



Schedule and Program

November 4 (Fri)

Room #L-921, Library

15:30 – 16:30 Ordinary General Meeting of Japan Society of Ion Exchange (JSIE)

“Hana(華)” (3rd Floor) in Square Kojimachi

17:00 – 17:30 Registration

17:30 – 19:30 Welcome Gathering

November 5 (Sat)

Hall, Building #10

9:00 – 9:10 Opening Remarks
Takashi Hayashita

Session 1 <Sophia Symposium> _____ Chair: Hisao Kokusen (Tokyo Gakugei University)

9:10 – 9:50 Plenary Lecture #1 (PL-1)
Ion Exchange Separation of Weak and Very Weak Acids and Conductometric Detection
Purnendu Dasgupta

9:50 – 10:15 Keynote Lecture #1 (KL-1)
Ion Exchange Processes for Lithium Recovery from Aqueous Resources
Kazuharu Yoshizuka

10:15 – 10:30 Break

Session 2 <Sophia Symposium> _____ Chair: Masatoshi Endo (Yamagata University)

10:30 – 10:55 Keynote Lecture #2 (KL-2)
Separation Processes and Sustainability
Kathryn Mumford

10:55 – 11:20 Keynote Lecture #3 (KL-3)
Critical Metal Recycling from Lithium Batteries Using Environmentally Benign Solvent
Masahiro Goto

11:20 – 11:45 Keynote Lecture #4 (KL-4)
Highly Sensitive Dye Nanoparticle Test Strips for In-situ Diagnostics
Yukiko Takahashi



11:45 – 12:00 Photo Session

12:00 – 13:00 Lunch

12:00 – 13:00 Meeting of International Scientific Advisory Board (Room#10-B109)

Session 3 _____ *Chair: Takayoshi Hara (Chiba University)*

- 13:00 – 13:25 Keynote Lecture #5 (KL-5)
Molecular Prodrug Engineering towards Precision Drug Delivery System
Jong Seung Kim
- 13:25 – 13:40 Oral Presentation #1 (OP-1, Fundamental)
Physicochemical Characteristics of Gold Nanoparticles Synthesized and Stabilized by *o*-, *m*- and *p*-Hydroxybenzoic Acids
Sri Juara Santosa, Agustina Sus Andreani, Zulfani Saidatu Farkhah, and Suyanta Suyanta
- 13:40 – 13:55 Oral Presentation #2 (OP-2, Organic resin and other organic ion exchanger)
Adsorption Behavior of Trivalent Actinides and Lanthanides on Pyridine Resin in Sodium Nitrate Aqueous Solution
Fauzia Hanum Ikhwan, Chikage Abe, Kenji Konashi, and Tatsuya Suzuki
- 13:55 – 14:10 Oral Presentation #3 (OP-3, Inorganic ion exchanger)
Sorption of Li and Competing Ions from Geothermal Brines to Manganese Oxide Sorbents
Klemens Slunitschek, Jochen Kolb, and Elisabeth Eiche
- 14:10 – 14:20 Break

Session 4 _____ *Chair: Syouhei Nishihama (The University of Kitakyushu)*

- 14:20 – 14:35 Oral Presentation #4 (OP-4, Solvent extraction)
Machine Learning to Guide Selective Solvent Extraction of Critical Metals
Adroit T. N. Fajar, Aditya D. Hartono, Rahman Md Moshikur, and Masahiro Goto
- 14:35 – 14:50 Oral Presentation #5 (OP-5, Analytical technology)
Fluorescent Chemosensing for D-glucose by Inclusion Complex of γ -Cyclodextrin and Pyridylboronic Acid-based Probe Showing Excellent Chiral Selectivity
Yota Suzuki, Takeshi Hashimoto, and Takashi Hayashita



14:50 – 15:05 Oral Presentation #6 (OP-6, Analytical technology)
 Fluorescent Detection of Endotoxin Using Cadmium Complexed with
 Dipicolylamine-type Pyrenyl Probe
Hiroshi Kimoto, Masamitsu Iiyama, Takeshi Hashimoto, and Takashi Hayashita

15:05 – 15:20 Oral Presentation #7 (OP-7, Analytical technology)
 New Electrochemical Detection Mechanism Based on Cyclodextrins for the
 Selective Detection of Human Metabolites
Maria Antonietta Casulli, Takeshi Hashimoto, and Takashi Hayashita

15:20 – 15:35 Break

Session 5 _____ Chair: Yuiko Tasaki-Handa (Saitama University)

15:35 – 16:00 Keynote Lecture #6 (KL-6)
 How Liquid-liquid Extraction Can Help in the Development of New (Radio)
 Pharmaceuticals
Holger Stephan

16:00 – 16:15 Oral Presentation #8 (OP-8, Environmental)
 (Withdrawn)

16:15 – 16:30 Oral Presentation #9 (OP-9, Environmental)
 Selenium Removal from Aqueous Solution Using Yttrium(III) Incorporated
 Magnetic Particles
Kaoru Ohe, Amu Wakamatsu, and Tatsuya Oshima

16:30 – 16:45 Oral Presentation #10 (OP-10, Environmental)
 Adsorptive Removal of Heavy Metals by Adsorbent Prepared from
 Cyanobacterial Biomass
Yoshimasa Amano, Jing Wang, and Motoi Machida

16:45 – 17:00 Oral Presentation #11 (OP-11, Advanced technology)
 Pd Nanoparticle Recovery Dispersed in Viscous Organic Solution by Addition of
 Polyelectrolyte Solution
Hidetaka Kawakita, Shintaro Morisada, and Keisuke Ohto

17th Floor, Building #6

17:30 – 19:30 Reception (invited member only)



November 6 (Sun)

Hall, Building #10

Session 6 <Sophia Symposium> _____ Chair: Takashi Hayashita (Sophia University)

- 9:00 – 9:40 Plenary Lecture #2 (PL-2)
Fluorescent Sensing and Imaging in Biological Environment Based on Small Organic Molecular Assemblies
Aijun Tong
- 9:40 – 10:05 Keynote Lecture #7 (KL-7)
Kinetics, Thermodynamics and Mechanism of In-situ Reductive Adsorption of Gold(III) to Gold Nanoparticles on Organic Acids-Functionalized Mg/Al Hydrotalcite
Sri Juara Santosa

10:05 – 10:20 Break

Session 7 <Sophia Symposium> _____ Chair: Naoki Hirayama (Toho University)

- 10:20 – 10:45 Keynote Lecture #8 (KL-8)
Separations by Ion Exchange Materials for Environmental Clean-up and Energy Generation
Nalan Kabay
- 10:45 – 11:25 Plenary Lecture #3 (PL-3)
Characteristic Phenomena of Frozen Aqueous Solutions: Toward a Better Understanding of Environmental Processes in the Cryosphere
Tetsuo Okada

Session 8 <Sophia Symposium> _____ Chair: Masahiro Goto (Kyushu University)

- 11:25 – 11:55 JSIE Award Lecture
Keisuke Ohto
- 11:55 – 13:00 Lunch

Active Commons: Building #9, B1F

13:00 – 15:00 Poster Session (see program below)



Hall, Building #10

Session 9 _____ Chair: Syunichi Oshima (Kanazawa Institute of Technology)

- 15:20 – 15:45 Keynote Lecture #9 (KL-9)
Improved Electrochemical Sensing with Surface Modified Electrodes Based on Ion-exchange
Hasuck Kim
- 15:45 – 16:00 Oral Presentation #12 (OP-12, Nuclear application)
Removal and Recovery of Ruthenium and Cesium from Spent Nuclear Fuel by using Tungsten Molybdophosphate Novel Inorganic Ion Exchanger
Irvin Mardongan Banjarnahor, Chikage Abe, Kenji Konashi, Tatsuo Abe, and Tatsuya Suzuki
- 16:00 – 16:15 Oral Presentation #13 (OP-13, Nuclear application)
Effect of γ -Ray Irradiation in HNO_3 on Adsorptivity of Long-Chain Cyclic Monoamide Resin
Masanobu Nogami, Yuki Yoshimura, Tatsuya Suzuki, and Nobuhiro Sato
- 16:15 – 16:30 Oral Presentation #14 (OP-14, Nuclear application)
Cross-Linkage Effects of Styrene-Divinyl benzene based Pyrrolidone Resin on Adsorption of Actinide Ions in Nitric Acid Solution
Tatsuya Suzuki, Rin Murayama, Chikage Abe and Kenji Konashi
- 16:30 – 16:45 Oral Presentation #15 (OP-15, Catalysis)
Development of Cobalt Oxide Nanocomposite Catalyst from Cobalt Aluminum Layered Double Hydroxide Precursor towards Aerobic Alcohol Oxidation
Febi Yusniyanti, Takayoshi Hara, and Nobuyuki Ichikuni
- 16:45 – 17:00 Award Ceremony and Photo Session

“Orizuru Rei” (Banquet Floor) in Hotel New Otani, Tokyo

18:00 – 20:00 Banquet

November 7 (Mon)

- 9:00 – 9:10 Closing Remarks
Takashi Hayashita
- 9:10 – 9:20 Photo Session

Bus tour

9:30 – 17:00 Excursion



Poster Session (November 6 (Sun), Active Commons: Building #9, B1F)

- P01 Adsorption of Iridium by Ion Exchange Resin WA21J
Yasuhiro Tanabe, Syouhei Nishihama, and Kazuharu Yoshizuka
- P02 PC-88A Impregnated Fiber for Adsorption of Rare Earth Metals
Sota Koumaru, Syouhei Nishihama, and Kazuharu Yoshizuka
- P03 Lithium Recovery from Natural Gas Brine to Producing Li_2CO_3
Ryosuke Yamagata, Syouhei Nishihama, and Kazuharu Yoshizuka
- P04 Antimicrobial and Ion-exchangeable Properties of Layered KHSi_2O_5 Compound Prepared by Using Amorphous Silicon Dioxide Blocks (a-SiO_2)
Kuda Durayalage Sulasa Devi Ariyapala, Withanage Isuru Udakara Withanage, Nobuhiro Kumada, Takahiro Takei, and Hideharu Horikoshi
- P05 Evaluation of Mixed Ionic Liquid Cation Exchange Extraction Phase Using a Cationic Strontium-Crown Ether Complex
Ayaka Owaki, Kotaro Morita, and Naoki Hirayama
- P06 Environmentally Benign Rare Metal Extraction Process from Nickel Ores Using Deep Eutectic Solvents
Takahiro Sakamoto, Takafumi Hanada, and Masahiro Goto
- P07 Hydrolysis of Pd(II)-NADH Coordination Polymer for Detection of Lanthanide Ions
Eran Takada, Yuiko Tasaki-Handa, and Shingo Saito
- P08 Bacteria Recognition by Boronic Acid-Based Ditopic Dendrimers for Gram-Positive Bacteria
Ayame Mikagi, Koichi Manita, Asuka Yoyasu, Yuji Tsuchido, Nobuyuki Kanzawa, Takeshi Hashimoto, and Takashi Hayashita
- P09 Development of Smart Test Methods for the Base Number of Used Diesel Engine Oil
Sohta Yamane, Atsushi Sasaki, and Masatoshi Endo
- P10 Dissolution Behavior of Iron in Contact with Frozen Electrolyte Solutions
Minami Maeda, Nobuo Uehara, and Arinori Inagawa
- P11 Suppression the Elution of Harmful Anion from the Recycled Crushed Stone
Hideki Takamatsu, Hirotaka Matsuda, Atsushi Sasaki, and Masatoshi Endo
- P12 Redox Behavior and Inactivation Effect of Irradiated Product with Vacuum Ultraviolet Light for Nitrogen Compound
Akari Shiokawa, Maho Ishiyama, Koki Endo, Takahiro Kawana, Atsushi Sasaki, Shigekazu Yano, and Masatoshi Endo



- P13 Boric Acid Detection by Using (β -Diketonato) Ruthenium Complexes
Kai Sato, Hiroshi Kimoto, Takeshi Hashimoto, and Takashi Hayashita
- P14 Adenosine Triphosphate (ATP) Detection by Dipicolylamine Type Fluorescent Probe/Boronic Acid Modified Cyclodextrin Complex
Masakage Masuko, Yota Suzuki, Takeshi Hashimoto, and Takashi Hayashita
- P15 Surface Charge Control of Cyclodextrin Nanogels Modified with Phenylboronic Acid for Bacteria Discrimination
Yuki Iwai, Kouta Sagehashi, Takeshi Hashimoto, and Takashi Hayashita
- P16 Elution of the Platinum Group Metals from the Automotive Catalysts by a Business Use Microwave Oven
Kaito Saito, Toshiya Nakamura, Shiori Iijima, Atsushi Sasaki, and Masatoshi Endo
- P17 Development of New Color Reactions Based on Oxidation of Aromatic Amines with Au(III), Ce(IV)
Kento Inoue, Nobuo Uehara, and Arinori Inagawa
- P18 Nucleotide-based Coordination Polymer for Selective Adsorption of Single-stranded DNA Oligomers
Yushi Sato, Yuiko Tasaki-Handa, and Shingo Saito
- P19 Design of PAMAM Dendrimer Modified with Benzoxaborole for Bacteria Discrimination
Yotaro Takahashi, Yota Suzuki, Ayame Mikagi, Takeshi Hashimoto, and Takashi Hayashita
- P20 Synthesis of Ruthenium Complexes with Phenyl Groups and Electrochemical Sugar Recognition
Kazuho Tagami, Takeshi Hashimoto, and Takashi Hayashita
- P21 Fabrication of a Touch Test Device for Sn Detection on Metal Surfaces
Takashi Kibishi and Yukiko Takahashi
- P22 Study of the Applicability of Functionalized Silica-based Adsorbent for Pd(II) Separation from High-level Liquid Waste
Naoki Osawa, Tatsuya Ito, Hao Wu, and Seong-Yun Kim
- P23 Optimization of Phycobiliprotein Separation Process by UF Membranes and Ion Exchange Membrane
Takanori Hidane, Shintaro Morisada, Keisuke Ohto and Hidetaka Kawakita
- P24 Recovery of Palladium from Strong Acidic Solution using Sulfur-Impregnated Carbonaceous Bamboo
Ryoto Hashikawa and Takaaki Wajima



- P25 Preparation of a Highly Selective Fluoride Adsorbent by Mechanochemical Treatment from Ilmenite
Shunsuke Dei and Takaaki Wajima
- P26 Solidification of Silica-based Inorganic Paint with Superheated Steam
Yuki Sasaki, Atsushi Sasaki, and Masatoshi Endo
- P27 Selective Adsorption of Gold Using Silk Fibroin
Ainul Maghfirah, Kosuke Minamihata, Takafumi Hanada, Adroit T. N Fajar, and Masahiro Goto
- P28 Foundry Odor Removal Using Hypochlorous Acid Aqueous Solution
Masaki Sekiguchi, Hirokazu Kawashima, Katsutoshi Shigeno, and Masatoshi Endo
- P29 The Cesium Ion-exchange Mechanism of Hydrobiotite
Noriko Suzuki and Ayami Suzuki
- P30 Extraction for Anionic Species of Gallium Using Secondary Amido Compounds
Gehui Pang, Shintaro Morisada, Hidetaka Kawakita, and Keisuke Ohto
- P31 Precious Metals Extraction with Sulfur Function from Hydrochloric Acid
Minako Iwakuma, Yuushi Yoshioka, and Yoshinari Baba
- P32 Inactivating Effect on Virus of Hypochlorous Acid Water Containing N Compound
Maho Ishiyama, Masaki Sekiguchi, Atsushi Sasaki, Shigekazu Yano, and Masatoshi Endo
- P33 Structural Effects of Metal Ion Recognition of Dipicolylamine-type Azoprobe Supramolecular Complexes
Takeshi Hashimoto, Yoshiki Takemoto, and Takashi Hayashita
- P34 Removal Methods of Pb and Cr in Woody Biomass Combustion Ash
Rikuto Ujiie, Atsushi Sasaki, and Masatoshi Endo
- P35 Removal of Deteriorating Compounds in Used Cooking Oil with Water and Moisture Adsorbents
Yoshiki Takahashi, Ryohei Kunishi, Atsushi Sasaki, and Masatoshi Endo
- P36 Design and Function of Supramolecular Cyclodextrin Complex Sensors for Electrochemical Detection of ATP
Kazuhiko Yoshida, Maria Antonietta Casulli, Takeshi Hashimoto, and Takashi Hayashita
- P37 Eco-friendly Extraction of Rare-Earth Elements on Tribasic Calcium Phosphate Using Ozone
Yu Tachibana, Tomasz Kalak, Tatsuo Abe, and Masanobu Nogami



- P38 (Withdrawn)
- P39 Hydrothermal Modification of Chabazite for Fixation of Cesium Ions
Yujiro Watanabe, Eriko Kawabata, Nanako Taoka, Takeshi Kaneda, Syunichi Oshima, and Kenji Tamura
- P40 Suppression of Arsenic/Fluorine elution from Aluminum Refining Waste (Red Mud)
Takuto Yoshida, Atsushi Sasaki, and Masatoshi Endo
- P41 Fast Adsorption of Se and Sb Oxoanions Using Chitosan Nanofiber
Kaoru Ohe, Miku Furukawa, and Tatsuya Oshima
- P42 Preparation of Boron-type Layered Double Hydroxide for Flame Retardant Powder from Bittern
Takaaki Wajima
- P43 Separation of Saccharides Using Ion Exchange Resin
Yoshiya Tashiro, Tsuchiya Tomoaki, Masahiko Hashiguchi, and Shingo Ando
- P44 Adsorption Behavior of Metal Ions onto Mesoporous Silicate MCM-41 Modified with Pyridyl or Thienyl Groups
Syunichi Oshima, Kenta Takasawa, Kensuke Yoshikawa, Yujiro Watanabe, Masatoshi Endo, Kaoru Fujinaga, Geoffrey W. Stevens, and Yu Komatsu
- P45 Ionic Liquid Chelate Extraction of Copper(II) with Tridentate Extractants
 Rio Takeda, Wataru Tsuzaki, Kotaro Morita, and Naoki Hirayama
- P46 Adsorption Behavior of Dye on Natural Banana Fiber
Hisao Kokusen, Kano Oshikiri, Satoshi Ohmuro, and Tetsuto Kajiya
- P47 Lanthanide Ion Exchange Modulated via Crystalline Phase Transition of a Mixed-Metal Coordination Polymer Based on Bis(4-nitrophenyl)phosphate
Yuiko Tasaki-Handa, Shiori Tsuda, Masami Shibukawa, and Shingo Saito
- P48 Specific Inter-gallery Lift-up of Acetate-intercalated Layered Yttrium Hydroxide in Water
Takayoshi Hara, Maoko Habe, Hikaru Nakanishi, Takuya Fujimura, Ryo Sasai, Chikako Moriyoshi, Shogo Kawaguchi, Nobuyuki Ichikuni, and Shogo Shimazu
- P49 Preparation of Highly Selective Sorbents for Sorption of Metal and Metalloids from Highly Saline Solutions
Hana Skálová and Luděk Jelínek L