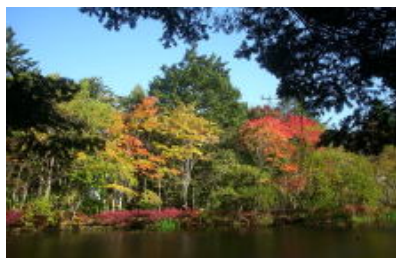


ICSST08

8th International Conference on Separation Science and Technology

October 2-4, 2008 Karuizawa, Nagano Japan

Venue: Karuizawa In-service Training Institute, Nihon University



Sessions

○Fundamental sessions

- Phase Equilibria
- Distillation and Absorption
- Crystallization
- Adsorption
- Membrane Separation and Fluid-Solid Separation
- Extraction and Super Critical Fluid Technology

○Application sessions

- Material Processing
- Environmental and Recycling
- Bio-Separation
- Energy and Resources
- Soft-ware Technology

Organized by:

The Society of Separation Process Engineers, Japan
and The Division of Separation Technology, The Korean Institute of Chemical Engineers

Organization

Conference chairs	Toshihiko Hiaki (Nihon Univ.)	Hee Moon (Chonnam Nat.Univ.)
Program chairs	Izumi Hirasawa (Waseda Univ.)	Jae-Wook Lee (Chosun Univ.)
Organizing Committee	Masakuni Matsuoka (TUAT) Kazuyuki Chihara (Meiji Univ.) Kunio Nagahama (Tokyo Metropolitan Univ.) Yasushi Takeuchi (Meiji Univ.) Ikuho Yamada (Nagoya Inst. Tech.) Ken Toyokura (Waseda Univ.) Kenji Ochi (Nihon Univ.)	Youn Yong Lee (KIST) Hyun-Ku Lee (Seoul Nat. Univ.) Kun-Yoo Park (KIST) Chul-Soo Lee (Korea Univ.) Chang Kyun Choi (Seoul Nat. Univ.) Won-Hi Hong (KAIST) Hwa-Yong-Kim (Seoul Nat. Univ.) Soon-Haeng Cho (KIER) Sung-Hyun Kim (Korea Univ.) Ki-Pung Yoo (Sogang Univ.)

Organization Chairs

Fundamental Session

A	Phase Equilibria	Hideo Nishiumi (Hosei Univ.) Kenji Fukuchi (Ube Nat. Col. of Tech.) Tomoya Tsuji (Nihon Univ.) Akio Tsuboi (Mitsubishi Chemical Group)	Jae-Jin Shim (Yeungnam Univ.) Jeong-Won Kang (Korea Univ.) Byung-Chul Lee (Hannam Univ.) Hun-Soo Byun (Chonnam Nat. Uni.)
B	Distillation / Absorption	Hitoshi Kosuge (Tokyo Inst. Tech.) Hideki Mori (Nagoya Inst. Tech.) Keigo Matsuda (Yamagata Univ.) Akimasa Oda (Nippon Refine Co., Ltd.) Hiromitsu Kojima (Kanagawa Inst. Tech.) Mikio Kawagoe (Nara National Col. Tech.) Akinori Maezawa (Shizuoka University) Yoshiyuki Bando (Nippon Refine Co., Ltd.)	Yong Han Kim (Dong-A Univ.) Jungho Cho (Kongju Nat. Univ.) Hung-Man Moon (Daesung Ind. Gases) Jongkee Park (KIER)
C	Crystallization	Masakuni Matsuoka (TUAT) Hideji Yamamoto (Fukuyama Univ.) Hiroshi Takiyama (TUAT) Kentaro Ohtawara (Kureha Eng. Co., Ltd.)	Woo-Sik Kim (Kyung Hee Univ.) Cheong-Song Choi (Sogang Univ.) Choul-Ho Lee (Kongju Nat. Univ.) Kwang-Joo Kim (Hanbat Nat. Univ.)
D	Adsorption	Hajime Tamon (Kyoto Univ.) Akio Kodama (Kanazawa Univ.) Akinori Muto (Okayama Univ.) Keiichi Asami (Ad'all Co., Ltd.)	Jong-Nam Kim (KIER) Dae-Ki Choi (KIST) Chang-Ha Lee (Yonsei Univ.) Seung-Kon Ryu (Chungnam Nat. Univ.)
E	Membrane Separation / Fluid-Solid Separation	Akira Ito (Niigata University) Mikihiro Nomura (Sibaura Inst. Tech.) Toshinori Tsuru (Hiroshima Univ.) Kanji Matsumoto (Yokohama Nat. Univ.) Eiji Iritani (Nagoya Univ.) Kasuho Nakamura (Yokohama Nat. Univ.) Hisao Makino (CRIEPI)	Yongtaek Lee (Chungnam Nat. Univ.) Seung-Hyeon Moon (GIST) Jeong-Hoon Kim (KRICT) Jong-Hak Kim (Yonsei Univ.)
F	Extraction / Super Critical Fluid Technology	Kenji Takeshita (Tokyo Inst. of Tech.) Atsusi Shono (Tokyo Univ. of Sci.) Shunji Honma (Saitama Univ.) Koichi Narita (AIST) Takeshi Sako (Shizuoka Univ.)	Yoon-Woo Lee (Seoul Nat. Uni.) Yoon-Kook Park (Hongik Univ.) Jong Sung Lim (Sogang Univ.) Jae-Hoon Kim (KIST)

Organization Chairs

Application Session

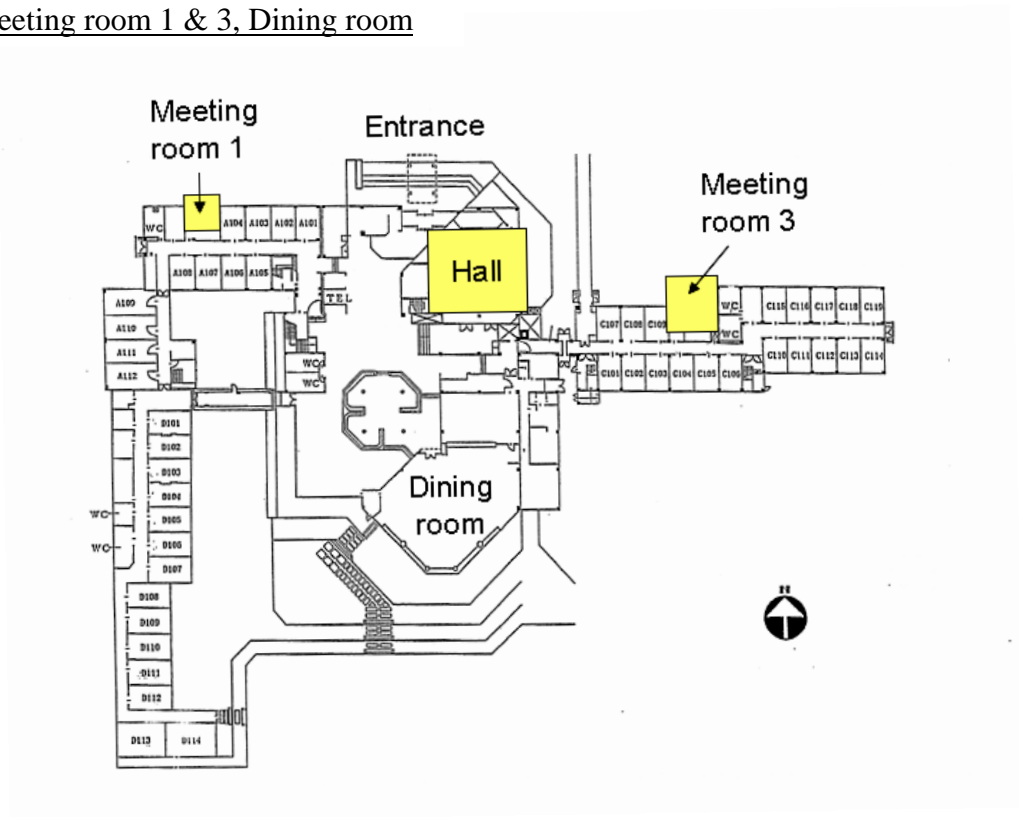
G	Material Processing	Izumi Hirasawa (Waseda Univ.)	Yang-Gon Seo (Gyeongsang Nat. Univ.) Sang-Eun Shim (Inha Univ.) Seung-Tae Koh (Dongyang Unvi.) Tae-Young Kim (Chonnam Nat. Univ.)
H	Environmental and Recycling	Kenji Takeshita (Tokyo Inst. Tech.)	Jong-Ho Park (KIER) Young-Kwon Park (Univ. of Seoul) Jung-Hoon Park (KIER) Hun-Yong Shin (Seoul Nat. Univ. of Tech.)
I	Bio-Separation	Hideki Kohno (Nihon Univ.)	Kyung-Ho Row (Inha Univ.) Yoon-Mo Goo (Inha Univ.) In-Hwa Lee (Chosun Univ.) In-Ho Kim (Chungnam Nat. Univ.)
J	Energy and Resources	Nobuyoshi Nakagawa (Gunma Univ.)	Hyung-Keun Lee (KIER) Byoung-Moo Min (KIER) Jae-Goo Shim (KEPRI) Byung-Hyun Shon (Hanseu Univ.)
K	Soft-ware Technology	Masakazu Sasaki (Toyo Engineering Co.) Masaya Hirohama (Invensys Sys. Japan Inc.) Katsumi Yokoyama (Omega Simu. Co., Ltd.) Katsumi Tochigi (Nihon Univ.)	

Program

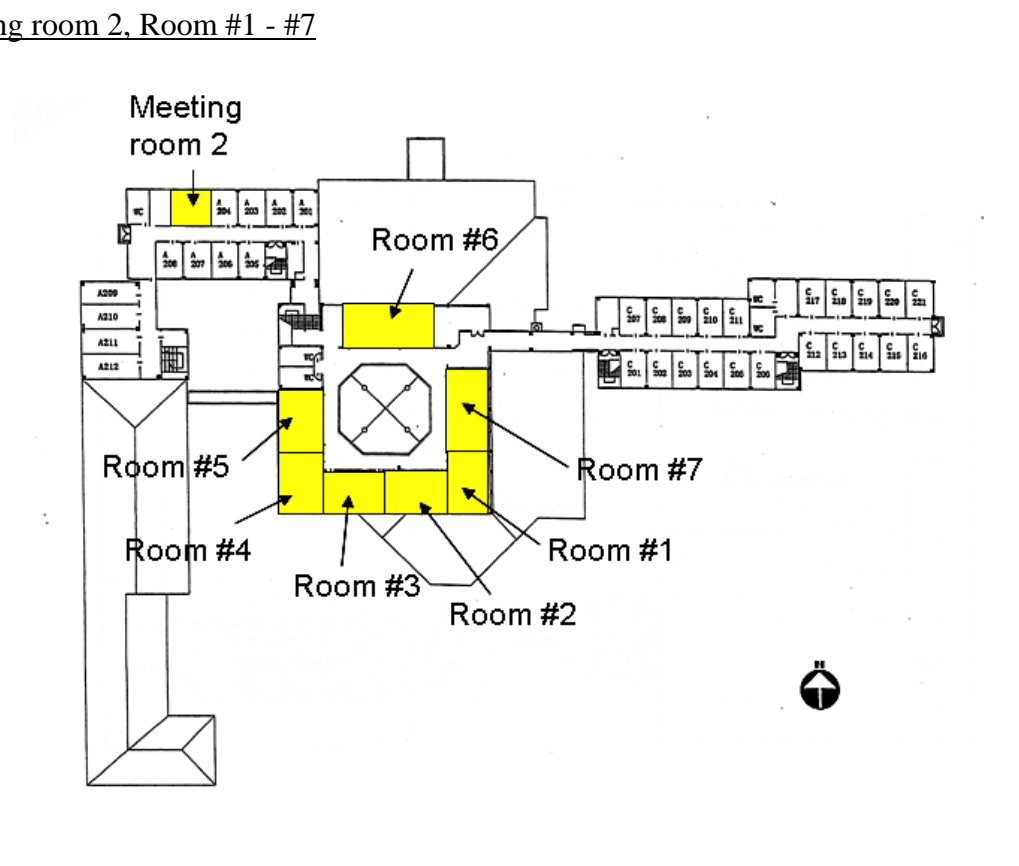
Date	Time	Schedule	
Oct. 2 (Thu)	14:00 – 17:00	Registration	
	17:00 – 18:00	Chair's Meeting	Hall, Room #1 - #7, Meeting Room 1 - 3
	18:00 – 20:00	Welcome Reception	Dining Room
Oct. 3 (Fri)	8:30 – 9:00	Opening Ceremony	Hall
	9:00 – 12:00	Plenary Lecture	Hall
	12:00 – 14:00	Lunch	Technical Luncheon, Committee's Luncheon 1
	14:00 – 17:00	Oral Presentation 1 (Session A, B, C)	Room #3, #5, #6
		Poster Presentation 1 (Session G, H, I, J, K)	Hall, Room #7
17:30 – 19:30	Banquet	Hall	
Oct. 4 (Sat)	8:30 – 11:30	Oral Presentation 2 (Session D, E, F)	Room #3, #5, #6
		Poster Presentation 2 (Session A, B, C)	Hall, Room #7
	11:30 – 13:00	Lunch	Committee's Luncheon 2
13:00 – 16:00	Oral Presentation 3 (Session G, H, I)	Room #5, #6	
	Poster Presentation 3 (Session D, E, F)	Hall, Room #7	

Floor Map

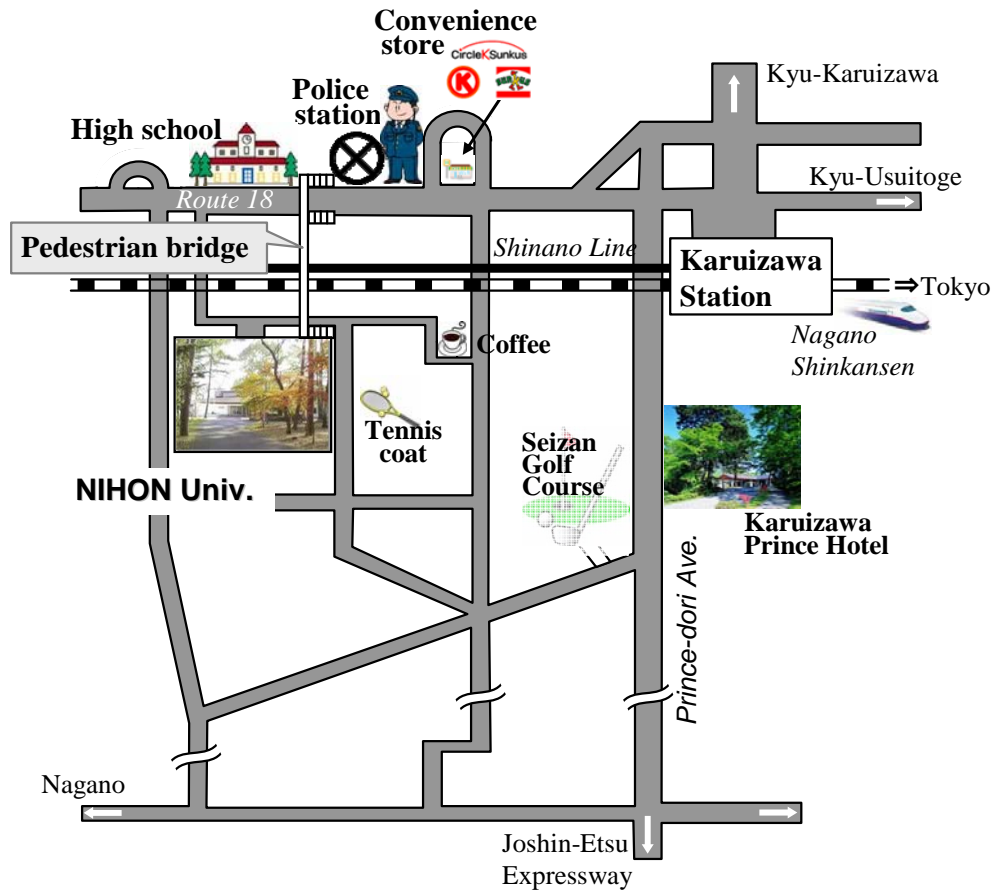
1st floor: Hall, Meeting room 1 & 3, Dining room



2nd floor: Meeting room 2, Room #1 - #7



Access Map



Karuizawa town is located at the east end of Nagano Prefecture and is a hill town that lies at the southeast foot of Mt. Asama (2568m). Mt. Asama with its beautiful ridgeline is situated in the north of the town with mountains as high as 1000m, such as Mt. Hanamagari, Mt. Tomebu, Mt. Ichinoji, Mt. Yagasaki and Mt. Happu. The conference will be held in the Karuizawa In-service Training Institute of Nihon University, which the player of curling stayed with the Nagano Olympic in 1998.

TECHNICAL PROGRAM

◆ PLENARY LECTURES (PL)

October 3 (Fri.) 9:00 – 12:00 (Hall)

PL-01 9:00 – 9:30

Supercritical Fluid Extraction of Natural Products: From Laboratory to Commercial Development in Korea

Ki-Pung YOO (Seogang University, Korea)

PL-02 9:30 – 10:00

Characterization of Bitumens and Non-conventional Heavy Oils - Challenges to the Refining Industry

David BLUCK (Invensys Process Systems – SimSci-Esscor, USA)

PL-03 10:00 – 10:30

Ice and Like-Ice: Challengeable and Mysterious Material

Heun LEE (KAIST, Korea)

PL-04 10:30 – 11:00

Process Intensification of Petro-Industrial Distillation by a Compressor-free Heat Integrated Distillation Column Method

Kunio KATAOKA, Hideo NODA, Hiroshi YAMAJI, Tadahiro MUKAIDA, Mampei KANEDA (Kansai Chemical Engineering Co., Ltd, Japan), and Masaru NAKAIWA (AIST, Japan)

PL-05 11:00 – 11:30

Application of Couette-Taylor Vortex to Crystallization

Woo-Sik KIM (Kyunghee University, Korea)

PL-06 11:30 – 12:00

Separation to Create New Order/Bio-Interface ~ Bioseparation and Membranomics ~

Ryoichi KUBOI (Osaka University, Japan)

◆ FUNDAMENTAL SESSION

PHASE EQUILIBRIA (A)

ORAL PRESENTATION (AO)

October 3 (Fri.) 14:00 – 17:00 (Room #6)

AO-01 14:00 – 14:16

Using the Solvation Model to Predict the Salt Effect on Vapor-Liquid Equilibrium

Shuzo OHE (Tokyo University of Science, Japan)

- AO-02 14:16 – 14:32
Ternary Phase Behavior of Ionic Liquid/Organic/CO₂ Systems
Bang-Hyun IHM, Loan Thi To VO, Woo-Hyuk CHOE , and Jae-Jin SHIM (Yeungnam University, Korea)
- AO-03 14:32 – 14:48
Determination and Correlation of Liquid-Liquid Equilibria in Mixtures of the Ionic Liquids [BMIM][PF₆] or [HMIM][PF₆] +1-Butanol Systems
Hiroyuki MATSUDA, Megumi HOSAKA, Yusuke YAMANAKA, Nao SHOJI, Kiyofumi KURIHARA, Katsumi TOCHIGI, and Kenji OCHI (Nihon University, Japan)
- AO-04 14:48 – 15:04
Ternary Phase Equilibria of Systems Containing Carbon Dioxide and Cosolvent at Elevated Pressures
Alexander BREITHOLZ (Sogang University, Korea), Jeong-Won KANG (Korea University, Korea), and Ki-Pung YOO (Sogang University, Korea)
- AO-05 15:04 – 15:20
Vapor-Liquid-Liquid Equilibria at High Pressures
Masahiro KATO and Daisuke KODAMA (Nihon University, Japan)
- AO-06 15:40 – 15:56
Interfacial Equilibrium and Mass Transfer from Liquid CO₂ disks through Hydrate Films
Myoung-Do SEO, Sang-Ho SEO, Hwa-Sik MIN, Jeong-Won KANG, and Chul-Soo LEE (Korea University, Korea)
- AO-07 15:56 – 16:12
Phase Equilibria and Critical Guest Concentration of Binary Methane Clathrate Hydrate
Young-June PARK, Min-Jun CHA, Woong-Chul SHIN (KAIST, Korea), Jong-Won LEE (Kongju National University, Korea), Yong-Won SEO (Changwon National University, Korea), and Huen LEE (KAIST, Korea)
- AO-08 16:12 – 16:28
Gas Chromatographic Determination of Infinite Dilution Activity Coefficients for Alcohols, Ketones and Aromatic Hydrocarbons in 4-Methyl- N-Butylpyridinium Tetrafluoroborate and 1-Butyl-3-Methylimidazolium Hexafluorophosphate
Yusuke SHIMOYAMA, Takeshi HIRAYAMA and Yoshio IWAI (Kyushu University, Japan)
- AO-09 16:28 – 16:44
An Analytic Lattice Fluid Equation of State for Solid-Vapor-Liquid Phase
Ju-Ho LEE, Moon-Sam SHIN and Hwa-Yong KIM (Seoul National University, Korea)
- AO-10 16:44 – 17:00
Effect of Metastable Zone on Supercritical Antisolvent Crystallization for EGDS
Hiroshi INOMATA, Kazunori KASHIWAGI, Daishi TAKAHASHI, Masaki OTA, and Yoshiyuki SATO (Tohoku University, Japan)

POSTER PRESENTATION (AP)

October 4 (Sat.) 8:30 – 11:30 (Hall & Room #7)

- AP-01 Measurements and Predictions of Hydrate-Containing Phase Equilibria for Mixed Gases of Carbon Dioxide and Nitrogen
Jae-Eul LEE, Myoung-Do SEO, Jeong-Won KANG and Chul-Soo LEE (Korea University, Korea)
- AP-02 Vapor-Liquid Equilibria for the Binary Systems Nitrogen + Dodecafluoro-2-methylpentan-3-one, Nitrogen + 2,2-Dichloro-1,1,1-trifluoroethane
Seung-Ah HONG (KAIST, Korea University, Korea), Jea-Duck KIM, Jae-Hoon KIM (KAIST, Korea), and Jeong-Won KANG (Korea University, Korea)
- AP-03 Molecular Cage Occupancy of Clathrate Hydrates Containing Multi-Guests at Infinite Dilution
Ji-Woong SEOL (KAIST, Korea), Jong-Won LEE (Kongju Univ., Korea), Dong-Yeun KOH (KAIST, Korea), Seong-Pil KANG, Yu-Taek SEO (Korea Institute of Energy Research, Korea), and Huen LEE (KAIST, Korea)
- AP-04 Measuring Excess Enthalpies using High Pressure Flow Microcalorimeter for Binary Systems Containing Supercritical Carbon Dioxide
Chae-Ku YI (Korea University of Technology and Education, Korea), Yoon-Kook PARK (Hongik University, Korea), and Seong-Sik YOU (Korea University of Technology and Education, Korea)
- AP-05 Prediction of Infinite Dilution Activity Coefficients for Alkane in Alkane, Alkanol and Alkandiol
Norio SUNAMACHI (Ube National College of Technology, Japan), Akihiro MURATOMI, Morihisa YOKOTA (Ube Industries, Ltd., Japan), and Kenji FUKUCHI (Ube National College of Technology, Japan)
- AP-06 BWR Equation of State for 1-Pentyne and VLE Calculation concerning Liquefied Petroleum Gas
Tomoya TSUJI, Tomonori NAKAZATO (Nihon University, Japan), Takeshi KONDO, Reppei UEMATSU (LPG Safety Research Laboratory, Japan), Toshihiko HIAKI (Nihon University, Japan), Mitsuo NAMBA (LPG Safety Research Laboratory, Japan)
- AP-07 Measurement and Correlation of Solid-Liquid Equilibrium for 2,3,4-Trihydroxybenzophenone, 2,3,4,4'-Tetrahydroxybenzophenone, and 2,2',4,4'-Tetrahydroxybenzophenone in Acetone + Water Solvent Mixtures
Hye-Min PARK, and Jeong-Won KANG (Korea University, Korea)
- AP-08 Vapor-Liquid Equilibria of the 1,1-difluoroethane (hfc-152a) + Propane (r-290) System
Yong-Ju YUN, Ju-Min CHEOL and Hwa-Yong KIM (Seoul National University, Korea)
- AP-09 VLE (Vapor-liquid equilibria) for the Binary System of 1, 1-Difluoroethane(HFC-152a)+Propane(R290)
Ah-Ram KIM, Gi-Myoung SEONG, Hyun-Sang JIN, Ki-Pung YOO, and Jong-Sung LIM (Sogang University, Korea)
- AP-10 Measurement of Bubble Points of Dimethyl Carbonate and Carbon Dioxide Mixtures
Joon-Yong AHN and Byung-Chul LEE (Hannam University, Korea)
- AP-11 Measurement of Spinodal Line of Water
Ryo OURA and Hideo NISHIUMI (Hosei University, Japan)
- AP-12 Measurement and Correlation of Vapor-liquid Equilibria for ETBE + Ethanol + Octane Ternary System and Its Consistent Binary Systems at Atmospheric Pressure
Tohru WATANABE (Ariake National College of Technology, Japan), Setsuko YONEZAWA, Katsumi HONDA, and Yasuhiko ARAI (Kyushu University, Japan)

- AP-13 Phase Behavior of the Binary Mixtures for the Heptadecafluoro-1-decene, Tridecafluoro-1-octene, and Nonafluoro-1-hexene in Supercritical Carbon Dioxide
Jung-In SHIN, Dong-Woo CHO, Moon-Sam SHIN (Seoul National University, Korea), Won BAE (R&D Institute, Miwon Commercial Co., Ltd., Korea), and Hwa-Yong KIM (Seoul National University, Korea)
- AP-14 Phase Behavior of High Energetic Materials in Mixtures of Organic Solvent and Supercritical CO₂ Antisolvent
Joon-Yong AHN, Byung-Chul LEE (Hannam University, Korea), Youn-Woo LEE (Seoul National University, Korea), and Hyun-Soo KIM (Agency for Defense Development, Korea)
- AP-15 Solubility of CO₂ in ionic liquids, [BMP][TfO] and [P14,6,6,6][Tf₂N]
Ha-Na SONG, Ki-Pung YOO, and Jong-Sung LIM (Sogang University, Korea)
- AP-16 Measurement and correlation of vapor liquid equilibrium of carbon dioxide + water system
Ji-Min HAN, Hun-Yong SHIN (Seoul National University of Technology, Korea), Byoung-Moo MIN, Keun-Hee HAN, and A-Ra CHO (Korea Institute of Energy Research, Korea)
- AP-17 Limits of the Applicability of Conventional Infinite Dilution Activity Coefficient Models Examined by Data
Toshiyuki HIBINO and Satoru KATO (Tokyo Metropolitan University, Japan)
- AP-18 Determination and Correlation of Excess Molar Enthalpies of the Binary Carbon Dioxide + *tert*-Butyl methyl Ether (TBME) System at Temperatures from (298.15 to 308.15) K and Pressures from (5.0 to 7.5) MPa
Daiya Ikegami, Erina MACHIDA, Kiyofumi KURIHARA, Hiroyuki MATSUDA, and Kenji OCHI (Nihon University, Japan)
- AP-19 Isothermal Vapor-Liquid Equilibria (VLE) and Excess Molar Volumes for Ternary Systems *di*-iso Propyl Ether (DIPE) + *n*-Propyl Alcohol + Toluene (or + isooctane) and their Binary Subsystems
Hyeon-Deok KIM, In-Chan HWANG, and So-Jin PARK (Chungnam National University, Korea)
- AP-20 Binary Liquid-Liquid Equilibria (LLE) for Systems *N*-Methylformamide (NMF) + Hexadecane and Ethanol + Hexadecane at Several Temperatures and Ternary LLE for Systems NMF (or Ethanol) + Heterocyclic Nitrogen Compounds + Hexadecane at 298.15 K
In-Chan HWANG, Dong-Won SEO, and So-Jin PARK (Chungnam National University, Korea)
- AP-21 Effect of NaOH on Solubility of Fluorocarbons in Alcohols and its Prediction
Hideo NISHIUMI and Hiroki OGASAWARA (Hosei University, Japan)
- AP-22 A Robust Algorithm for Vapor-Liquid Equilibrium Calculations Using a Cubic Equation of State
Jung-Ho CHO, and Jong-Kee PARK (Kongju National University, Korea)
- AP-23 Solubility and Sorption Equilibrium of Dyes in Supercritical Fluid
Woo-Hyuk CHOE, Loan Thi To VO, Chul-Hoon KIM, Gun-Ho LEE, and Jae-Jin SHIM (Yeungnam University, Korea)
- AP-24 Prediction of Vapor-liquid Equilibria of Hydrocarbon Mixtures by Regular Solution Model
Shigetoshi KOBUCHI (Yamaguchi University, Japan), Yusuke SHIMOYAMA, Setsuko YONEZAWA (Kyushu University, Japan), Kenji FUKUCHI (Ube National College of Technology, Japan) and

Yasuhiko ARAI (Kyushu University, Japan)

- AP-25 Mutual Solubilities of Palm Oil, Palm Kernel Oil and Oleic Acid in Supercritical carbon dioxide
HONG Seung- Ah (KAIST, Korea University, Korea), KIM Jea- Duck, Jaehoon KIM (KAIST, Korea),
and KANG Jeong-Won (Korea University, Korea)
- AP-26 Measurement of Infinite Dilution Activity Coefficients for Alkane in Alkane, Alkanol and Alkandiol
within Wide Temperature
Akihiro MURATOMI, Morihisa YOKOTA (Ube Industries, Ltd., Japan), Yoshimori MIYANO
(Kurashiki University of Science and the Arts, Japan), Norio SUNAMACHI, Takaya SAKANE, and
Kenji FUKUCHI (Ube National College of Technology, Japan)

DISTILLATION & ABSORPTION (B)

ORAL PRESENTATION (BO)

October 3 (Fri.) 14:00 – 17:00 (Room #5)

- BO-01 14:00 – 14:20
Structural Design of Dividing Wall Column Using a Sloppy Distillation Arrangement
Lee-Seung HYUN, Lee-Moon YONG (Yeungnam University, Korea), Joon-Ho SHIN, and Jong-Ku
LEE (LG Chem, Korea)
- BO-02 14:20 – 14:40
Characteristics of Energy-Saving Distillation Through Internal Heat Exchange (HIDiC) Overview of a
Japanese National Project
Shuzo OHE (Tokyo University of Science, Japan)
- BO-03 14:40 – 15:00
Control of Reactive Distillation Column for Recovery of Acetic Acid Under Multiple Steady States
Bo-Kyung KIM, Dong-Pil KIM, Young-Min CHO, and Myung-Wan HAN (Chungnam National
University, Korea)
- BO-04 15:00 – 15:20
A Fully Thermally Coupled Distillation Column for Easy Revamping
Moon Yong LEE (Yungnam University, Korea), Joon Man LEE (Keimyung University, Korea),
and Young Han KIM (Dong-A University, Korea)
- BO-05 15:20 – 15:40
Decomposition of Ester Monomer in Wastewater by Using Ozone
Akinori MAEZAWA, Ngyuyen Trong NGHIA, Yu ANDOH (Shizuoka University, Japan), and
Masayuki WATANABE (Chuo Hatsumei Institute Co. Ltd, Japan)
- BO-06 15:40 – 16:00
Mass Transfer of Carbon Dioxide in Absorption Process Using Nanofluids
Kang-Min JUNG, Kyu-Sung KIM, Sun-Hee PARK and Sung-Hyun KIM (Korea University, Korea)
- BO-07 16:00 – 16:20
Oxidation of Dimethyl Sulfoxide in Aqueous Solution Using Microbubbles

Hideki TSUGE (Keio University, Japan), Pan LI (AIST, Japan), and Keiko ITOH (Keio University, Japan)

BO-08 16:20 – 16:40

Absorbent Based on Aqueous Ammonia Modified with Additives for Removal of Carbon Dioxide
Bong-Gill CHOI, Ho-Seok PARK, Jong-Kyun YOU, Eun-Zoo LEE, Won-Hi HONG (KAIST, Korea),
and Jong-Nam KIM (KIER, Korea)

BO-09 16:40 – 17:00

Effect of Micro-Bubble on Flow Characteristics in Bubble Column with Draft Tube
Keiji YASUDA, Yufei WANG (Nagoya University, Japan), Yoshiyuki BANDO and Yasuhito
KAWASE (Nippon Refine Co., Ltd., Japan)

POSTER PRESENTATION (BP)

October 4 (Sat.) 8:30 – 11:30 (Hall & Room #7)

BP-01 A Study on the Carbon-Monoxide Isotope Separation Using Cryogenic Distillation from LNG
Jong-Hwan KIM, Sung-Kyu HONG, and Sang-Jin PARK (Dongguk University, Korea)

BP-02 Ozone Oxidation of Textile Effluents in a Bubble Column
Takashi KATOH, Hiroki OHATA, Masahiro TOKUMURA, and Yoshinori KAWASE (Toyo
University, Japan)

BP-03 Dynamic Behavior of an Internally Heat-Integrated Distillation Column (HIDiC)
Keigo MATSUDA (Yamagata University, Japan), Koichi IWAKABE (Prime Polymer Co., Ltd., Japan),
and Masaru NAKAIWA (AIST, Japan)

BP-04 Absorption of Carbon Dioxide into Glycidyl Methacrylate Solution with Triethylamine-3-Chloropropyl
Immobilized Ionic Liquid on MCM-41 Catalyst
Sang-Wook PARK, Young-Sik SON, and Byung-Jin HWANG (Pusan National University, Korea)

BP-05 Development of New Educational Programs for Distillation Calculation Using Excel
Yoshinori MOTOHASHI, Hiroyuki MATSUDA, Kiyofumi KURIHARA, and Katsumi TOCHIGI
(Nihon University, Japan)

BP-06 A Rate-Based Dynamic Simulation Algorithm for Reactive Batch Distillation
Hideki MORI, Daisuke SHIMADA, Shuichi IWATA, Koji FUTAMURA, Nobutaka HIRAI (Nagoya
Institute of Technology, Japan), and Lee, JOON MAN (Keimyung University, Korea)

BP-07 A Study on the Absorption Characteristic of Ammonia Using Bubble Tank
Yeong-Seong PARK, Ook-CHOI, Chang-Keun KIM and Dae-Hyun KYUNG (Daejeon University,
Korea)

BP-08 Effects of Oxygen Absorption on Submerged Culture of *Flammulia Velutipes* in Bubble Column
Fermentors
Mikio KAWAGOE, Seiya SAKO, Teruhiko NAKAO (Nara National College of Technology, Japan)
and Hideo NODA (Kansai Chemical Engineering Co. Ltd., Japan)

BP-09 Effect of Flow Characteristics in Bubble Column on Foam Behavior
Keiji YASUDA, Kenya FUKAYA (Nagoya University, Japan), Yoshiyuki BANDO and Yasuhito

KAWASE (Nippon Refine Co., Ltd., Japan)

- BP-10 Characterization of Heat Reformed Naphtha Cracking Bottom Oil Extracts
Jae-Young LEE (Chungnam National University, Korea), Tai-Hyung RHEE
(TECHNO SEMICHEM Co., Ltd., Korea), and Seung-Kon RYU (Chungnam National University,
Korea)
- BP-11 Volumetric Mass Transfer Coefficient in Simultaneous Gas-Liquid Injection Nozzle
Shyunsuke IKEGAMI, Saori SAOTOME, Yukiko SAHARA, and Hiromitsu KOJIMA (Kanagawa
Institute of Technology, Japan)
- BP-12 Mass Transfer of Dilute Tri-Chloro-Ethylene in Super-Critical Carbon Dioxide Bubble Column
D. Shanthana LAKSHMI, Akane SAITOH, Juri HAMADA, Takahiro AOKI and Hiromitsu KOJIMA
(Kanagawa Institute of Technology, Japan)
- BP-13 Modeling and Optimization Study for the CO₂ Removal Process Using K₂CO₃ Aqueous Solution
Jung-Ho CHO (Kongju National University, Korea), Yeo-II YOON and Il-Hyeon BAEK (Korea
Institute of Energy Research, Korea)
- BP-14 Chemical Gas Absorption of Hot CO₂ into Lithium Silicate Particles Suspended in Molten Salt
Yuta OZAKI, Koichi TERASAKA and Daisuke KOBAYASHI (Keio University, Japan)

CRYSTALLIZATION (C)

ORAL PRESENTATION (CO)

October 3 (Fri.) 14:00 – 17:00 (Room #3)

- CO-01 14:00 – 14:20
Effect of Cooling Rate and Sweating Condition on NVP (N-Vinyl-2-Pyrrolidone) Purification Using
A Plate-Type Melt Crystallizer
Myung Do SEO, Moon Sun TAK, Jeong Young JEONG, Hwa Sik MIN and Jeong Won KANG (Korea
University, Korea)
- CO-02 14:20 – 14:40
Drawing-Out Crystallization of Organic Compounds Using a Continuous mL Scale Crystallizer
Koichi IGARASHI, Naoki KUBO, Yasuhiro YAMANAKA and Hiroshi OOSHIMA (Osaka City
University, Japan)
- CO-03 14:40 – 15:00
Co-Solvent Effect on a Cooling Crystallization of 7-Amino-4, 6-Dinitrobenzofuroxan and Molecular
Modeling
Hye-Eun LEE, Jae-Kyeong KIM, Jae-Wook LEE (Sogang University, Korea), Hyoun-Soo KIM (ADD,
Korea) and Kee-Kahb KOO (Sogang University, Korea)
- CO-04 15:00 – 15:20
Crystallization of Small Molecule Organic Semiconductor
Naoki NOGUCHI, Akira OHNO, Shinji ARAMAKI, Haruki ASATANI (Mitsubishi Chemical Group)

Science and Technology Research Center Inc., Japan) and Masakuni Matsuoka (Tokyo University of agriculture and Technology, Japan)

CO-05 15:20 – 15:40

Universal Method of Vapor Diffused Molecular Assembly for Chiral Recognition by Quartz Crystal Microbalance

Hui-Shi GUO (Shaoguan University, China & Kyung Hee University, Korea), Jong-Min KIM, Seung-Jin KIM, Sang-Mok CHANG (Dong-A University, Korea), and Woo-Sik KIM (Kyung Hee University, Korea)

CO-06 15:40 – 16:00

Complete Crystallization Phase Diagram for Manganese and Magnesium Sulphates Mixtures in Three Aqueous Alcohol Solutions

Kouji MAEDA (The University of Hyogo, Japan), Parviz SAFAEEFAR, Ha-Ming ANG (Curtin University of Technology Australia, Australia), Hidetoshi KURAMOCHI (National Institute for Environmental Studies, Japan), Yusuke ASAKUMA (The University of Hyogo, Japan), Moses O.TADE (Curtin University of Technology Australia, Australia) and Keisuke FUKUI (The University of Hyogo, Japan)

CO-07 16:00 – 16:20

Effect of Operating Variables on Crystallization Process for Highly Purified Succinic Acid from Fermentation Broth

Eun Zoo LEE, Yun Suk HUH, Young-Si JUN, Yeon Ki HONG (Chungju National University, Korea), Sang Yup LEE, and Won Hi HONG (KAIST, Korea)

CO-08 16:20 – 16:40

Industrial Application on the Advanced Process Modeling of Crystallization Processes

Sean BERMINGHAM, Costas PANTELIDES (Process Systems Enterprise Ltd., UK), Shigeru KASHIWAYA, and Shigeo OBA (PSE Japan, Japan)

CO-09 16:40 – 17:00

Thermodynamic Effect on Formation of Inclusions Inside RDX Crystals

Doo-Yong KIM, Jae-Wook JUNG (Hanbat National University, Korea), Hyoun-Soo KIM (ADD, Korea), and Kwang-Joo KIM (Hanbat National University, Korea)

POSTER PRESENTATION (CP)

October 4 (Sat.) 8:30 – 11:30 (Hall & Room #7)

CP-01 Reduction of Liquid Inclusion in RDX Crystals by Internal Seeding

Junwoo KIM, Jae-Kyeong KIM (Sogang University, Korea), Hyoun-Soo KIM (Agency for Defense Development, Korea), and Kee-Kahb KOO (Sogang University, Korea)

CP-02 Effect of Seeding on Solution-Mediated Transformation of DL-Methionine

Maiko YAMANOBE-HADA, Kohei DANZUKA and Masakuni MATSUOKA (Tokyo University of Agriculture and Technology, Japan)

CP-03 Determination of Nuclei Size of KCl Diluted in Aqueous Ethanol Solution Using Dynamic Laser

Scattering

Keisuke FUKUI, Yusuke ASAKUMA and Kouji MAEDA (University of Hyogo, Japan)

- CP-04 Drowning-Out Crystallization of Guanosine 5-Monophosphate(GMP) in Continuous Couette-Taylor Crystallizer
Nguyen-Anh TUAN, Jeong-ki KANG (Kyung Hee University, Korea), Jong-Min KIM, Sang-Mok CHANG (Dong-A University, Korea), Choul-Ho LEE (Kongju National University, Korea), and Woo-Sik KIM (Kyung Hee University, Korea)
- CP-05 Investigation of Primary Nucleation in Arginine Solutions Induced by Ultrasonic Irradiation - Effect of Crystallization Temperature and Solvent Fraction -
Yoko HIRAI, Satomi EBIHARA, Masahiro KUROTANI, and Izumi HIRASAWA (Waseda University, Japan)
- CP-06 In-Process Particle Size Characterization Using Mettler-Toledo FBRM® and PVM®
Hiroki TAKAI (Mettler-Toledo K.K. Japan), and Eric HUKKANEN (Mettler-Toledo AutoChem, Inc., USA)
- CP-07 Cooling Strategy of Industrial Crystallization for the Production of Poly Hydroxy Benzo Phenone
Do-Yeon KIM, Ji-Woong CHANG, Ji-Yong PARK and Dae-Ryook YANG (Korea University, Korea)
- CP-08 Effect of Humidity on Polymorphic Transition of Theophylline
Yoshifumi KISHI and Masakuni MATSUOKA (Tokyo University of Agriculture and Technology, Japan)
- CP-09 Influence of Ultrasonic Irradiation on Polymorphs of Vanillin Crystals
Takanori KODERA, Masahiro KUROTANI, and Izumi HIRASAWA (Waseda University, Japan)
- CP-10 Monitoring Phase Transformation of Hydrates in Crystallization Solution
Thi Nhat Phuong NGUYEN, and Kwang-Joo KIM (Hanbat National University, Korea)
- CP-11 Hydrothermal Synthesis of Fe₂O₃ Nanoparticles with a Microtube-Reactor for Rapid Heat-Up of Starting Solution
Akiko KAWAI-NAKAMURA (Nihon University, Japan), Kiwamu SUE (AIST, Japan), Toshiyuki SATO, Satoshi TANAKA, Kazunori SAITOH, Masaki OKADA, Keiko AIDA, and Toshihiko HIAKI (Nihon University, Japan)
- CP-12 Control of Nucleation by Microwave Irradiation in Cooling Crystallization and Its Effects on Characteristics of Crystals
Yusuke NISHITANI, Koichi IGARASHI, and Hiroshi OOSHIMA (Osaka City University, Japan)
- CP-13 Growth Rate and Physical Property of Reactive Dye (RB-8) in the Salting-Out System
Hyong-Ki JUNG, Hyun-Kak HAN, Chil-Sun KWUN, and Hye-Jin KANG (Soonchunhyang University, Korea)
- CP-14 Recent Development in CDC (Cooling Disc Crystallizer) and KCP (Kureha Crystal Purifier)
Kentarō OTAWARA, Shinichiro HAMAZOE, Taketo KITAMURA, and Yuji MORI (Kureha Engineering Co., LTD., Japan)
- CP-15 Recent Development and Application of Wash Columns
Kentarō OTAWARA (Kureha Engineering Co., LTD., Japan), and Halbe JANSEN (Freeze Tec, Netherlands)

- CP-16 Morphological Characteristics of Calcium Carbonate Crystals by Adding Polymer
Chil-Sun KWON, Hyun-Kak HAN, Hyong-Ki JUNG, and Hye-Jin KANG (Soonchunhyang University, Korea)
- CP-17 Effects of Cooling Temperature Profile with Undersaturation Operation on Crystal Size Distribution
Hiroshi TAKIYAMA, Miki IMANARI and Ayane EGAWA (Tokyo University of Agriculture and Technology, Japan)
- CP-18 Generation of NaCl Fine Particles and Its Application into Evaporative Crystallization Technique
Yoshinari WADA, Masakazu MATSUMOTO (Chiba Institute of Technology University, Japan), Koji MASAOKA, Masami HASEGAWA (Research Institute of Salt and Sea Water Science, Japan), and Kaoru ONOE (Chiba Institute of Technology University, Japan)
- CP-19 Use of Calorimetry Model and Batch Control Technique for Scale-up of Unseeded Batch Cooling Crystallization of Organic material
Hui-Yong KIM, Yoo-Kyung BANG, Kwang-Soon LEE (Sogang University, Korea), and Dae-Ryook YANG (Korea University, Korea)
- CP-20 Effect of Impurity on Cooling Crystallization of Nitrate
Mizuki KUMASHIRO, Yoshinori IZUMI, Izumi HIRASAWA (Waseda University, Japan)
- CP-21 Polymorphic Change of Calcium Carbonate by Addition of Silk Protein to Crystallization Solution
Jin-Ho KIM (Chungnam National University, Korea), Woo-Sik KIM (Kyunghee University, Korea), Jong-Min KIM (DongA University, Korea), and In-Ho KIM (Chungnam National University, Korea)
- CP-22 Study of morphology of GMP (5-guanosine monophosphate) 4H₂O
Chang-Hoon LEE, Hye-Ryeon KANG, Jong-Pal HONG, Ji-Hyun CHOI (KNDT&I, Korea), and Woo-Sik KIM (Kyung Hee University, Korea)
- CP-23 Controlled Manufacturing of Polymorphic Mixtures of MPPO
Yoshitaka NAKATA, Youko KIYOSAWA, Kooji KAGARA (Ohara Pharmaceutical Co.,Ltd., Japan), Masakuni MATSUOKA (Tokyo University of Agriculture and Technology, Japan)
- CP-24 The Effects of Inorganic Salts and Thickening Agents on Salting-out Crystallization of Reactive Black 8
Sang-Yong KIM, Jae-Hoon CHO, Jin-Ku CHO, and Jun-Suk LEE (KITECH, Korea)
- CP-25 Effect of Microwave Irradiation on Nucleation Behavior
Myounhee KIM and Masakuni MATSUOKA (Tokyo University of Agriculture and Technology, Japan)

ADSORPTION (D)

KEYNOTE LECTURE (DK)

October 4 (Sat.) 8:30 – 9:30 (Room #6)

DK-01 8:30 – 9:00

Adsorptive Membrane and Adsorbent/Membrane Hybrid Processes for Hydrogen Separation

Ji-Han BAE, Yoon-Jin HAN and Chang-Ha LEE (Yonsei University, Korea)

DK-02 9:00 – 9:30

Carbonization of Woods Using Superheated Water Vapor and Their Gas Adsorption Properties

Hiroyuki YOSHIDA, Naoya MIYAGAMI, and Junji KURODA (Osaka Prefecture University, Japan)

ORAL PRESENTATION (DO)

October 4 (Sat.) 9:30 – 11:30 (Room #6)

Poster Preview (DP-01 – DP-38)

POSTER PRESENTATION (DP)

October 4 (Sat.) 13:00 – 16:00 (Hall & Room #7)

DP-01 Electrochemical Modification of Surfaces of Carbonaceous Materials

Azusa OKAZAKI (Nihon University, Japan), Kazuhiro MOCHIDZUKI (Tokyo University, Japan), and Toshihiko HIAKI (Nihon University, Japan)

DP-02 A Simple Purification of Multi-walled Carbon Nanotubes by Microwave Irradiation

Chantamane POONJARERNSILP, Apinan SOOTTITANTAWAT, Wiwut TANTHAPANICHAKOON, and Tawatchai CHARINPANITKUL (Chulalongkorn University, Thailand)

DP-03 CO₂ Capture by Chemical Lung in the Presence of Potassium Superoxide in the Silicone Polymer Matrix

Jin-Ho KIM, Myung -Soon KIM, Yoon-Kook PARK (Hongik University, Korea), Hyun-Tae JANG (Hanseong University, Korea), Yong -Sig KO (Shinsung College, Korea), and Tae-Hun JURNG (J.C. Technology, Korea)

DP-04 CO₂ Capture by the Amine-Modified MCM-41 Mesoporous Silica

Yong-Sig KO (Shinsung University, Korea), Yoon-Kook PARK (Hongik University, Korea), and Hyun-Tae JANG (Hanseong University, Korea)

DP-05 Purification of High Pressure CO₂ from CO₂/EtOH Mixture by Adsorption with Activated Carbon: Adsorption study

Byung-hun KIM, Jae-ik LEE, Kwang-Soon LEE (Sogang University, Korea), and Sung-Sub SUH (Hong-ik University, Korea)

DP-06 Chromatographic Adsorption Measurement of Chlorinated Hydrocarbons into High Silica Zeolite

Kazuyuki CHIHARA, Kenta SAITO, Hidenori NAKAMURA, and Yosuke KANEKO (Meiji University, Japan)

DP-07 Preparation of Carbon Cryogel Microhoneycomb by Ice-Templating and Activation

Hajime TAMON, and Mitstutaka SAKAMOTO (Kyoto University, Japan)

DP-08 Carbonization and adsorption behavior of wood components

Kazuto AKAGI, and Akinori MUTO (Okayama University, Japan)

DP-09 Adsorption and Desorption Dynamic Characteristics of Hydrogen Mixture Gases on Layered Bed

Ju-Yong PARK, Se-Il YANG (Korea Institute of Science and Technology, Korea), Chang-Ha LEE (Yonsei University, Korea), and Dae-Ki CHOI (Korea Institute of Science and Technology, Korea)

DP-10 Development of Adsorbents for the Removal of Acetylenes in C₅ Fraction

- Chang -Soo KIM, Kyung-Jin JUN, Byoung-Sung AHN (Korea Institute of Science and Technology, Korea), and Kye-Sang YOO (Seoul National University of Technology, Korea)
- DP-11 Characterization by Acetylene Adsorption on Carbon Blacks after Methane Decomposition
Jung-Hun KWAK, Mi-So KIM, Sang-Yup LEE, and Ki-June YOON (Sungkyunkwan University, Korea)
- DP-12 Parametric Study on a Honeycomb Rotor Adsorber with a Two-Stage Dehumidification
Toshinobu ASADA (MATSUMURA BUSSAN Co., Ltd, Japan), Akio KODAMA, and Hisashi ASANO (Kanazawa University, Japan)
- DP-13 The Feature of New JIS K1477 “Test Methods for Fibrous Activated Carbon”
Keiichi ASAMI (Technical Communication Association of Fibrous Activated Carbon, AD’ALL CO.,LTD, Japan), Seiichi FUJII (Futamura Chemical CO.,LTD, Japan), Hajime TAMON (Kyoto University, Japan), and Yasushi TATEUCHI (Professor Emeritus of Meiji University, Japan)
- DP-14 Adsorption of Organics on MSC5A in Supercritical CO₂, Molecular Simulation
Kazuyuki CHIHARA, Mai HIKITA, Taichi WADA, and Ryota SUZUKI (Meiji University, Japan)
- DP-15 PVSA Process for High Purity Oxygen Generation from Air
Hyo-Jun KIM, Kyung-Hyun MIN, Hung-Man MOON, Moo-Ryong SON (Daesung Industrial Gases Co., Ltd., Korea), Dong-Geun LEE, Min-Kyu KIM, and Chang-Ha LEE (Yonsei University, Korea)
- DP-16 Multi-Scale Simulation Starting at the Molecular Level for p-Xylene Separation in Simulated Moving Bed (SMB) Process
Thanh D.B. NGUYEN, Hae-Jeong SON, and Young-Il LIM (Hankyong National University, Korea)
- DP-17 Experimental Measurement on Adsorption Equilibrium of Mixed Organic Solvent into FAU Type Zeolite
Kazuyuki CHIHARA, Junichi KABE, Shinji TOMITA, Shinji KONDO, and Takashi MATSUMOTO (Meiji University, Japan)
- DP-18 Solvent Recovery by DR-PSA, a Simulation Study
Kazuyuki CHIHARA, Keita SAWADA, Tadahiro AIKO, Takashi KANEKO, Takuya CHIYODA (Meiji University, Japan)
- DP-19 Multicomponent Gas Adsorption on MSC5A by Chromatographic Method and Stop & Go Simulation
Kazuyuki CHIHARA, Yuki TERAMURA, Hidenori NAKAMURA, and Yosuke KANEKO (Meiji University, Japan)
- DP-20 The Enrichment of Loxoprofen Enantiomer by 6-Columns Simulated Moving Bed Chromatography
Tae-Ho YOON, and In-Ho KIM (Chungnam National University, Korea)
- DP-21 Successive Linearization-based Repetitive Control Technique of Simulated Moving Bed Process
Wang-Yun WON, Woo-Hyun YOON, Ki-Woong KIM, and Kwang-Soon LEE (Sogang University, Korea)
- DP-22 The SO₂ Absorption Properties of Co-Fe-MgO Sorbents Prepared by Various Preparation Methods
Soo-Jae LEE, Soo-Chool LEE, Suk-Jong JUNG (Kyungpook National University, Korea), Chung-Kul RYU (Korea Electric Power Research Institute, Korea), and Jae-Chang KIM (Kyungpook National University, Korea)
- DP-23 Adsorption Equilibrium of Mixed Organic Solvent to FAU Type High Silica Zeolite

Kazuyuki CHIHARA, Shinji TOMITA, Junichi KABE, Shinji KONDO, and Takashi MATSUMOTO (Meiji University, Japan)

- DP-24 Dependency of Amount Adsorbed onto Silica Gel Surface Modified by Silver
Junpei FUJIKI, Eiji FURUYA (Meiji University, Japan)
- DP-25 Correlation and Prediction of Adsorption Equilibria for Multi-Solute Systems Contained Acetone, 1-Butanol and Pyridine on Synthesis Activated Carbon
Kenji FUKUCHI (Ube National College of Technology, Japan), Shigetoshi KOBUCHI (Yamaguchi University, Japan), Takeshi FURUYA (National Institute of Advanced Industrial Science and Technology, Japan), and Yasuhiko ARAI (Kyushu University, Japan)
- DP-26 Electrochemical Porosimetry
Hyun-Kon SONG (Ulsan National Institute of Science and Technology, Korea), and Kun-Hong LEE (Pohang University of Science and Technology, National Center for Nanomaterials Technology, Korea)
- DP-27 Preparation and Characterization of High Capacity Ion Exchange Nanofibers from Hyper-branched Poly(styrene-co-divinylbenzene) by Electrospinning Method
Min-Ho YANG (Chungnam National University, Korea), Choul-Ho LEE, Eui-Hwan HWANG (Kongju National University, Korea), and Taek-Sung HWANG (Chungnam National University, Korea)
- DP-28 Separation Characteristics of Cs Using Amberlite IR 120H
Tae-Young KIM (Chonnam National University, Korea), Jae-Wook LEE (Chosun University, Korea), Sook JU, Sei-Young CHOI, Seung-Jai KIM, Jin-Hwan KIM, Sung-Yong CHO (Chonnam National University, Korea), and Ho-Yeoun YANG (Nuclear Engineering and Technology Institute, Korea)
- DP-29 Analysis of Mass Transfer Zone in Transient State and Estimation Method of Adsorption Kinetics
Akihiro NAKAMURA and Morimitsu NAKAMURA (Taiyo Nippon Sanso Corporation, Japan)
- DP-30 Influence of Ozone Adsorption on Electric Resistance of Carbon nanohorn Film and its Application to Ozone Sensor in Water
Noriaki SANO, and Hajime TAMON (Kyoto University, Japan)
- DP-31 Separation by Use of New Advanced-SMB Process
Kohei SATO, Takayuki MASUDA, Kazuo OKADA, and Kyosuke YAMADA (Organo Co. Ltd., Japan)
- DP-32 Adsorption Equilibrium of C₂H₄, C₂H₆, C₃H₆, C₃H₈ on Olefin Selective Adsorbents
Jong-Ho PARK, Chang-Hyun KO, Kwang-bok YI, Sang-Sup HAN, Soon-Haeng CHO (Korea Institute of Energy Research, Korea), Jang-Jae LEE, Seong-Jun LEE (SK R&D Center, Korea), and Jong-Nam KIM (Korea Institute of Energy Research, Korea)
- DP-33 Removal of Sulfur Compounds in FCC Raw C4 Using Activated Carbon Impregnated with Transition Metal
Kyu-Sung KIM, Seon HEE, Kang-Min JUNG, and Sung-Hyun KIM (Korea University, Korea)
- DP-34 Preparation of Polymer-Coated Quartz Oscillators and the Application to QCM Sensor
Min-Jin Hwang, Chang-Kook Hong, and Hee Moon (Chonnam National University, Chonnam National University, Korea)
- DP-35 Recovery of VOC as Liquid Condensate by Dual Reflux PSA process
Naoki SEKINO, and Akio KODAMA (Kanazawa University, Japan)
- DP-36 Characterization of Fixed Bed Breakthrough Curves

Noriyoshi SONETAKA (NEC Corporation, Japan), Huang-Jung FAN (Hungkuang University, Taiwan), Hiroshi FURUTA (Organo Co. Ltd., Japan), Yasushi TAKEUCHI, and Eiji FURUYA (Meiji University, Japan)

DP-37 Dual reflux PSA process applied to CO₂ Removal and Recovery

Hideaki YOSHIKAWA, and Akio KODAMA (Kanazawa University, Japan)

DP-38 Catalytic Decomposition of LPG by Carbon Black for Hydrogen Production

Chang-Soo KIM, and Byoung-Sung Ahn (Korea Institute of Science and Technology, Korea)

MEMBRANE SEPARATION & FLUID-SOLID SEPARATION (E)

ORAL PRESENTATION (EO)

October 4 (Sat.) 8:30 – 11:30 (Room #5)

EO-01 8:30 – 9:00

Proton Conducting Poly (vinylidene fluoride-*co*-chlorotrifluoroethylene) Graft Copolymer Electrolyte Membranes

Jung-Tae PARK, Jin-Kyu CHOI, Joo-Hwan KOH, and Jong-Hak KIM (Yonsei University, Korea)

EO-02 9:00 – 9:30

Pervaporative Separation of Butanol Through Zeolite Membrane

Dong-Jae JEONG, Heon-Kyu JEONG, Mi-Hye YUN, Hyo-Seon AHN and Yong-Taek LEE (Chungnam National University, Korea)

EO-03 9:30 – 10:00

Development of a MFI Zeolite Membrane for Water Purification by Controlling Pore Sizes of Intercrystalline Pathways

Mikihiro NOMURA and Hiromi UCHIDA (Shibaura Institute of Technology, Japan)

EO-04 10:00 – 10:30

Partially Fluorinated-Sulfonated Polyarylene ether Block Copolymer/Polyethylene Composite Membranes for Polymer Electrolyte Fuel Cell Applications

Jeong-Hoon KIM, Bong-Jun CHANG, Min-Chul YOO, and Soo-Bok LEE (KRICT, Korea)

EO-05 10:30 – 11:00

Comparative Study on Electro-osmotic Dewatering and Mechanical Expression of Solid-Liquid Systems

Masashi IWATA, Maki MAEGAWA (Suzuka National College of Technology, Japan), and Mohammed Saeedi JAMI (International Islamic University Malaysia, Malaysia)

EO-06 11:00 – 11:30

Characterization of Filter Cake Structure by Streaming Potential Measurement

Kazuho NAKAMURA, Shinichiro TAGUCHI, Koichiro INAMURA, Tadashi NITTAMI, and Kanji MATSUMOTO (Yokohama National University, Japan)

POSTER PRESENTATION (EP)

October 4 (Sat.) 13:00 – 16:00 (Hall & Room #7)

- EP-01 Adsorptive Membrane and Adsorbent/Membrane Hybrid Processes for Hydrogen Separation
Ji-Han BAE, Yoon-Jin HAN and Chang-Ha LEE (Yonsei University, Korea)
- EP-02 Fabrication of Macroporous Silica-Polymer Composite and Its Macropore Elongation by Shear Stress
Takeshi HIGUCHI, Haruna OIZUMI, Tatsuya SASAKI, Tadahiro AITA(MURAKATA) and Shimio SATO (Yamagata University, Korea)
- EP-03 CO₂ Recovery Form Air by a Liquid Membrane of Diglycolamine
Akira ITO and Hiroki TAZAWA (Niigata University, Japan)
- EP-04 Development of Hydroxyapatite Filter Using Plasma Spray
Takakuni TANAKA and Yuta WATANABE (Oyama National College of Technology, Japan)
- EP-05 Immobilized Liposome Chromatography/Bio-Membrane Module for Bioseparation and Bioreactor
Ryoichi KUBOI, Hiroshi UMAKOSHI, Hiroyuki SUGAYA, Yuji TOHTAKE (Osaka University, Japan), Makoto YOSHIMOTO, Noriko YOSHIMOTO (Yamaguchi University, Japan), and Toshinori SHIMANOUCI (Osaka University, Japan)
- EP-06 Study of Propane/Propylene Mixture Separation Using SPEEK –Ag⁺ Facilitaed Transport Membrane
Jung-In LEE (Korea Institute of Science and Technology, Korea University, Korea), Do-Young CHOI, Seong-Cheol JANG, Jun-Ha BANG(Korea Institute of Science and Technology, Korea) and Dae-Ki CHOI (Korea University, Korea)
- EP-07 Silica Network Engineering: Improved Hydrothermal Stability and Highly Permeable Hydrogen Separation Membranes
Toshinori TSURU, Ryosuke IGI, Kazuya YADA, Tomohisa YOSHIOKA, and Masakoto KANEASHI (Hiroshima University, Japan)
- EP-08 Analysis of Osmotic Dehydration Based on Filtration and Consolidation Theory
Nobuyuki KATAGIRI, Hiroshi TSUCHIYA, Eiji IRITANI (Nagoya University , Japan), and Masashi IWATA (Suzuka National College of Technology , Japan)
- EP-09 PTFE Flat-Plate Sheet Membrane with SBM (Submerged Block Membrane) System
Jae-Young JANG, Jin-Ho JUNG (Pure-Envitech. CO., LTD, Korea), Hyung-Su KIM, Kwan-Yeop KIM, and Eui-Jong LEE (Sungkyunkwan University, Korea)
- EP-10 Evaluation of Fermentation and Microfiltration Characteristics of D-Lactic Acid Producing Bacterium
Nobuyuki KATAGIRI, Toshiya NOZAKI and Eiji IRITANI (Nagoya University, Japan)
- EP-11 Development of Hybrid Process of Anti-solvent Crystallization and Centrifugation
Yasuhito MUKAI, Nozomi AMANO and Eiji IRITANI (Nagoya University, Japan)
- EP-12 Structure of Nanoparticle Cake Formed by Electro-Acoustic Ultrafiltration
Yasuhito MUKAI, Narimasa SHINODA and Eiji IRITANI (Nagoya University, Japan)
- EP-13 Influence of Electrode Arrangements with Smaller Area than Cross Section of Sludge Bed on Electro-Osmotic Dewatering Process
Hiroshi YOSHIDA and Tomomi YOSHIKAWA (Oyama National College of Technology, Japan)
- EP-14 Ag⁺ - Chitosan Complex Membranes for Propylene/Propane Separation

Jeong-Hoon KIM, Soo-Bok LEE (KRICT, Korea), and Xianshe-FENG (University of Waterloo, Canada)

- EP-15 Studies on the Gas Permeation Behaviors Using the Surface Fluorinated Polysulfone Membranes
Dae-Hoon KIM, Min-Seong KIM, Byung-Seong LEE (Hannam University, Korea), Sang-Yun LEE (Research Institute of Gas Analytical Science, Korea), and Ji-Won RHIM (Hannam University, Korea)
- EP-16 Influence of Solenoid Operated Valve on Dust Cleaning of Bag Filter
Masashi WADA (Ishikawa National College of Technology, Japan), Hideo SHIMAMURA (Environmental Technology Co., Ltd., Japan), Yosuke TAKINO and Chikao KANAOKA (Ishikawa National College of Technology, Japan)
- EP-17 3D Structure of Packed Particles by X-Ray CT
Kazuho NAKAMURA, Yuya Hosokai, Tadashi NITTAMI, and Kanji MATSUMOTO (Yokohama National University, Japan)
- EP-18 Simulation Study for the Optimization of IGCC Power Plant with CO₂ Separation Using Hollow Fiber Membrane
Hyun-Min SHIM (Ajou University, Korea), Jeong-Hoon KIM (KRICT, Korea), and Hyung-Taek KIM (Ajou University, Korea)
- EP-19 Development of Peptide Recognizing Ni and Cr Particles by Phage Display Library
Keita MATSUBAYASHI and Kazuho NAKAMURA and Kanji MATSUMOTO (Yokohama National University, Japan)
- EP-20 Particle Capture Performance of Non-Woven Fibrous Filter
Kanji MATSUMOTO (Yokohama National University, Japan), Tatsuhiro OSHITA (Yamashin-Filter Corp., Japan), Kazuho NAKAMURA, Takuya KOUSAKA, and Tadashi NITTAMI (Yokohama National University, Japan)
- EP-21 Crosslinked Proton Conducting Membranes Based on Poly (vinyl chloride) Graft Copolymer Electrolytes
Jin-Ah SEO, Jin-Kyu CHOI, Jung-Tae PARK, Joo-Hwan KOH, and Jong-Hak KIM (Yonsei University, Korea)
- EP-22 Proton Conducting Crosslinked Membranes by Polymer Blending of Triblock Copolymer and Poly (vinyl alcohol)
Jin Ah-SEO, Jung Tae-PARK, Joo-Hwan KOH, Dong-Kyu ROH, and Jong-Hak KIM (Yonsei University, Korea)

EXTRACTION & SUPER CRITICAL FLUID TECHNOLOGY (F)

KEYNOTE LECTURE (FK)

October 4 (Sat.) 8:30 – 9:30 (Room #3)

FK-01 8:30 – 9:00

Preparation of Antibiotic Fine Particles Using Supercritical Carbon Dioxide

Jun-Ho CHU, Jin-Seong JEONG, Hwa-Yong KIM, Bong-Geun SHONG and Youn-Woo LEE (Seoul National University, Korea)

FK-02 9:00 – 9:30

Simultaneous Selective Extraction of Caffeine and Chlorogenic acid from Green Coffee Beans with Supercritical CO₂ and Water

Motonobu GOTO, Kiwa KITADA, Siti MACHMUDAH, Mitsuru SASAKI (Kumamoto University, Japan), Jun MUNEMASA, and Masahiro YAMAGATA (Kobe Steel Ltd., Japan)

ORAL PRESENTATION (FO)

October 4 (Sat.) 9:30 – 11:30 (Room #3)

FO-01 9:30 – 9:45

Copper Removal from Copper-Containing Wastewater Using Supercritical Water Technology

Young-Ho SHIN, Dae-Sung KIM, Nae-Chul SHIN, Soo-Jung KIM and Youn-Woo LEE (Seoul National University, Korea)

FO-02 9:45 – 10:00

Solvent Extraction of Precious Metals in Hydrochloric Acid Solution Using N-Disubstituted Amide Compounds

Hirokazu NARITA, Kazuko MORISAKU and Mikiya TANAKA (AIST, Japan)

FO-03 10:00 – 10:15

Prepolymer Molecular Effects on Solid-State Polymerization (SSP) of Poly(bisphenol A carbonate) (BPA-PC) using Supercritical Carbon Dioxide

Jae-Hoon KIM (KIST, Korea), George W. ROBERTS (North Carolina State University, USA), and Douglas J. KISEROW (U.S Army Research Office, USA)

FO-04 10:15 – 10:30

Soft Metals Extraction Using Nitrogen-Donor Ligand TPEN Hydrophobic Analog

Takeshi OGATA, Kenji TAKESHITA (Tokyo Institute of Technology, Japan), and Atsunori MORI (Kobe University, Japan)

FO-05 10:30 – 10:45

Supercritical Water for Gasification of Isooctane into Hydrogen for Fuel Cells Application

Bambang VERIANSYAH, Jae-Hoon KIM and Jae-Duck KIM (Korea Institute of Science and Technology, Korea)

FO-06 10:45 – 11:00

Effect of the Solvent Properties on the Position of Liquid-Liquid Interface in a Microchannel

Satoru HAGIWARA, Nagisa AOKI, Katsuto OTAKE, and Atsushi SHONO (Tokyo University of Science, Japan)

FO-07 11:00 – 11:15

Thermodynamic Modeling of Ligand-Capped Nanoparticles and Gas-Expanded Liquid Systems

Gun-Yong KIM (Korea University of Technology and Education, Korea), Yoon-Kook PARK (Hongik University, Korea), Christopher B. ROBERTS (Auburn University, USA), and Seong-Sik YOU (Korea

University of Technology and Education, Korea)

FO-08 11:15 – 11:30

Foam Parameters of for Improving the Separation of Metals with Continuous Foam Fractionation

Hiroyuki KONDOU, Susumu NII (Nagoya University, Japan), and Takehiko KINOSHITA (Nagoya Municipal Industrial Research Institute, Japan)

POSTER PRESENTATION (FP)

October 4 (Sat.) 13:00 – 16:00 (Hall & Room #7)

- FP-01 Residual Monomer Extraction from Super Absorbent Polymer Using Supercritical CO₂
Byung-Hui KANG, Dae-Sung KIM, Nae-Chul SHIN, Young-Ho LEE, Gwang-Il HWANG, Hwa-Yong KIM and Youn-Woo LEE (Seoul National University, Korea)
- FP-02 Solvent Extraction of Coal Tar Absorption Oil -Effect of Extraction Condition on Extract Phase Distillation-
Ryuichi EGASHIRA, Yoshihisa YOSHIMURA, and Hiroaki HABAKI (Tokyo Institute of Technology, Japan)
- FP-03 Removal of Photoresist Residue using Supercritical Carbon-Dioxide with Surfactants
Won-Ho JANG, Jong-Woo WON, Gap-Su HAN, Jong-Sung LIM, and Ki-Pung YOO (Sogang University, Korea)
- FP-04 Comprehensive Understanding of Supercritical Anti-Solvent System by Comparison PLLA, PS and PCL
Ki-Wook KIM, Ki-Pung YOO, and Jong-Sung LIM (Sogang University, Korea)
- FP-05 Cloud Point of Amine Compound with Fluorosurfactant in Supercritical Carbon Dioxide
Jong-Woo WON, Won-Ho JANG, Gap-Su HAN, Ki-Pung YOO, and Jong-Sung LIM (Sogang University, Korea)
- FP-06 Supercritical Cleaning of Oil Contaminated Metal Surfaces
Yong-Seok EOM, Won-Ho JANG, Seoung-Tae HONG, Jong-Sung LIM, and Ki-Pung YOO (Sogang University, Korea)
- FP-07 Separation of Coal Tar Absorption Oil by Emulsion Liquid Membrane -Effects of Additives in Membrane Phase on Permeation Behavior-
Hiroaki HABAKI, Dejin BI and Ryuichi EGASHIRA (Tokyo Institute of Technology, Japan)
- FP-08 Synthesis and Lanthanide Extraction Properties of Oxygen-Nitrogen Donor Type Ligands
Tohru KOBAYASHI (Japan Atomic Energy Agency, Ibaraki University, Japan), Shinichi SUZUKI, Hideaki SHIWAKU, Yoshihiro OKAMOTO, Astushi IKEDA (Japan Atomic Energy Agency, Japan), Kazuhiro AKUTSU (Japan Atomic Energy Agency, Ibaraki University, Japan), Yoshiharu NAKANO, Yuki FUJII (Ibaraki University, Japan), and Tsuyoshi YAITA (Japan Atomic Energy Agency, Ibaraki University, Japan)
- FP-09 Characterization of Purified Waste Cooking Oil using Supercritical Carbon Dioxide Extraction
Seung-Ah HONG (KIST, Korea University, Korea), Jae-Hoon KIM, Jae-Duck KIM (KIST, Korea), and Jeong-Won KANG (Korea University, Korea)

- FP-10 Characterization of Surface Properties of *Streptomyces griseus* Cell after Heat Treatment with Liposome Using Aqueous Two-Phase Method
Kien Xuan NGO, Hiroshi UMAKOSHI, Toshinori SHIMANOUCI, and Ryoichi KUBOI
(Osaka University, Japan)
- FP-11 Biodiesel Production from Palm Oil in Supercritical Methanol
Hee-Yong SHIN, Jae-Hun RYU, Seon-Muk LIM, Seong-Youl BAE (Hanyang University, Korea), and
Sea Cheon OH (Kongju National University, Korea)
- FP-12 Microparticle Formation of High Energetic Materials Using Supercritical Anti-Solvent Recrystallization Process: Effect of Organic Solvent on Particle Size and Shape
Chang-Ki KIM, Byung-Chul LEE (Hannam University, Korea), Youn-Woo LEE (Seoul National University, Korea), and Hyun-Soo KIM (Agency for Defense Development, Korea)
- FP-13 Extraction of arbutin from uva-ursi (*Arctostaphylos uva-ursi*) leaves by supercritical carbon dioxide
Masahiro NAKADA, Masanao IMAI, and Isao SUZUKI (Nihon University, Japan)
- FP-14 Polymerization of Vinyl Acetate Using Environmentally Friendly Solvent
Woo-Hyuk CHOE, Loan Thi To VO, Won-Seok LYOO, and Jae-Jin SHIM (Yeungnam University, Korea)
- FP-15 Extraction of Canola Seed Oil Using Supercritical Fluid
Ah-Reum HWANG (The University of Suwon Wau-ri, Korea), In-II JUNG (The University of Suwon Wau-ri, Yonsei University, Korea), Gio-Bin LIM, and Jong-Hoon RYU (The University of Suwon Wau-ri, Korea)
- FP-16 Extraction of Organic Dyes by Reverse Micelles of Alkyl Glucosides
Hidetaka NORITOMI, Shogo TAMAI (Tokyo Metropolitan University, Japan), Hiroaki SAITO (GUN EI Chemical Industry CO., LTD., Japan), and Satoru KATO (Tokyo Metropolitan University, Japan)
- FP-17 Particle Formation of Plga Using Supercritical Carbon Dioxide
In-II JUNG (Yonsei University, The University of Suwon, Korea), Seung-Joo HAM (Yonsei University, Korea), Gio-Bin LIM and Jong-Hoon RYU (The University of Suwon, Korea)
- FP-18 Solubility Estimation of *Unshu Citrus*-peels Components in Supercritical CO₂ Using a Dynamic Extraction Model
Masaki OTA, Itsuki IRIUCHIJIMA, Yoshiyuki SATO, Richard L. SMITH, Jr., and Hiroshi INOMATA
(Tohoku University, Japan)

◆ APPLICATION SESSION

MATERIAL PROCESSING (G)

BIO-SEPARATION (I)

ORAL PRESENTATION (GO) & (IO)

October 4 (Sat.) 13:00 – 14:30 (Room #6)

GO-01 13:00 – 13:30

Preparation of Electrospun Porous Fiber for HEPA Filter Media

Ju-Young PARK, Mi-Jin KIM, Meung-Su KIM, and In-Hwa LEE (Chosun University, Korea)

GO-02 13:30 – 14:00

Growth Mechanism of Strontium Sulfate Nanocrystals in the Presence of Polyethylenimine

Takashi MIKAMI and Izumi HIRASAWA (Waseda University, Japan)

IO-01 14:00 – 14:30

Application of Ionic Liquids in Enzymatic Reaction and Separation

Sung-Ho HA and Yoon-Mo KOO (Inha University, Korea)

October 4 (Sat.) 14:30 – 16:00 (Room #6)

Short Presentation (GP-01 – GP-07) & (IP-01 – IP-06)

POSTER PRESENTATION (GP)

October 3 (Fri.) 14:00 – 17:00 (Hall & Room #7)

GP-01 Behavior of Freezing and Melting of Methane in Microporous Material with Heterogeneous Surface
Yang-Gon SEO (Gyeongsang National University, Korea), and Mark J. BIGGS (University of Edinburgh, UK)

GP-02 Decomposition of 2-Chlorophenol in Supercritical Water Oxidation with Corrosion of Zirconium
Jae-Hyuk LEE, Tran Tan VIET (Yonsei University, Korea), Jae-Wook LEE (Korea Institute of Geoscience & Mineral Resources Daejeon, Korea), and Chang-Ha LEE (Yonsei University, Korea)

GP-03 Effects of Polyethylenimine on Reductive Crystallization of Au Nanoparticles
Yuta TAKAYASU, Takashi MIKAMI, and Izumi HIRASAWA (Waseda University, Japan)

GP-04 Reactions of α - and β -Pinene in Hot, Compressed Water without Any Additive
Tomomi KAWAHARA, Akiko Kawai-NAKAMURA (Nihon University, Japan), Kiwamu SUE (AIST, Japan), Hiizu IWAMURA, and Toshihiko HIAKI (Nihon University, Japan)

GP-05 Reaction Characteristics of Calcium-Based Adsorbents for Bulk Separation of CO₂ in High-Temperature
Young-Cheol BAK, Tae-Ho CHO and Yang-Gon SEO (Gyeongsang National University, Korea)

GP-06 Characteristics of Tellurium Films Prepared by Plasma Enhanced Chemical Vapor Deposition
Kyung-Suk SUK, Ha-Na JUNG, Done-Hee PARK, and Do-Heyoung KIM (Chonnam National University, Korea)

GP-07 Synthetic Method for Monodisperse Functional Polymer Particles in Soap-Free Emulsion Polymerization
Noriko YAMAUCHI, Daisuke NAGAO and Mikio KONNO (Tohoku University, Japan)

POSTER PRESENTATION (IP)

October 3 (Fri.) 14:00 – 17:00 (Hall & Room #7)

- IP-01 Sustainable Usage of Sea Algae by Hydrothermal Gasification
Kiminori NAKAZAWA, Kazuto NAKAGAWA and Hideki KOHNO (Nihon University, Japan)
- IP-02 Selective Extraction of Three Tanshinones Derivatives in Salvia by Molecularly Imprinted Solid-Phase Extraction
Hong-Yuan YAN (Inha University, Korea & Hebei University, China), Geng-Liang YANG (Hebei University, Korea), and Kyung-Ho ROW (Inha University, China)
- IP-03 Separation and Analysis for A β Peptides Based on Recognition Function of Abnormal Biomembrane ~Membrane Chip Analysis Can Brighten a Potential Aspect of Alzheimer's Disease~
Toshinori SHIMANOUCI, Haruyuki ISHII, Ena OYAMA, Vu Thi HUONG, Hiroshi UMAKOSHI, and Ryoichi KUBOI (Osaka University, Japan)
- IP-04 Analysis of Bamboo Extracts and Evaluation of Pesticidal Effect for the Agricultural Harmful Insect Pests and Plant Disease
Chang-Beom JIN, Chang-Hoon YOO, Ju-Young PARK, Meung-Su KIM, Mi -Jin KIM, and In-Hwa LEE (Chosun University, Korea), Son-Gon KIM (Jeonnam Agricultural reserch & Extension service, Korea)
- IP-05 Hollow Sphere Mesoporous Graphitic Carbon (IV) Nitride; Enzyme Immobilization and Optical Sensing Abilities
Young-Si JUN, Eun-Zoo LEE, Kil-Hwan YEO and Won-Hi HONG (KAIST, Korea)
- IP-06 LIPOzyme Design Based on Molecular Recognition Function of Liposome -Biomembrane Process Chemistry and Separation Technology-
Hiroshi UMAKOSHI, Le Quoc TUAN, Kengo MORIMOTO, Toshinori SHIMANOUCI and Ryoichi KUBOI (Osaka University, Japan)

ENVIRONMENTAL & RECYCLING (H)

ORAL PRESENTATION (HO)

October 4 (Sat.) 13:00 – 15:40 (Room #5)

- HO-01 13:00 – 13:20
A Simulation Study on the Desulfurization Process in Integrated Gasification Combined Cycle
Kweon-Il KIM, Byoung-Moo MIN, Keun-Hee HAN, and Jong-Kee PARK (Korea Institute of Energy Research, Korea)
- HO-02 13:20 – 13:40
Influence of Doping Ta and Nb Metals on the Solar Photocatalytic Activity of Sulfur Doped Titanium Dioxide
Yukina SAKIYAMA, Hussein Tawfeek ZNAD, Masahiro TOKUMURA, and Yoshinori KAWASE

(Toyo University, Japan)

HO-03 13:40 – 14:00

High Temperature Adsorption and Desorption Characteristics of Oxygen on Oxygen-Selective Adsorbent

Jong-Ho PARK, Chang-Hyun KO, Kwang-Bok YI (Korea Institute of Energy Research, Korea), Jung-Hoon PARK (Green House Gas Research Center, Korea), Sang-Sup HAN, and Jong-Nam KIM, Soon-Haeng CHO (Korea Institute of Energy Research, Korea)

HO-04 14:00 – 14:20

Recovery Process From a Spent Electroless Nickel-Plating Bath Using Pilot-Scale Equipment

Takashi SANA (Yoshitama Surface Finishing Co., LTD, Japan), Koichiro SHIOMORI and Yoshinobu AWANO (University of Miyazaki, Japan)

HO-05 14:20 – 14:40

Oxygen Sorption Properties of $\text{La}_x\text{Sr}_{1-x}\text{Co}_{0.2}\text{Fe}_{0.8}\text{O}_{3-\delta}$ ($x=0.6-0.9$) Oxides

Jung-Hoon PARK, Yun Ho JUNG (Green House Gas Research Center, Korea), Jong-Ho PARK, Chang-Hyun KO, Kwang-Bok YI, Sang-Sup HAN and Soon-Haeng CHO (Korea Institute of Energy Research, Korea)

HO-06 14:40 – 15:00

Strategy for Anion Recovery Based on Crystallization Engineering

Izumi HIRASAWA, Yuhdai SUZUKI (Waseda University, Japan), Kazuaki SHIMAMURA (Ebara Environmental Engineering co. Ltd., Japan), and Tohru YOKOYAMA (Organo Co., Ltd., Japan)

HO-07 15:00 – 15:20

Ethyl Lactate Production from a Lactic Acid Fermentation Broth

Ken-ichi AGO, Tomokazu MORI (Yamanashi Institute of Environmental Sciences, Japan), Satoshi HASEGAWA, Masashi SAKURAI and Koji TAKAHASHI (Yamagata University, Japan)

HO-08 15:20 – 15:40

Superconducting High Gradient Magnetic Separation for Purification of Waste Water

Shigehiro NISHIJIMA (Osaka University, Japan)

POSTER PRESENTATION (HP)

October 3 (Fri.) 14:00 – 17:00 (Hall & Room #7)

HP-01 Hydrate Phase Equilibria for the Ternary $\text{HFC-134a} + \text{N}_2 + \text{Water}$ and $\text{SF}_6 + \text{N}_2 + \text{Water}$ Mixtures

Yong-Won SEO, In-Uk CHA, Seung-Min LEE (Changwon National University, Korea), Ju-Dong LEE (Korea Institute of Industrial Technology, Korea), Gang-Woo LEE (Yoo Sung Co., LTD, Korea), Fumio KIYONO and Akihiro YAMASAKI (National Institute of Advanced Industrial Science and Technology, Japan)

HP-02 Thermal Decomposition of the Alberta Oil Sand by Thermogravimetry and in a Fixed Bed Reactor

Young-Cheol PARK, Dal-Hee BAE, Ho-Jung RYU (Korea Institute of Energy Research, Korea), Jong-Seon SIN (Hanyang University Korea), and Do-Won SHUN (Korea Institute of Energy Research, Korea)

- HP-03 Variation of Physical Property on Zinc-Based Desulfurization Sorbent Under High Reducibility of Coal Gas
In-Hak CHO, No-Kuk PARK, Suk-Hoon YOON, Gi-Bo HAN, and Tae-Jin LEE (Yeungnam University, Korea)
- HP-04 The Photo-Fenton Degradation of Mixture of Non-Ionic Surfactants in Aqueous Solution
Takumi HAYASHI, Masahiro TOKUMURA, Erina ONO and Yosinori KAWASE (Toyo University, Japan)
- HP-05 Adsorption of Acetaldehyde over Spent-Catalysts of Petrochemical Process
Hee-Seung YOON (Daedong A.C. Ltd. Co., Korea), Jai-hee YOO (Gongju National University, Korea), Young-Kwon PARK (University of Seoul, Korea), Jin-Heong YIM, and Jong-Ki JEON (Gongju National University, Korea)
- HP-06 Microelectrophoresis with Alternating Current Voltage in Micro-Flow Channel for Rapid Affinity Evaluation of Proteins
Woo-Sik KIM (Kyunghee University, Korea), Seung-Jin KIM, Sang-Mok CHANG, and Jong-Min KIM (Dong-A University, Korea)
- HP-07 Degradation of Polyvinyl Alcohol (PVA) Using Ozone Microbubbles
Pan LI, Masayoshi TAKAHASHI (AIST, Japan), Kaneo CHIBA (REO Laboratory Co., LTD., Japan)
- HP-08 Evaluation Techniques for Solid-State Hydrogen Storage/Release Materials
Sang-Sup HAN, Chu-Sik PARK, Jong-Ho PARK, Jong-Nam KIM, and Soon-Haeng CHO (Korea Institute of Energy Research, Korea)
- HP-09 Selectable Recovery of Precious Metals from Electrical Devices
Gen OKURA, John GATES, Itaru KATO and Tomoyo MITANI (Tokyo National College of Technology, Japan)
- HP-10 Production of Hydrogen Gas by Thermochemical Transition of Lauan
Hun-Yong SHIN, Seong-Jin PARK, Hye-Jin JUNG, Jae-Ek SON and Lae-Hyun KIM (Seoul National University of Technology, Korea)
- HP-11 Novel Thermal Swing Sorption Enhanced Reaction Process for Simultaneous Production of H₂ and CO₂ from Synthesis Gas
Ki-Bong LEE (Korea Institute of Energy Research, Korea), Michael G. BEAVER, Hugo. S. CARAM, Shivaji SIRCAR (Lehigh University, USA)
- HP-12 A Hybrid Process of Membrane and PSA for CO₂ Recovery from High Temperature Off Gas
Jong-Kee PARK, Sung-Chul CHO, Chan-Hwa HONG, and Kweon-Il KIM (Korea Institute of Energy Research, Korea)
- HP-13 Removal of Phosphate from Wastewater using a Hybrid Method
Kenichi YAMAZAKI, Tomoyo MITANI, Kosuke YAMAMOTO (Tokyo National College of Technology, Japan), Tomotaka YANAGITA, Yaozong JIANG (CREATERRA Inc., Japan)
- HP-14 Selective Concentration of CO₂ from High Temperature Exhaust Gas Using X-Type Zeolite
Masaki OKADA, Shigeki FURUKAWA, and Toshihiko HIAKI (Nihon University, Japan)
- HP-15 Ethanol Production from Waste Wood
Masashi SAKURAI (Yamagata University, Japan), Ken-ich AGO (Yamanashi Institute of

Environmental Sciences, Japan), Satoshi HASEGAWA and Koji TAKAHASHI (Yamagata University, Japan)

ENERGY AND RESOURCES (J)

POSTER PRESENTATION (JP)

October 3 (Fri.) 14:00 – 17:00 (Hall & Room #7)

- JP-01 Performance of Graphite Anode in Microbial Fuel Cells on Electricity Generation
Kyung-Ryang KIM, Sung-Wook LEE, Sung-Hee ROH, and Sun-Il KIM (Chosun University, Korea)
- JP-02 NH_3BH_3 for Chemical Hydrogen Storage
Chang-Soo KIM (Korea Institute of Science and Technology, Korea), Ji-Hong LEE (Sungkyunkwan University, Korea), Hyun-Joo LEE, and Byoung-Sung AHN (Korea Institute of Science and Technology, Korea)
- JP-03 Characterization of Interfacial Resistances in Membrane-Electrode Assembly (MEA) using the Electrochemical Impedance Spectroscopy for Fuel Cells Applications
Seok-Jun SEO, Jung-Je WOO, Sung-Hyun YUN (Gwangju Institute of Science and Technology, Korea), Jin-Soo PARK (Korea Institute of Energy Research, Korea), Hong-Joo LEE, and Seung-Hyeon MOON (Gwangju Institute of Science and Technology, Korea)
- JP-04 Control of Methanol Crossover Using a Perforated Sheet for DMFC Application
Takuya TSUJIGUCHI, Naoto MASUMI, Ayumi KAWAKUBO and Nobuyoshi NAKAGAWA (Gunma University, Japan)
- JP-05 Life Cycle Assessment of Solar Cells
Hiroto SHIRAKI, Nozomu WATANABE, John GATES, Hiroshi NAGAYOSHI, and Itaru KATO (Tokyo National College of Technology, Japan)
- JP-06 Catalytic Decomposition of LPG by Carbon Black for Hydrogen Production
Suk-Hoon YOON, No-Kuk PARK, Gi-Bo HAN, Tae-Jin LEE (Yeungnam University, Korea), Gui-Young HAN, and Ki-June YOON (Sungkyunkwan University, Korea)
- JP-07 Effect of Gas Concentration on $\text{CaCO}_3\text{-SO}_2$ Reaction in O_2/CO_2 Atmosphere using Drop Tube Furnace
Hyung-Keun LEE, Hyun-Hee PARK, Hang-Dae JO, Won-Kil CHOI, Keun-Hee HAN (Korea Institute of Energy Research, Korea), Sang-In KEEL, and Young-Hoon SONG (Korea Institute of Machinery & Materials, Korea)
- JP-08 Study on the Desulphurization with Limestone on Oxy-Fuel Combustion Gas using Drop Tube Furnace
Hyung-Keun LEE, Young-Mo AN, Hang-Dae JO, Won-Kil CHOI, Keun-Hee HAN (Korea Institute of Energy Research, Korea), Sang-In KEEL, and Young-Hoon SONG (Korea Institute of Machinery & Materials, Korea)
- JP-09 Production of Fine Droplet from Slurry by Electrospray Method
Yuji TATEMOTO, Masaki TAKEUCHI, Tsuyoshi SAWADA (Shizuoka University, Japan), and Tadao OKAZAKI (Ohm Electric Co. Ltd., Japan)

- JP-10 Separation by Density Difference for Binary Components in Liquid-Soild Fluidized Bed
Yuji TATEMOTO, Yukio SUZUKI, Akinobu ISHII, Kazuhiro INAGAKI (Shizuoka University, Japan), Yoshiyuki BANDO and Yasuhito KAWASE (Nippon Refine Co. Ltd., Japan)
- JP-11 Influence of Physical and Chemical Properties on the Performance of Dye-Sensitized Solar Cells
Sung-Hoon JUNG, Kyung-Jun HWANG (Chosun University, Korea), Seung-Joon YOO (Seonam University, Korea), Sun-Il KIM, and Jae-Wook LEE (Chosun University, Korea)
- JP-12 Preparation of Mesoporous Carriers and Partial Oxidation of Methane to Syngas Over Pt Impregnated on Magadites (stm, stpm, szpm) Catalysts
Ho-Joon SEO, Oh-Yun KWON (Chonnam National University, Korea), Chang-Chai KIM (Mokpo National University, Korea), and Eui-Yeon YU (Chonnam National University, Korea)
- JP-13 Drying Characteristics of Porous Materials in Fluidized Bed with Various Humidity Under Reduced Pressure
Yuji TATEMOTO, Ryo KIMURA, (Shizuoka University, Japan), Hiroyuki IYOTA and Junko YAMAGATA (Osaka City University, Japan)
- JP-14 Energy Saving of Limestone-Gypsum Flue-Gas-Desulfurization by High Concentration Limestone Slurry
Takeshi KIMURA (Rotary Scrubber Japan Co., Ltd., Japan)

SOFT-WARE TECHNOLOGY (K)

ORAL PRESENTATION (KO)

October 3 (Fri.) 14:00 – 15:00 (Room #2)

Poster Preview (KP-01 – KP-09)

POSTER PRESENTATION (KP)

October 3 (Fri.) 15:00 – 17:00 (Hall & Room #7)

- KP-01 Development of Physical Properties Prediction-Program using Group Contribution Methods
Yuki KUROSU, Masashi YAMAGISHI, Hiroyuki MATSUDA, Kiyofumi KURIHARA and Katsumi TOCHIGI (Nihon University, Japan)
- KP-02 Operator Training System (OTS) based on the Open Architecture oriented General Purpose Process Modeling System (gPROMS)
Costas PANTELIDES (Process Systems Enterprise Ltd., UK), Shigeru KASHIWAYA, and Shigeo OBA (PSE Japan)
- KP-03 Computer Simulation for a Semi-batch Bubble Column Reactor Using a Tank-in-series Model
Takashi KATO, Masahiro TOKUMURA, Hussein Tawfeek ZNAD, and Yoshinori KAWASE (Toyo University, Japan)
- KP-04 Prediction of Antoine Constants Using Group Contribution Method
Katsumi TOCHIGI (Nihon University, Japan), Hiroshi YAMAMOTO (Asahi Glass Company, Ltd.,

Japan), and Masashi YAMAGISHI (Nihon University, Japan)

KP-05 Process Design of Coreflux® Process Using Dynamic Simulation Study (Ethane, LPG Separation from LNG)

Heisuke TOCHIHARA and Makoto FUKANO (Toyo Engineering Co., Japan)

KP-06 Dynamic Simulation of a Practical Fully Thermally Coupled Distillation Column

Moon Yong LEE (Yungnam University, Korea), Su Yeong JEONG, and Young Han KIM (Dong-A University, Korea)

KP-07 Visual Modeler: A Plant Simulator for Dynamic and Steady State Calculations

David BROWN, Katsumi YOKOYAMA (Omega Simulation Co., Ltd., Japan), and Goro OGUCHI (Tiny Mouse Co., Ltd., Japan)

KP-08 Application of Molecular Modeling Simulator to Studies on Surface Modification of Silica Gel Particles

Junpei FUJIKI (Meiji University, Japan), Hiroshi FURUTA (Organo Co. Ltd., Japan), and Eiji FURUYA (Meiji University, Japan)

KP-09 Simulation for Biofilter Processes by Axial Dispersion Model Biological Treatment of VOCs

Ryo FUKUDA, Masahiro TOKUMURA, Hussein T. ZNAD, and Yoshinori KAWASE (Toyo University, Japan)