Wednesday, December 2, 2015

16:00 – 17:30
Registration (W9 Lobby)
17:00 – 19:00
Welcome Reception (W9 Collaboration room)

Thursday, December 3, 2015

8:30 – 16:00
Registration (W9 Lobby)

9:15 – 10:00
Opening ceremony including symposium photo (Room A)
Chair : Masaki Ozawa (Tokyo Institute of Technology, Japan), Yuezhou Wei (Shanghai Jiao Tong University)

Opening Addresses

Yoshinao Mishima (President, Tokyo Institute of Technology, Japan)

Kikuo Kishimoto (Dean of the Graduate School of Engineering, Tokyo Institute of Technology, Japan)

Toyohiko Yano (Director, Research Laboratory for Nuclear Reactors, Tokyo Institute of Technology, Japan)

Plenary Session (Room A)
Chair : Masaki Ozawa (Tokyo Institute of Technology, Japan), Yuezhou Wei (Shanghai Jiao Tong University)

10:00 – 10:30
(PL-1) Decreasing the Amount and Toxicity of High Level Radioactive Waste by Transmutation Technique including Molten Salt Reactors
Michio Yamawaki (Emeritus Professor, The University of Tokyo and University of Fukui, Japan)

10:30 – 11:00
(PL-2) Advances of nuclear energy chemistry in China: wet and dry methods
Zhifang Chai (Academician, Institute of High Energy Physics, Chinese Academy of Sciences, China)

11:00 – 11:20
Coffee break

1A-1: Basic actinide chemistry and radiochemistry (Room A)

11:20 – 11:40
(1A-11) *Invited*: Generation IV systems: an overview and example from Electra-FCC
Christian Ekberg (Nuclear Chemistry / Industrial Materials Recycling, Chalmers University of Technology, Sweden)

11:40 – 11:55
(1A-12) Comparison of U(VI) adsorption onto nanoscale zero-valent iron and red soil in the presence of U(VI)-CO_3/Ca-U(VI)-CO_3 complexes
Zhibin Zhang, Xiaohong Cao, Jun Liu, Rong Hua, Yunhai Liu (East China Institute of Technology, China)

11:55 – 12:10
(1A-13) Trivalent U complexes in CO_2 functionalization
Dongqi Wang, Zhifang Chai, Wanjian Ding, Weihai Fang (Institute of High Energy Physics, Chinese Academy of Sciences, China)

12:10 – 12:25
(1A-14) Fluorogenic Thorium Sensors Based on Substituted Tetraphenylethenes with Aggregation-Induced Emission Characteristics
Jun Wen, Sheng Hu, Xiao-Lin Wang (Institute of Nuclear Physics and Chemistry, China Academy of Engineering Physics, China)

12:25 – 13:30
Lunch (EEI Building)

1B-1: Separation chemistry of 4f/5f elements (Room B)

11:20 – 11:40
(1B-11) *Invited*: Extractions of actinides and lanthanides by different diglycolamides
Yuji Sasaki, Yumi Sugo, Keisuke Morita (Japan Atomic Energy Agency, Japan)

11:40 – 11:55
(1B-12) Selective Extraction of Americium(III) over Europium(III) with the Pyridylpyrazole / Based Ligands: Structure-properties Relationship

Dong-Ping Su, Zhi-Peng Wang, Xiao-Yang Hu, Song-Dong Ding, Chao Huang (College of Chemistry, Sichuan University, China)

11:55 – 12:10
(1B-13) Increase the robustness of Cyanex 301 based Ln(III)/An(III) separation process by introducing appropriate buffer reagent
Chao Xu, Taoxiang Sun, Jing Chen (Tsinghua University, China)

12:10 – 12:25
(1B-14) Recovery of Soft metal ion in Nitric Acid Solution by Chromatographic Agent coated by TPEN－NIPA Copolymer Gel with High TPEN Content
Takuya Kawamura, Kenji Takeshita (Tokyo Institute of Technology, Japan)

12:25 – 13:30
Lunch (EEI Building)

1A-2: Basic actinide chemistry and radiochemistry (Room A)

13:30 – 13:50
(1A-21) *Invited*: Recent progress in technetium chemistry with respect to metal recovery, radioactive waste purification and medical applications
German Konstantin, Afanasiev Andrey, Grigoriev Mikhail, Kryzhovets Olga、Fedosseev Alexander,,Obruchnikova Yana,Safonov Alexey, Tregubova Varvara (Russian Academy of Sciences Moscow, Russia)

13:50 – 14:05
(1A-22) In-column fiber-optic laser-induced fluorescence detection with capillary electrophoresis for the rapid separation and sensitive analysis of lanthanides
Changming Cheng, Tao Jiang, Sheng Hu, Xiaolin Wang (China Academy of Engineering Physics, China)

14:05 – 14:20
(1A-23) Microplasma-Assisted Rapid Synthesis of Luminescence Nitrogen-Doped Carbon Dots for Uranium Detection
Zhe Wang, Yuexiang Lu, Hang Yuan, Chao Xu and Jing Chen (Tsinghua University, China)

14:20 – 14:35
(1A-24) Development of the Laser Photochemical Reaction with a Self-injection-seeded Ti:sapphire Laser for Cesium Isotope Separation
Koji Tamura, Masaki Ozawa (Japan Atomic Energy Agency, Japan)

14:35 – 14:50

(1A-25) Synthesis of Fluorescent Cyclic Chelating Reagent for Lanthanide Ion Sensing

Yoshinori Hida, Takehiko Tsukahara (Tokyo Institute of Technology, Japan)

14:50 – 15:05

(1A-26) Prostate-Specific Inhibitors of Membrane Antigen as a Base for Radiopharmaceuticals for Diagnostics and Therapy of Metastatic Prostate Cancer

German Konstantin, Vlasova Oksana, Petriev Vladimir, Obruchnikova Yana, Krilov Vladimir, Epstein Natalia, Tananaev Ivan, Myasoedov Boris, Afanasiev Andrey, Kryzhovets Olga (FASO Frumkin Institute of Physical Chemistry and Electrochemistry RAS, Russia)

15:05 – 15:25

Coffee break

1B-2: Separation chemistry of 4f/5f elements (Room B)

13:30 – 13:45

(1B-21) Microbe activity promoted transformation of lanthanide and actinide

Qianqian Yu, Toshihiko Ohnuki, Kazuya Tanaka, Naofumi Kozai, Shinya Yamasaki , Fuminori Sakamoto, Yukinori Tani (Japan Atomic Energy Agency, Japan)

13:45 – 14:00

(1B-22) Theoretical Studies on the Trivalent Lanthanides and Actinides Extraction Complexes with Diglycolamides

Cong-Zhi Wang, Jian-Hui Lan, Qun-Yan Wu, ZhiFang Chai and Wei-Qun Shi (Chinese Academy of Sciences, China)

14:00 – 14:15

(1B-23) Separation of Trivalent Actinides and Lanthanides in Nitric Acid Medium Using Isohexyl-BTP/SiO_2-P Adsorbent

Yuezhou Wei , Shunyan Ning , Xinpeng Wang , Ruiqin Liu , Weiqun Shi , Chongzhi Wang (Shanghai Jiao Tong University, China)

14:15 – 14:30

(1B-24) Pillar[5]arene-Based Diglycolamide Ligands in RTIL for Highly Selective Separation of Actinides

Lihua Yuan, Lei Wu, Yuyu Fang, Xiangyang Yuan, Bing Bai, Ning Liu, Wen Feng (Sichuan University, China)

14:30 – 14:45

(1B-25) Breakthrough Properties of Uranium in Zeolite Columns

Hitoshi Mimura, Mamoru Matsukura (UNION SHOWA K.K, Japan)

14:45 – 15:00

(1B-26) Evaluation of isobuty-BTP/SiO_2-P adsorbent for separating MA from Ln in HLLW

Shunyan Ning, Qing Zou, Xinpeng Wang, Ruiquin Liu, Yuezhou Wei (Shanghai Jiao Tong University, China)

15:00 – 15:25

Coffee break

1A-3: Basic actinide chemistry and radiochemistry (Room A)

15:25 – 15:45

(1A-31) *Invited*: Complex Processing of Uranium-Contained Raw Materials

Troshkina I.D. (D. Mendeleyev University of Chemical Technology of Russia, Russia)

15:45 – 16:00

(1A-32) Effects of Colloids on U(VI) Transport Through a Saturated Sand Column: Experimental and Modeling Study

Mengtuan Ge, Junwei Yang, Qiang Jin, Wangsuo Wu, Zhijun Guo (Lanzhou University, China)

16:00 – 16:15

(1A-33) Effects of Humic Acid on the sorption of Se(IV) and Se(VI) on Ferrihydrite

Z. Niu, Z. Guo, W. Wu (Lanzhou University, China)

16:15 – 16:30

(1A-34) The Study on Activated Clay in Adsorption of Uranium

Zhuoxin Yin, Rui Wei, Ping Li, Wangsuo Wu (Lanzhou University, China)

16:30 – 16:45

(1A-35) Liquid/liquid Extraction of Uranium Using Microfluidic Droplets in A Microchannel

Takehiko Tsukahara (Tokyo Institute of Technology, Japan)

1B-3: Innovative separation and material science (Room B)

15:25 – 15:40

(1B-31) Feasibility studies on the isoHexBTP/SiO_2-P extraction chromatography-electrodeposition (EC-ED) process for the recovery of palladium(II) from HLLW

Ruiqin Liu, Qing Zou, Shunyan Ning, Xinpeng Wang, Yuezhou Wei (Shanghai Jiao Tong University, China)

15:40 – 15:55

(1B-32) A Simple Method for Preparing Porous Gold Nanowires with the Assistant of Nuclear Track Membrane

Hang Yuan, Yuexiang Lu, Zhe Wang, Yulan Wang and Jing Chen (Tsinghua University, China)

15:55 – 16:05

(1B-33) Extraction of Uranyl Ion from the Aqueous Phase into Ionic Liquid Diluent by 4-Oxaheptanediamide Type Extractants

Peng Ren, Qing-Gang Huang, Ming-Jian He, Ze-Yi Yan, Wang-Suo Wu (Lanzhou University, China)

16:05 – 16:20

(1B-34) Efficient removal of radionuclides from aqueous solutions using carbon nanomaterials

Xiangke Wang, Changlun Chen, Jiaxing Li, Yubing Sun (North China Electric Power University, China)

16:20 – 16:35

(1B-35) Electrodeposition of Pd(II) from Nitric Acid Solution containing Thiourea

Qing Zou, Ruiqin Liu, Shuai Gu, Yuezhou Wei (Shanghai Jiaotong University, China)

16:35 – 16:50

(1B-36) Crystal Structure Change of B4C after Neutron Irradiation: A first principal calculation approach

Yan You, Liang Sun, Katsumi Yoshida, Toyohiko Yano (Tokyo Institute of Technology, Japan)

16:50 – 17:05

(1B-37) Effects of sintering additives on defects annihilation mechanism of neutron-irradiated NITE SiC by post-irradiation annealing

Mohd Idzat Idris, Saishun Yamazaki, Katsumi Yoshida, Toyohiko Yano (Tokyo Institute of Technology, Japan)

18:30 – 20:30
Banquet, The Prince Park Tower Tokyo (40 min from Tokyo Tech)

Friday, December 4, 2015

8:30 – 15:00
Registration (W9 Lobby)

2A-1: Advanced reprocessing and separation technologies (Room A)

9:00 – 9:20
(2A-11) *Invited*: Actinides Separation from Lanthanides Using a Liquid Ga Electrode in LiCl-KCl Melts
T. Murakami, S. Kitawaki, Y. Sakamura, M. Iizuka, T. Nohira, H. Kofuji (Central Research Institute of Electric Power Industry, Japan)

9:20 – 9:35
(2A-12) An Improvement Study on the Closed Chamber Distillation System for Recovery of Fluoride Molten Salts
Fu Haiying, Dou Qiang, Yang Yang, Geng Junxia, Wang Zihao, Jia Yunpeng, Li Qingnuan (Shanghai Institution of Applied Physics, Chinese Academy of Sciences, China)

9:35 – 9:50
(2A-13) Dissolution properties of fluorides in hydrogen fluoride and its application in TMSR fuel reprocessing
Zheng Li, Yulong Song, Lan Zhang, Qingnuan Li (Shanghai Institution of Applied Physics, Chinese Academy of Sciences, China)

9:50 – 10:05
(2A-14) Study on Fluoride Volatility in Fluoride Salts
Dou Qiang, Sun Lixin, Fu Haiying, and Li Qingnuan (Shanghai Institute of Applied Physics, Chinese Academy of Sciences, China)

10:05 – 10:20
(2A-15) Achieving actinide separation over lanthanides by aluminium cathode based electrolysis in LiCl-KCl eutectic
Weiqun Shi, Yalan Liu, Kui Liu, Zhifang Chai (Institute of High Energy Physics, Chinese

Academy of Sciences, China)

10:20 – 10:40
Coffee break

10:40 – 11:00
(2A-16) *Invited*: Application of Fluoride Volatility Technology to Nuclear Fuel Cycle Systems
Tetsuo Fukasawa, Kuniyoshi Hoshino, Akira Sasahira (Hitachi-GE Nuclear Energy, Ltd., Japan)

11:00 – 11:15
(2A-17) Dissolution Behavior of Metal Oxides to Deep Eutectic Solvents Consisting of Ammonium Nitrate and Methylacetamide
Takao Tomiyama, Masanobu Nogami (Kinki University, Japan)

11:15 – 11:30
(2A-18) Adsorption and elution of rhenium (VII) with a porous 4-vinylpydine-based anion exchanger
Puyin Wang, Jianhua Zu, Yuezhou Wei (Shanghai Jiao Tong University, China)

11:30 – 11:45
(2A-19) Chromatographic Behavior and Radiation Stability of Acryloylmorpholine Resin in Nitric Acid Media
Masanobu Nogami, Koshiro Sawai, Tetsuhiro Nishida, Nobuhiro Sato, Masayuki Harada, Yasuhisa Ikeda (Kinki University, Japan)

11:45 – 12:00
(2A-20) Synthesis of novel TODGA derivatives and their Extraction of UO_2^{2+} and Th(IV) in Ionic Liquid System
Peng Ren, Ming-Jian He, Qing-Gang Huang, Wang-Suo Wu, Ze-Yi Yan (Lanzhou University, China)

12:00 – 12:15
(2A-21) Adsorption of Cs by Porous Silica Coated with Thin-film Polymer Containing Iron(III) Ferrocyanide
Yusuke Sakai, Keita Kanazawa, Yusuke Inaba, Kenji Takeshita (Tokyo Institute of Technology, Japan)

12:15 – 13:20
Lunch (EEI Building)

2B-1: Separation-Transmutation and Education for Nuclear Fuel Cycle (Room B)

9:00 – 9:20
(2B-11) *Invited*: Accelerators and Research Activities of RIKEN RI beam factory
Hiroki Okuno (RIKEN, Nishina Center for Accelerator-based Science, Japan)

9:20 – 9:35
(2B-12) Measurement of Neutron Capture Cross Section of ^{99}Tc Using High Intensity Pulsed Neutron Beam from J-PARC Spallation Neutron Source
Tatsuya Katabuchi, Masayuki Igashira, Motoharu Mizumoto, Kazushi Terada, Atsushi Kimura, Shoji Nakamura, Taro Nakao, Hideo Harada, Jun-ich Hori, Koich Kino, Yoshiaki Kiyanagi (Tokyo Institute of Technology, Japan)

9:35 – 9:50
(2B-13) Predictive Simulation on Nuclear Transmutation of Rare Earth Elements and Evalution of the Reliability by Nuclear Analysis of PIE at UC Irvine TRIGA® Reactor
Atsunori Terashima, Leila Safavi-Tehrani, Mikael Nilsson, Masaki Ozawa (Tokyo Institute of Technology, Japan)

9:50 – 10:05
(2B-14) Study on the Production of Tb and Dy derived from the Spent Gd_2O_3 Burnable Poison in LWRs
Yuki Tanoue, Tsugio Yokoyama, Masaki Ozawa (Tokyo Institute of Technology, Japan)

10:05 – 10:20
(2B-15) Optimizing the Transmutation Rate of Tungsten to Rhenium by Using Zirconium Hydride Moderator in Fast Reactors
Tsugio Yokoyama, Yuki Tanoue, Atsunori Terashima, Masaki Ozawa (Tokyo Institute of Technology, Japan)

10:20 – 10:40
Coffee break

10:40 – 10:55
(2B-16) Après ORIENT Cycle, A Resource-oriented P&T program on Fission Products
Masaki Ozawa (Tokyo Institute of Technology, Japan)

10:55 – 11:10
(2B-17) Adsorption of Rhenium From Sulfuric Acid Solution Using Weak Base Nitrogen-containing Anionite

Pechen V.A., Vanin I.A., Troshkina I.D. (D. Mendeleyev University of Chemical Technology of Russia, Russia)

11:10 – 11:25
(2B-18) Feasibility of Nd Creation from Pr in Spent Nuclear Fuel by Neutron Irradiation of High Temperature Gas Cooled Reactor
Chi Young Han, Hiroshi Sagara, and Masaki Ozawa (Tokyo Institute of Technology, Japan)

11:25 – 11:40
(2B-19) Challenges of Nuclear Security Educational Course Establishment as a Graduate School Program in Tokyo Institute of Technology
Hiroshi Sagara, Masahide Katayama, Koichiro Takao, Chi Young Han, and Masaki Saito (Tokyo Institute of Technology, Japan)

11:40 – 11:55
(2B-20) Continuous Education Program from KOSEN to Nagaoka University of Technology for Cultivation of Pragmatical Nuclear Engineers
Tatsuya Suzuki (Nagaoka University of Technology, Japan)

11:55 – 12:15
(2B-21) *Invited*: Effects of partitioning and transmuting Long-lived radionuclides on geologic high-level wastes disposal
Jor-shan Choi (Berkeley Nuclear Research Center, USA)

12:15 – 13:20
Lunch (EEI Building)

2A-2: Advanced reprocessing and separation technologies (Room A)

13:20 – 13:35
(2A-22) Study on the extraction of strontium from nitric acid media with dicyclohexano 18 crown 6 in the mixture diluents of 1-octanol and 1,1,2,2-tetrachloroethane
Yang Gao, Wei Liu, Lin Zhu (Harbin Engineering University, China)

13:35 – 13:50
(2A-23) Recovery of uranium (VI) from phosphoric acid by solid-liquid extraction using a silica/polymer based D2EHPA-TOPO adsorbent
Afshin Khayambashi, Xiaolong Wang, Yuezhou Wei (Shanghai Jiao Tong University, China)

13:50 – 14:05

(2A-24) Extraction Behavior of Novel Cyclic Monoamide for Selective Separation of Uranium(VI) from Nitric Acid Media

Yuki Uemoto, Kouichi Matsumoto, Masanobu Nogami, Masayuki Harada, Yasuhisa Ikeda (Kinki University, Japan)

14:05 – 14:20

(2A-25) Comparison of the capability of three novel triazine-based materials with different O/S/N set of donor atoms in selective separation of uranium

Chiyao Bai, Meicheng Zhang, Bo Li, Shuang Zhang, Xiaosheng Zhao, Yang Li, Lei Wang, Lijian Ma, Shoujian Li (Sichuan University, China)

14:20 – 14:50

Coffee break

2A-3: Nuclear fuel cycle and system (Room A)

14:50 – 15:10

(2A-31) *Invited*: Interaction of technetium with neptunium in acidic media

Maciej Chotkowski, Stephan Weiss, Andreas Scheinost (University of Warsaw, Poland)

15:10 – 15:25

(2A-32) Lagrangain fluid dynamics for phase transition due to heat radiation

Kazuya Takabatake, Mikio Sakai (The University of Tokyo, Japan)

15:25 – 15:40

(2A-33) Flow measurement of Joule-heating flow in a two-dimensional glass melter model

Jiaju Zhou, Hiroshige Kikura (Tokyo Institute of Technology, Japan)

15:40 – 15:55

(2A-34) Development of Chemical Heat Storage Material for a Combined System with Load-following Nuclear Power Plant

Odtsetseg Myagmarjav, Yukitaka Kato (Tokyo Institute of Technology, Japan)

15:55 – 16:15

(2A-35) *Invited*: In-Line Near Real Time Monitoring of Fluid Streams in Separation Processes for Used Nuclear Fuel

Ko Nee, Mikael Nilsson (University of California Irvine, USA)

2B-2: Decontamination, Decommissioning, and Fukushima-related Technologies (Room B)

13:20 – 13:40
(2B-22) *Invited*: Chemical Speciation in the ALSEP Organic Extraction Phase
A. Paulenova, B.J. Gullekson, A. V. Gelis (Oregon State University, USA)

13:40 – 13:55
(2B-23) Adsorption Behavior of Cesium(I) in Nitric Acid By Silica Based Ammonium Molybdophosphate
Xiaoxia Zhang, Yan Wu, Yuezhou Wei (Shanghai Jiao Tong University, China)

13:55 – 14:10
(2B-24) Synthesis and Adsorptivity of Novel Bifunctional Chelating Adsorbent for Recovery of Uranium from Seawater
Kazuki Hashimoto, Masanobu Nogami, Masayuki Harada, Yasuhisa Ikeda (Kinki University, Japan)

14:10 – 14:25
(2B-25) Desorption of Cesium from Vermiculite by Hydrothermal Process Using Sea Water
Xiangbiao Yin, Hideharu Takahashi, Miki Harigai, Kenji Takeshita (Tokyo Institute of Technology, Japan)

14:25 – 14:50
Coffee break

14:50 – 15:05
(2B-26) Accumulation of Radioactive Cesium by Spent Mushroom Substrate in Forest System
Toshihiko Ohnuki, Fuminori Sakamoto , Naofumi Kozai , Kazuhiro Shiina , Kenji Tanaka ,Jun Namekawa, Shinya Yamasaki (Japan Atomic Energy Agency, Japan)

15:05 – 15:20
(2B-27) Recent Study on Ca Isotope Separation by Crown-Ether Resin Chromatography
Shin Okumura, Saori Umehara, Yasuhiko Fujii, Masao Nomura, Toshitaka Kaneshiki, Masaki Ozawa, Tadafumi Kishimoto (Tokyo Institute of Technology, Japan)

15:20 – 15:35
(2B-28) Adsorption behavior of nuclear rare metals on hybrid microcapsules in spent fuel solution
Takashi Onishi, Shin-ichi Koyama, Hitoshi Mimura (Japan Atomic Energy Agency, Japan)

15:35 – 15:50

(2B-29) Study on removal of Cs from aqueous solution by microcapsules enclosing natural minerals

Chuan-Pin Lee, Ming-Chee Wu, Shih-Chin Tsai, Tsuey-Lin Tsai (National Cheng Kung University, Taiwan)

15:50 – 16:05

(2B-30) Theoretical Insight into Solid-Phase Extraction of Actinides with Graphene Oxide

Qunyan Wu, Jianhui Lan, Congzhi Wang, Zhifang Chai, Weiqun Shi (Institute of High Energy Physics, Chinese Academy of Sciences, China)

16:05 – 16:20

(2B-31) Synthesis of Multifunctional Silica-based Adsorbents and Their Adsorption Behaviors for various nuclides

Yan Wu, Xiaoxia Zhang, Yuezhou Wei, Hitoshi Mimura (Shanghai Jiao Tong University, China)

16:20 – 16:35

(2B-32) Algae and bacterial biomass for radioactive waste purification and metal recovery

Safonov Alexey, Zinicovscaia Inga, Ostalkevich Svetlana, Ivanenko Anton, Tregubova Varvara, Khijniak Tatiana, German Konstantin (Russian Academy of Sciences Moscow, Russia)

16:35 – 16:50

(2B-33) Recovery of Tritium from Contaminated Water caused by Fukushima Dai-ichi NPP Accident

Kenji Takeshita, Hideharu Takahashi, Yusuke Inaba (Tokyo Institute of Technology, Japan)

17:00 – 17:40

Students Award and Closing ceremony (Room A)

Saturday, December 5, 2015

Technical Tour & Extended Committee Meeting