



APSORC '09

Asia-Pacific Symposium on Radiochemistry '09

November 29 (Sunday) — December 4 (Friday) 2009

Program

4th Asia-Pacific Symposium on Radiochemistry '09

November 29 – December 4, 2009
Napa Valley, California, U.S.A.



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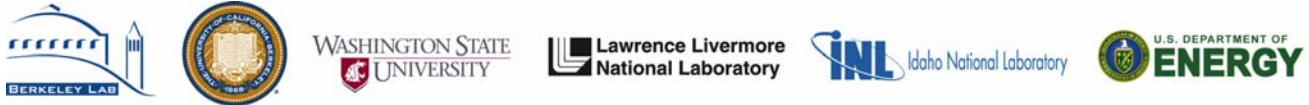
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About the Symposium

The fourth international conference in the series of **Asia-Pacific Symposium on Radiochemistry** (APSORC-09) is held in Napa, California, U.S.A., from November 29 - December 4, 2009.

The first APSORC was held in Kumamoto, Japan (1997), the second in Fukuoka, Japan (2001), and the third in Beijing, China (2005). The conference provides an international forum for presentation and discussion of current and emerging sciences in all fields of radiochemistry and nuclear chemistry, and their applications to various fields. It aims to promote academic activities in nuclear, radiochemical and related sciences. Scientists, engineers and students from universities, institutes, laboratories and industries throughout the world are encouraged to participate and make contributions.

Conference papers will be peer-reviewed, and when accepted, will be published in *Radiochimica Acta*.

Scope

In addition to the discussions of the most recent experimental data and theoretical principles in all areas related to nuclear and radiochemistry, the Symposium will also focus on the future frontiers of research in the field. The scientific program consists of a series of invited plenary and topical lectures followed by presentations of invited and contributed papers in oral and poster sessions. The scientific program of the symposium has been developed by the session organizers of the individual subject areas.

Subject Areas -- APSORC covers the following topics related to Nuclear and Radiochemistry:

1. Education and future staffing needs in Nuclear and Radiochemistry at a national and global level. (Organizers: Chai Zhifang, China; J. Gutteridge, USA; F. Kinard, USA)
2. Nuclear forensics. (Organizers: K. Carney, USA; S. Clark, USA; S. LaMont, USA; Y. Miyamoto, Japan)
3. Radiation detection: Radiation dosimetry and metrology. (Organizers: H. Yasuda, Japan)
4. Nuclear energy chemistry, the Global Nuclear Energy Partnership (GNEP), and Global Warming: Fuel reprocessing and new separation process; nuclear waste management and disposal; nuclide migration and performance assessment of geologic (high-level) nuclear repositories. (Organizers: H. Funasaka, Japan; S. Kalmykov, Russia; Chunli Liu, China; T. Todd, USA; N. Wall, USA)
5. Nuclear reactions, nuclear decay/structure/cross sections, nuclear fission, heavy and super heavy elements science. (Organizers: W. Loveland, USA; Y. Nagame, Japan; Guo-Qing Xiao, China)
6. Radioactive isotope beams. (Organizers: W. Loveland, USA; Y. Nagame, Japan; Guo-Qing Xiao, China)
7. Actinide science. (Organizers: Jun Li, China; T. Kimura, Japan; Z. Wang, USA; R. Wilson, USA; Z. Yoshida, Japan)
8. Environmental radiochemistry and radioecology. (Organizers: K. Inn, USA; N. Momoshima, Japan; B. Salbu, Norway)
9. Nuclear analytical techniques: Neutrons; Ions; X-ray; Synchrotron radiation, etc. (Organizers: Hee-Dong Choi, Korea; R. Lindstrom, USA; T. Nakanishi, Japan)
10. Radiopharmaceutical chemistry, including Tc chemistry, nuclear imaging, and radioisotope production. (Organizer: H. VanBrocklin, USA)
11. Applications of nuclear & radiochemical techniques in Life Science; Nano Science; Environmental Science; Geo- and Cosmo sciences, Archaeology; etc. (Organizers: G. Geipel, Germany; C. Walther, Germany)
12. Nuclear probes for new materials: Mössbauer; perturbed angular correlations; positron annihilation, etc. (Organizer: K. Nomura, Japan)

Program

Sunday, November 29, 2009

1500-2000	Registration
1700-1730	Opening Ceremony & Welcoming Addresses
1730-1800	Darleane Hoffman – <i>UC Berkeley and Lawrence Berkeley National Laboratory</i> – “History of the Periodic Table”
1800-1830	James Conca – <i>New Mexico State University</i> – “How Much Energy do we Need for a Just and Sustainable Future?”
1830-1930	Reception

Technical Program

Monday, November 30, 2009

Session 1 – Plenary (invited)

Room A

Chairs: D.C. Hoffman, N. Nakahara

0830-0900	1-PS4	Terry Todd	Actinide Separations in the U.S. Advanced Fuel Cycle Initiative	Subject 4
0900-0930	1-PS7	Klaus Mayer	Investigative Radiochemistry – A Key Element in Nuclear Forensics	Subject 7
0930-1000	1-PS8	Brit Salbu	The Relevance of Radioactive Particles in the Environment	Subject 8

Session 2 – Subject 8: Environmental Radiochemistry and Radioecology

Room A

Chairs: N. Momoshima, A. Kersting

1015-1045	2-TS8-1	Peter Stegnar (invited)	Legacy of Uranium Extraction and Environmental Security in the Central Asian Republics of Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan
1045-1100	2-S8-2	Wangsuo Wu	Sorption of Eu(III) on Attapulgit, ZSM-5 and MWCNTS: Studied by Batch, XPS and EXAFS Techniques
1100-1115	2-S8-3	Henry Moll	A Comparative Complexation Study on Np(V) Interactions With Bacterial Cell Wall Compartments and Bioligands Secreted by Microbes
1115-1130	2-S8-4	Nick Evans	Aspects of the Complexation of Tc(IV) with Organic Ligands in UK Radioactive Waste Disposal
1130-1145	2-S8-5	Seiya Nagao	Radiocarbon of Aquatic Humic and Fulvic Acids in the Chikugo River Waters
1145-1200	2-S8-6	Sergei Tolmachev	The U.S. Transuramium and Uranium Registries: Forty Years' Experience and New Directions in the Analysis of Actinides in Human Tissues

Session 3 – Subject 4: Nuclear Energy Chemistry, the Global Nuclear Energy Partnership (GNEP), and Global Warming: Fuel Reprocessing and New Separation Process; Nuclear Waste Management and Disposal; Nuclide Migration and Performance Assessment of Geologic (High-Level) Nuclear Repositories

Room B

Chairs: H. Funasaka, S. M. Kalmykov

1015-1045	3-TS4-1	Chunli Liu (invited)	Current Status of High-Level Radioactive Waste Disposal in China
1045-1100	3-S4-2	Stepan Kalmykov	Actinide Interaction With Groundwater Colloids: Sorption at Femto- To Micromolar Concentration Range and Surface Complexation Modelling
1100-1115	3-T4-3	Nathalie Wall	The Dynamics of Hexavalent Uranium Mineral Dissolution and Sorption
1115-1130	3-S4-4	Takeshi Ogata	Extraction Properties of Podand-type Nitrogen Donor Ligands Toward Oxoanions
1130-1145	3-S4-5	David Wickendon	Treatment of Radioactive Contaminated Oily Wastes Using Adsorption Coupled With Electrochemical Regeneration
1145-1200	3-S4-6	Yuji Sasaki	Extraction of Technetium(VII) and Rhenium(VII) by the New Reagent, 2-(Imino)bis(N,N-dialkylacetamide) (IDAA)

Session 4 – Plenary (working lunch), Subject 1: Education and Future Staffing Needs in Nuclear and Radiochemistry at a National and Global Level **Room C**
Chair: F. Kinard

1200-1330	4-PS1	Wangsuo Wu	Radiochemical Education and Training in China
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Session 5 – Subject 8: Environmental Radiochemistry and Radioecology **Room A**
Chairs: B. Salbu, P. Strand

1330-1400	5-TS8-1	Noriyuki Momoshima (invited)	Evaluation for Po-210 Intake through Fish and Shellfish Consumption by Japanese
1400-1415	5-S8-2	Yung-Jin Hu	Reaction of Plutonium(VI) with Manganese-Substituted Goethite
1415-1430	5-S8-3	Tomoko Ohta	Observation of ²²⁸ Ra/ ²²⁶ Ra Activity Ratio, and Concentrations of ²²⁶ Ra and ²²⁸ Ra of Surface Seawaters in the Pacific Side of Japan
1430-1445	5-S8-4	Aya Sakaguchi	First Results on ²³⁶ U Level in Soils from Global Fallout – Application for Hiroshima Black-Rain Issue
1445-1500	5-S8-5	Myung Ho Lee	Determination of Plutonium, Uranium, Strontium and Americium/Curium Isotopes in Environmental Samples with Anion Exchange, UTEVA, Sr and DGA Resin
1500-1515	5-S8-6	Lindis Skipperud	Po-210 in Water and Fish from Central Asia Uranium Mining and Tailing Sites
1515-1530	5-S8-7	Dominic Peterson	Rapid Separation and Extraction of Radioactive Analytes onto Filters and Membranes
1530-1545		Break	
1545-1600	5-S8-8	Per Strand	Radioactivity in the Arctic Environment
1600-1615	5-S8-9	Jack Bennett	Increasing Radioanalytical Capacity – Preparing Your Lab
1615-1630	5-S8-10	Ken Fujimoto	Isolation, Cloning and Characterization of Silver-110m Binding Protein (Hemocyanin-TPb) from Liver of Squid
1630-1645	5-S8-11	Martin Johnson	Automated Radionuclide Separations System for Field Laboratory and/or Fixed Laboratory Use
1645-1700	5-S8-12	Annie Kersting	Structure of Plutonium Colloids when Associated with Different Minerals
1700-1715	5-S8-13	Yutaka Miyamoto	Sequential Anion Exchange Separation of Trace Uranium, Thorium, Lead and Lanthanides in Environmental Samples
1715-1730	5-S8-14	Terry Hamilton	Accelerator Mass Spectrometric Measurements of Plutonium Isotopes in Soil Samples Collected from Enewetak Atoll in the Northern Marshall Islands

Session 6 – Subject 4: Nuclear Energy Chemistry, the Global Nuclear Energy Partnership (GNEP), and Global Warming: Fuel Reprocessing and New Separation Process; Nuclear Waste Management and Disposal; Nuclide Migration and Performance Assessment of Geologic (High-Level) Nuclear Repositories

Room B

Chairs: C.L. Liu, N. Wall

1330-1400	6-TS4-1	Hajimu Yamana (invited)	Perspective on Japanese Fuel Cycle and Expectation to Technical Advancements
1400-1415	6-S4-2	Hideyuki Funasaka	Current Status and Perspective on Fast Reactor Fuel Cycle Technology Development Project in Japan
1415-1430	6-S4-3	Ken Nash	Approaches to Managing Minor Actinides in Advanced Nuclear Fuel Cycles
1430-1445	6-S4-4	Kenji Takeshita	Extraction Separation of Trivalent Minor Actinides from Lanthanides with Hexadentate Nitrogen-Donor Ligands, TPEN and Its Derivatives
1445-1500	6-S4-5	Jan John	Am/Eu Chromatographic Separation with New Solid Extractants Based on C5-BTBP
1500-1515	6-S4-6	Hiromu Kurosaki	Chromatographic Separation of Am and Cm
1515-1530	6-S4-7	Joseph Lapka	The Extraction of Actinides with Diamides of Dipicolinic Acid
1530-1545		Break	

Session 6 – Subject 7: Actinide Science

Chairs: J. Li, R. Wilson

Room B

1545-1615	6-TS7-8	David Morris (invited)	Organometallic Actinide Chemistry: New Platforms for Manipulation and Eluciation of Molecular and Electronic Structure
1615-1630	6-S7-9	Yoshinori Haga	Novel Magnetism and Superconductivity in Actinide-Based Intermetallic Compounds
1630-1645	6-S7-10	Zheming Wang	An Optical Spectroscopy Investigation of Environmental Effects on Uranium Oxyfluoride Particles
1645-1700	6-S7-11	Krishnan Balasubramanian	Recent Computational Studies of Actinide Complexes and Their Reactions
1700-1715	6-S7-12	Travis Bray	Electrospray and Gas-Phase Behavior of Cerium Phosphomolybdates: A Prelude to Plutonium Chemistry
1715-1730	6-S7-13	Takaumi Kimura	Time-Resolved Laser Fluorescence Microscopy (TRLFM) for Adsorption Study of Luminescent f-Element on a Heterogeneous Surface

Poster Session 1, 1730-2030

Subject Areas: 2 - Nuclear Forensics; 4 - Nuclear Energy Chemistry, the Global Nuclear Energy Partnership (GNEP), and Global Warming: Fuel Reprocessing and New Separation Process; Nuclear Waste Management and Disposal; Nuclide Migration and Performance Assessment of Geologic (High-Level) Nuclear Repositories; 7 - Actinide Science; 8 - Environmental Radiochemistry and Radioecology

Tuesday, December 1, 2009

Session 7 – Plenary (invited)

Room A

Chairs: T.A. Todd, Z. Yoshida

0830-0900	7-PS5	Matthias Schädel	Superheavy Element Research at TASCA	Subject 5
0900-0930	7-PS6	Isao Tanihata	Looking for the Effect of Tensor Forces in Nuclei	Subject 6
0930-1000	7-PS11	Heinz Gaggeler	Microanalytical ¹⁴ C AMS Measurements on Carbonaceous Particles	Subject 11

Session 8 – Subject 7: Actinide Science

Room A

T. Kimura, Z. Wang

1015-1045	8-TS7-1	Christopher Cahill (invited)	Hybrid Materials from the An Elements: Synthesis, Structure and Spectroscopy
1045-1100	8-S7-2	Richard Wilson	The Surface Chemistry of Colloidal Plutonium
1100-1115	8-S7-3	Jun Li	Relativistic DFT Investigations of NMR Properties of Actinide Compounds
1115-1130	8-S7-4	Yoko Kokubu	Plutonium of Nagasaki Atomic Bomb Deposited Around Nagasaki, Japan
1130-1145	8-S7-5	Yoshio Takahashi	High-Sensitive Measurement of U LIII-Edge X-Ray Absorption Near-Edge Structure Using Bent Crystal Analyzer for the Determination of the Oxidation States of Uranium in Crustal Materials
1145-1200	8-S7-6	Aurora Clark	Trends in Ln(III) Sorption to Defect Ridden Quartz: Insights from a Multiscale Computational Approach

Session 9 – Subject 5: Nuclear Reactions, Nuclear Decay/Structure/Cross Sections, Nuclear Fission, Heavy and Super Heavy Elements Science

Room B

Chairs: W. Loveland, M. Block

1015-1045	9-TS5-1	Hiromitsu Haba (invited)	Present Status and Perspectives of Super Heavy Element Chemistry at Riken
1045-1100	9-S5-2	Roger Henderson	Estimating Super Heavy Element Event Random Probabilities Using Monte Carlo Methods
1100-1130	9-S5-3	Kenneth Gregorich	Understanding (Super) Heavy Element Cross Sections
1130-1145	9-S5-4	Qin Zhi	Nuclear Chemistry of Actinides and Transactinides at IMP
1145-1200	9-S5-5	Atsushi Toyoshima	Electrochemistry of the Heaviest Elements at JAEA

Session 10 – Plenary (working lunch), Subject 1: Education and Future Staffing Needs in Nuclear and Radiochemistry at a National and Global Level

Room C

Chair: J. Gutteridge

1200-1330	10-PS1	Akihiko Yokoyama	Present Situation and Future Prospects on Nuclear and Radiochemistry Education in Japan
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Session 11 – Subject 11: Applications of Nuclear & Radiochemical Techniques in Life Science; Nano Science; Environmental Science; Geo- and Cosmo Sciences, Archaeology; etc.

Room A

Chairs: G. Geipel, C. Walther

1330-1400	11-TS11-1	Zhiyong Zhang (invited)	Nuclear Analytical Techniques for Nanotoxicology Studies
1400-1415	11-S11-2	Joao Arruda-Neto	Probing Bio-Nanostructures (DNA) with Ionizing Radiation: Perspectives for Improving Cancer Radiotherapy
1415-1430	11-S11-3	Clemens Walther	The Role of Polymerization and (Pseudo) Colloid Formation for Understanding the Behavior of An Ions in Aqueous Solution
1430-1445	11-S11-4	Wolfgang Kretschmer	Application of Accelerator Mass Spectrometry to Archaeology, Geography and Environmental Science
1445-1500	11-S11-5	Hiroataka Oda	Radiocarbon Age of Miidera-Gire Attributed to Enchin and the Historical Age in which an Ancient Manuscript of Monzen Was Written
1500-1515	11-S11-6	Yuichi Kurihara	Radioactive Equilibria and Disequilibria of U-Series Nuclides in the Products from Izu Arc Volcanoes, Japan
1515-1530	11-S11-7	Toshiyuki Fujii	Nuclear Field Shift Effect in Isotope Fractionation of Palladium Using a Crown Ether
1530-1545		Break	
1545-1615	11-TS11-8	Peter Englert (invited)	Orbital Planetary Gamma Ray Spectroscopy: From Concept to Success
1615-1645	11-TS11-9	Gerhard Geipel (invited)	Interaction of Uranium(VI) Towards Glutathione – An Example to Study Different Functional Groups in One Molecule
1645-1700	11-S11-10	Katrin Viehweger	Glutathione – A Key Factor of Uranium Tolerance in Plant Cells
1700-1730	11-S11-11	Dorothea Schumann	Separation of ⁶⁰ Fe Samples from an Irradiated Beam Dump for Nuclear Astrophysics Experiments

Session 12 – Subject 5: Nuclear Reactions, Nuclear Decay/Structure/Cross Sections, Nuclear Fission, Heavy and Super Heavy Elements Science and Subject 6: Radioactive Isotope Beams **Room B**
Chair: Y. Nagame, M. Schädel

1330-1400	12-TS6-1	Jens Dilling (invited)	Penning Trap Experiments on the Most Exotic Nuclei on Earth: Mass Measurements of Halo Nuclei at TITAN
1400-1415	12-S5-2	Michael Block	First Direct Mass Measurements of 252-254No with SHIPTRAP
1415-1430	12-S5-3	Rod Clark	Isomer Spectroscopy of the Heaviest Elements
1430-1445	12-S5-4	Yuichiro Nagame	Chemical Investigation of Rf and Db at JAEA
1445-1500	12-S5-5	Roger Henderson	Recent Updates in Heavy Element Production from LLNL
1500-1515	12-S5-6	Rugard Dressler	The Challenge of Using a Physical Preseparator in Chemical Experiments with Super Heavy Elements: The Stopping Force Problem
1515-1530	12-S5-7	Megan Bennett	Extraction Chromatographic Studies of Rf and Db Homologs
1530-1545		Break	
1545-1600	12-S5-8	Hiroyuki Koura	Decay Modes and a Limit of Existence of Nuclei in the Super Heavy Mass Region
1600-1615	12-S5-9	Kougi Morimoto	Production and Decay Properties of 266Bh and 262Dd by Using the 248Cm(23Na,5n) Reaction
1615-1630	12-S5-10	Irena Dragojevic	Systematic Studies of Nuclear Fusion Reactions at Low Excitation Energies with 208Pb Targets and Pairs of Projectiles Differing by Two Neutrons
1630-1645	12-S5-11	P. K. Pujari	Evaporation Residue Cross Sections in 28Si + 176Yb Reaction
1645-1700	12-S5-12	Bethany Goldblum	Indirect Determination of Neutron Capture Cross Sections Using the Surrogate Ratio Method
1700-1715	12-S5-13	Tsutomu Ohtsuki	Half-Life Measurement of Be-7 in Buckyballs and Host Metals
1715-1730	12-S6-14	Walter Loveland	The Fusion of 9Li with 20Pb

Poster Session 2, 1730-2030

Subject Areas: 3 - Radiation Detection: Radiation Dosimetry and Metrology; 5 - Nuclear Reactions, Nuclear Decay/Structure/Cross Sections, Nuclear Fission, Heavy and Super Heavy Elements Science; 9 - Nuclear Analytical Techniques: Neutrons; Ions; X-Ray; Synchrotron Radiation, etc.; 10 - Radiopharmaceutical Chemistry, Including Tc Chemistry, Nuclear Imaging, and Radioisotope Production; 11 - Applications of Nuclear & Radiochemical Techniques In Life Science, Nano Science, Environmental Science, Geo- and Cosmo Sciences, Archaeology; etc.; 12 - Nuclear Probes for New Materials: Mössbauer, Perturbed Angular Correlations, Positron Annihilation, etc.

Wednesday, December 2, 2009

Session 13 – Plenary (invited) **Room A**
Chair: H-D. Choi, T. Kishikawa

0830-0900	13-PS12	Amar Nath	The Role of Emission Mössbauer Spectroscopy in the Study of Sophisticated Materials	Subject 12
0900-0930	13-PS10	John Valliant	New Strategies for the Discovery, Production and Translation of Novel Molecular Imaging Probes	Subject 10

Subject 10: Radiopharmaceutical Chemistry, Including Tc Chemistry, Nuclear Imaging, and Radioisotope Production **Room A**
Chair: H. VanBrocklin, J. Valliant

0930-0945	13-S10-1	Suresh Srivastava	Production and Use of Tin-117m for Application to Therapy of Cancer in Bone
0945-1000	13-S10-2	Jerry Nolen	Energy-Efficient, Accelerator-Driven Production of ⁹⁹ Mo

Session 14 – Subject 12: Nuclear Probes for New Materials: Mössbauer; Perturbed Angular Correlations; Positron Annihilation, etc. **Room B**
Chair: G. Klingelhöfer, K. Nomura

1015-1045	14-TS12-1	Anita Hill (invited)	Positron Studies of Polymer Thin Films
1045-1100	14-S12-2	Yoshinori Kobayashi	Study of Polymers by Positron Annihilation Spectroscopy
1100-1115	14-S12-3	Franz Renz	Physical and Chemical Induced Spin Crossover
1115-1130	14-S12-4	Kiyoshi Nomura	Characterization of ⁵⁷ Fe implanted SnO ₂ films by Mossbauer spectroscopy and Nuclear Inelastic Scattering
1130-1145	14-S12-5	Goestar Klingelhöfer	⁵⁷ Fe Mössbauer Spectroscopy with Mimos II at the Surface of Mars
1145-1200	14-S12-6	Takashi Nagatomo	Improvement of Signal-To-Noise Ratios in ⁵⁷ Mn Implantation Mössbauer Spectroscopy

Session 15 – Subject 10: Radiopharmaceutical Chemistry, Including Tc Chemistry, Nuclear Imaging, and Radioisotope Production **Room A**
Chair: H. VanBrocklin, J. Valliant

1015-1045	15-TS10-1	Tom Ruth (invited)	Production of Mo-99 and Tc-99M Via Alternative Routes
1045-1100	15-S10-2	Yuchi Hatsukawa	Isotope Production for Medical Usage Using Fast Neutron Reactions
1100-1115	15-S10-3	Van So Le	Theoretical Assessment of Specific Radioactivity: The Effect of Target Burn-Up, Isotope Dilution and Target Purity and the Application for Lu-177 Production
1115-1130	15-S10-4	Paul Forster	Technetium Bromides: Fundamental Studies and Advances Towards the Syntheses of Low Valent Technetium Complexes
1130-1145	15-S10-5	Sandrine Huclier-Markai	Evaluation of Scandium-Polyaminopolycarboxylic Complexes as a New Generation of PET Agent and Radiopharmaceutical
1145-1200	15-S10-6	Henry VanBrocklin	Efficient Approaches to Labeling Radiopharmaceuticals with Fluorine-18

1200-1400 No-host lunch
 1400-1730 Excursion to wineries
 1730-1800 Bus from hotel to dinner
 1800-2200 Conference Dinner
 Speaker: Siegfried Hecker

Thursday, December 3, 2009

Session 16 – Plenary (invited)

Room A

Chair: A. Chatt, Y. Maeda

0830-0900	16-PS9	Tomoko Nakanishi	Application of Radioisotope Measurement for Plant Study – From Activation Analysis to Radioisotope Imaging	Subject 9
0900-0930	16-PS2	Siegfried Hecker	Why Nuclear Forensics?	Subject 2
0930-1000	16-PS3	Seiichi Shibata	Measurement of Nickel-63 for Reassessment of Neutron Dosimetry for the Hiroshima Atomic Bomb	Subject 3

Session 17 – Subject 2: Nuclear Forensics

Room A

Chair: K. Carney, S.B. Clark

1015-1045	17-TS2-1	Jon Schwantes (invited)	Nuclear Archeology in a Bottle: Evidence of Pre-Trinity U.S. Weapons Activities from a Waste Burial Site
1045-1100	17-S2-2	Kenichiro Yasuda	Instrumental Development for Measurement of Elemental Distribution on Swipe Samples for Safeguards
1100-1115	17-S2-3	Russell Gritz	Development of a High Purity Germanium Detector Clover System at Los Alamos National Laboratory
1115-1130	17-S2-4	Christopher McGrath	Further Development of a Portable Liquid Scintillation System with Alpha/Beta Discrimination
1130-1145	17-S2-5	Michael Savina	Sequestration and Analysis Methods for Lanthanides and Actinides Using Resonance Ionization Mass Spectrometry
1145-1200	17-S2-6	Ruth Kips	Measuring Fluorine in Uranium Oxyfluoride Particles Using Secondary Ion Mass Spectrometry for Nuclear Forensics

Session 18 – Subject 9: Nuclear Analytical Techniques: Neutrons; Ions; X-Ray; Synchrotron Radiation, etc.

Room B

Chair: R. Lindstrom, T.M. Nakanishi

1015-1045	18-TS9-1	Richard Firestone (invited)	Comparison of IUPAC k_0 Values and Neutron Cross Sections to Determine a Self Consistent Set of Data for Neutron Activation Analysis
1045-1100	18-S9-2	Vladimir Kolotov	Development of Nuclear Image Methods of Analysis Based on Gamma Activation
1100-1115	18-S9-3	Zhifang Chai	Metallomics Study – A Nuclear Approach
1115-1130	18-S9-4	Yuchi Hatsukawa	Isotope Production for Medical Usage Using Fast Neutron Reactions
1130-1145	18-S9-5	Masumi Oshima	Application of Triple Gamma Coincidence in Prompt Gamma-Ray Analysis and Neutron Activation Analysis
1145-1200	18-S9-6	Daniel Cummings	Application of Gas Pressurized Extraction Chromatography (GPEC) to the Analytical Laboratory

Session 19 – Plenary (working lunch), Subject 1: Education and Future Staffing Needs in Nuclear and Radiochemistry at a National and Global Level

Room C

Chair: Z. Chai

1200-1330	19-PS-1	Heino Nitsche	Nuclear and Radiochemistry Education in the USA: Crisis or Turning Point?
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Session 20 – Subject 2: Nuclear Forensics
Chairs: S. LaMont, Y. Miyamoto

Room A

1330-1400	20-TS2-1	Ian Hutcheon (invited)	Nuclear Forensics: An Emerging and Still Imperfect Science
1400-1415	20-S2-2	Jay Grate	Acceleration and Automation of Actinide Analysis Methods
1415-1430	20-S2-3	Amanda Klingensmith	Surface Analysis of Electrodeposited Actinide Sources for Alpha Spectroscopy
1430-1445	20-S2-4	Ralf Sudowe	Development of Rapid Separation Techniques for Nuclear Forensics
1445-1500	20-S2-5	Douglas Duckworth	Validation of Electrochemically Modulated Separations On-Line with MC-ICP-MS as a Means of Rapid Low-Level U-Pu Isotopic Analysis
1500-1515	20-S2-6	Paul Schumacher	Optimization of Nd(III) Pre-Concentration on a Rotating Disk Mercury Film Electrode in Aqueous Solution
1515-1530		Break	
1530-1545	20-S2-7	David Podlesak	Application of Guide to the Expression of Uncertainty in Measurement (GUM) to U and Pu Isotope Ratios Measurements by Thermal Ionization Mass Spectrometry (TIMS)
1545-1600	20-S2-8	Ken Czerwinski	Imaging and Microscopy Techniques in the Examination of a Plutonium Hot Particle: Application to Nuclear Forensics
1600-1615	20-S2-9	Donna Beals	Analysis of Spent Research Reactor Fuel to Support Nuclear Forensic Programs
1615-1630	20-S2-10	David Gerlach	Isotope Ratio Techniques to Determine Energy Production in Reactors
1630-1645	20-S2-11	Dominic Peterson	Trace Elemental Analysis Capabilities for the Characterization of Radioactive and Stable Isotopes from Aerosol Particles on Marple Substrates
1645-1700	20-S2-12	Nicholas Lloyd	The Forensic Analyses of Uranium Oxide Particles from the Colonie Environmental Case-Study
1700-1715	20-S2-13	Zsolt Varga	Recent Development Work on Nuclear Forensic Signatures in Natural Uranium
1715-1730	20-S2-14	Michael Kristo	Nuclear Forensic Signatures in Commercial Nuclear Fuels

Session 21 – Subject 9: Nuclear Analytical Techniques: Neutrons; Ions; X-Ray; Synchrotron Radiation, etc.

Chairs: Y. Hatsukawa, V. Kolotov

Room B

1330-1400	21-TS9-1	Amare Chat (invited)	Preconcentration of Copper by Cloud Point Extraction with 1-(2-Pyridylazo)-2-Naphthol and Determination by Neutron Activation
1400-1415	21-S9-2	Hee Dong Choi	New Features of HYPERGRAM for HPGe Gamma-Ray Spectrum Analysis
1415-1430	21-S9-3	Richard Lindstrom	Uncertainty of Gamma-Ray Peak Integration
1430-1445	21-S9-4	Mohammad Islam	Non-Destructive Analysis of Bulky Meteorites by Neutron-Induced Prompt Gamma-Ray Analysis
1445-1500	21-S9-5	Jong-Myoung Lim	Comparative Study for Airborne Toxic Metal Determination by INAA and CCT-ICP-MS
1500-1515	21-S9-6	P. K. Pujari	Large Sample NAA by k ₀ -Based Internal Mono Standard Method Using In-Situ Detection Efficiency
1515-1530		Break	

Session 21 – Subject 3: Radiation Detection: Radiation Dosimetry and Metrology Room B
Chairs: S. Shibata, H. Yasuda

1530-1600	21-TS3-7	Alexander Plionis (invited)	Improved Committed Effective Dose Estimates for Uranium Foundry Processes Using Marple Cascade Impactors
1600-1615	21-S3-8	Hiroki Fujita	Using Soils for Accident Dosimetry: A Preliminary Study Using Optically Stimulated Luminescence from Quartz
1615-1630	21-S3-9	Thomas Semkow	Origins of Seasonal Oscillations in Radioactive Exponential Decay
1630-1645	21-S3-10	Hiroko Ohuchi	Tritium Measurement by Using a Photo-Stimulable Phosphor BaFBr(I):Eu ²⁺ Plate
1645-1700	21-S3-11	Jae Woo Park	Gamma Ray Dosimetry in a ⁶⁰ Co Irradiation Chamber with a Small Piece of CWO Scintillator and Gap Photodiode
1700-1715	21-S3-12	Martin Andersson	Application for Simple and Quick Calculation of Aviation Route Doses

Friday, December 4, 2009

Session 22 - Education and Future Staffing Needs in Nuclear and Radiochemistry at a National and Global Level Room A
Chairs: M. Ebihara, F. Kinard

0830-0844	22-S1-1	Alice Mignerey	Expanding the Pipeline – Nuclear Science Education for the 21 st Century
0844-0858	22-S1-2	Sue Clark	Academic Radiochemistry Program in a Chemistry Department: The Experience at Washington State University
0858-0912	22-S1-3	Silvia Jurisson	Radiochemistry Training at the University of Missouri: A Program with a Long Half-Life
0912-0926	22-S1-4	Ralf Sudowe	Radiochemistry Education at the University of Nevada Las Vegas
0926-0940	22-S1-5	Brian Powell	A Multidisciplinary Teaching and Research Approach: Environmental Radiochemistry at Clemson University
0940-0954	22-S1-6	Tom Lönnroth	On the Need of Education in Nuclear Energy Systems: Problems and Challenges for a Small University
0954-1008	22-S1-7	P. N. Mehrotra	Nuclear Knowledge Management in India: Present Status and Future Projection
1008-1022	22-S1-8	Annie Kersting	Nuclear Forensics Summer Student Program at Lawrence Livermore National Laboratory
1022-1036	22-S1-9	Frank Kinard	The American Chemical Society/Department of Energy Nuclear Summer School Program
1036-1050	22-S1-10	Craig Williamson	New Integrated Efforts in University Programs to Support Radiochemistry Workforce Development
1050-1105		Break	

1105-1145 **Roundtable - Education and Future Staffing Needs in Nuclear and Radiochemistry at a National and Global Level**

Moderators: F. Kinard and M. Lambregts

Panel: S. B. Clark (USA), M. Ebihara (Japan), S. Jurisson (USA), A. Mignerey (USA), C. Williamson (USA), W. Wu (P.R. China)

1145-1200 **Closing Ceremony**

APSORC '09 Poster Sessions

Poster Session I – Monday, November 30, 2009 – 5:30 – 8:30 PM

Subject Area 2 – Nuclear Forensics

PO-1-2-1	Paul Ellison	Fundamental Low Energy Nuclear Science Research for Nuclear Forensics: Producing Americium-240
PO-1-2-2	Judah Friese	Chemical Consideration of Radionuclide Leakage From Underground Nuclear Tests
PO-1-2-3	Amy M. Gaffney	²³⁰ Th- ²³⁴ U Model Ages of Some Uranium Standard Reference Materials
PO-1-2-4	Brett Isselhardt	Development of Resonance Ionization Mass Spectrometry for Measuring Uranium Isotope Ratios in Nuclear Materials
PO-1-2-5	Kim B. Knight	Application of Resonance Ionization Mass Spectrometry to Detection of Uranium in Natural Silicate Matrices
PO-1-2-6	Stephen LaMont	Recent Improvements to the Environmental Safeguards Analysis Program at Los Alamos
PO-1-2-7	Yutaka Miyamoto	QA/QC activities and estimation of uncertainty for ultra-trace analysis of uranium and plutonium in safeguards environmental samples
PO-1-2-8	Dominic S. Peterson	Physical properties of oxidized nuclear materials
PO-1-2-9	Martin Robel	Nuclear Forensic Inferences Using Iterative Multidimensional Statistics
PO-1-2-10	Ross W. Williams	Local and Global Fallout Preserved in Lake Sediment from the Sierra Nevada, California

Subject Area 4 - Nuclear energy chemistry, the Global Nuclear Energy Partnership (GNEP), and Global Warming: Fuel reprocessing and new separation process; nuclear waste management and disposal; nuclide migration and performance assessment of geologic (high-level) nuclear repositories

PO-1-4-1	Yoichi Arai	Study on Solvent Cleanup Using Activated Alumina for Purex Process
PO-1-4-2	Sang-Eun Bae	Alloy Formation of Actinides or Lanthanides during Electrochemical Deposition in LiCl-KCl Eutectic
PO-1-4-3	M. Alex Brown	Complexation of Pu(IV) with Acetohydroxamic Acid: Solvent Extraction with Di(20Ethylhexyl) Phosphoric Acid
PO-1-4-4	Zhifang Chai	Chromatographic Partitioning of Cesium from Simulated HLW Using a Macroporous Silica-Based Calix[4]arene Impregnated Supramolecular Recognition Composite
PO-1-4-5	Ken Czerwinski	Monitoring of Spent Nuclear Fuel Reprocessing Studies by UV-Visible Spectroscopy
PO-1-4-6	Jean-Phillippe Dancausse	Dissolution, an Essential Step for Analysis of Irradiated Fuels and Targets: Atalante Experiments and Studies
PO-1-4-7	Isabelle Dubois	Radionuclide Sorption on Granitic Material: Effect of the BET Surface Area and Particle Size
PO-1-4-8	Bernadette Ferencz	The Results of Fuel Leak Tests at Unit 4 of PAKS Nuclear Power Plant
PO-1-4-9	Manjusha Karve	Amberlite XAD-2 Impregnated Cyanex272: Sorption Desorption Studies of Th(IV)
PO-1-4-10	Rie Kurata	Kinetics study on migration processes of energetic deuterium implanted into boron films
PO-1-4-11	Chun-li Liu	The Speciation and Solubility of Americium in Beishan Groundwater
PO-1-4-12	Maria Lucanikova	Cobalt Bis(Dicarbollide) Ion Derivates Covalently Bonded with Diglycolyldiamide for Lanthanide and Actinide Extraction
PO-1-4-13	Vijay Kumar Manchanda	Partitioning and Transmutation - International Scenario

PO-1-4-14	Vijay Kumar Manchanda	Selective recovery of cesium using hollow fibre supported liquid membrane containing calix[4]arene-bis-2,3-naphtho-crown-6
PO-1-4-15	Edward Mausolf	Application of Acetohydroxamic, Formohydroxamic, and Ascorbic Acid in Nuclear Reprocessing: Complexation with Technetium 99 and Implications to the UREX Process
PO-1-4-16	Adam Menyhart	The Results of Inhermeticity Measurements of Fuel Cells in Unit 4 of the PAKS Nuclear Power Plant
PO-1-4-17	Kenji Okuno	Role of energetic tritium chemistry on developing thermonuclear fusion reactors
PO-1-4-18	Yuri Ostrovsky	Improvement of Technology for Nitric Acid Extraction Affinage of Uranium
PO-1-4-19	Yuri Ostrovsky	Rehabilitation of Uranium Productions Technogenic Watertanks
PO-1-4-21	Frederic Poineau	Synthesis and Corrosion of Metallic Technetium in Acidic Media
PO-1-4-22	Ge Sang	Recombination of Hydrogen and Oxygen in Fluidized Bed Reactor with Different Gas Distributors
PO-1-4-23	Kayo Sawada	Chlorination of antimony and its volatilization treatment for waste antimony-uranium composite oxide catalyst
PO-1-4-24	Jana Sulakova	A Study of 2,6-Bis[(Bis(2-N-Octyl)Phosphino)Methyl]Pyridine N,P,P'-Trioxide in Solvent Extraction of Actinides
PO-1-4-25	Chien M. Wai	Dissolution and Extraction of Uranium Dioxide using Ionic Liquid and Supercritical Fluid Carbon Dioxide

Subject Area 6 – Radioactive isotope beams

PO-1-6-1	Lisa Bissetto	Development of Porous Uranium Carbide for the SPES Project
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Subject Area 7 - Actinide Science

PO-1-7-1	Takayuki Nagai	Absorption Spectra and Cyclic Voltammograms of Uranium Species in Molten Lithium Molybdate-Sodium Molybdate Eutectic at 550 C
PO-1-7-2	Tashi Parsons-Moss	Study of Actinide and Lanthanide Complexation by Organically Modified Mesoporous Silica
PO-1-7-3	Dean R. Peterman	Evaluation of Covalent Interactions in Actinide Coordination Compounds
PO-1-7-4	P.K. Pujari	Thermodynamics of Th(IV) Complexation with Dicarboxylate Ligands: A Potentiometric and Calorimetric Study
PO-1-7-5	Tatsuya Suzuki	Adsorption Behaviors of F-Elements on Tertiary Pyridine and Quaternary Pyridinium Resins
PO-1-7-6	Yoshinori Suzuki	Electrochemical studies on microbial U(VI) reduction
PO-1-7-7	Reona Takayama	Solvent Extraction of Trivalent Actinides with Di(2-Ethylhexyl) Phosphoric Acid and Thenoyltrifluoroacetone
PO-1-7-8	Akihiro Uehara	EXAFS analyses of Uranium(IV) and Thorium(IV) complexes in CaCl ₂ *6H ₂ O hydrate melt
PO-1-7-9	Xiao-qiu Ye	The Molecular Structure and Potential Energy Function of Li-M (M=Be, Pb, Bi, Th, U) Diatomic Molecule
PO-1-7-10	Takashi Yoshimura	Measurements of Mobility for Actinides and Lanthanides Using Capillary Electrophoresis, and its Application to Short-Lived Nuclides

Subject Area 8 - Environmental radiochemistry and radioecology

PO-1-8-1	Claudine Armenta	Rapid Environmental Analysis Using Molten Salt Fusion Sample Preparation
PO-1-8-2	M. Lee Davisson	The Low-Level Radioactive Waste Disposal Site of Runit Dome on Enewetak Atoll, Marshall Islands: Its History, Construction, and Need for Characterization and Monitoring
PO-1-8-3	Nick Evans	Aspects of radionuclide chemistry in the near field of a cement-based ILW disposal concept in the UK
PO-1-8-4	Taijiro Fukuyama	Distribution coefficient of ⁷ Be in overland flow along a forested hillslope: field measurements and laboratory batch experiments
PO-1-8-5	Etsuko Furuta	Classification of ores used for the radiation source in NORM by PGAA
PO-1-8-6	Muhammad Ismail	Radioactivity in vegetation, vegetable and transfer of radionuclides from soil to vegetation of some Northern area of Pakistan using gamma ray spectrometry
PO-1-8-7	Nao Kamei-Ishikawa	Relationships Among ¹³⁷ Cs, ¹²² Cs, and K in Plant Uptake Observed in Japanese Agricultural Fields
PO-1-8-8	Hasan Mahmood Khan	Assessment of radionuclides, trace metals and radionuclides transfer from soil to food of Jhangar Valley (Pakistan) using gamma spectrometry
PO-1-8-9	Yoshikazu Kikawada	Origin of enriched uranium contained in Japanese atmospheric deposits
PO-1-8-10	Takumi Kubota	Comparison of Deep Underground Neutron Flux Measured with a Helium-3 Filled Proportional Counter and Evaluated from Element Composition or the Isotopic Ratio of ³⁶ Cl/ ³⁵ Cl in Granite Rock
PO-1-8-11	Tom Lonnoth	Study of the ⁷ Be and ¹³⁷ Cs Activities in Mushrooms from Southern and Western Finland
PO-1-8-12	Galina Lujanienė	Plutonium Oxidation State Distribution in Natural Clay Systems: Effect of Iron Oxides and Microorganisms
PO-1-8-13	Galina Lujanienė	Study of Pu(IV) and Am(III) Sorption to Clay Minerals
PO-1-8-14	Seiya Nagao	Molecular Sized Dependency of Am Complexed with Humic and Fulvic Acids in Groundwaters with High DOC Concentration
PO-1-8-15	Yuichi Oki	Radioactive Aerosol Particles Released from a Pneumatic Irradiation System in a Nuclear Research Reactor
PO-1-8-16	Naoyuki Osada	Application of Graded Screen Array to Size Measurement of Radioactive Aerosol in Accelerator Rooms
PO-1-8-17	P.K. Pujari	Study on Aggregation Behavior of Humic Acid: Effect of pH and electrolyte
PO-1-8-18	Yamauchi Rieko	Depleted Uranium Found in the Reference Fallout Material for Activity Measurements in Japan
PO-1-8-19	S.K. Sahoo	Determination of U Concentration and its Activity Ratio in Coal and Fly Ashes from Philippine Coal-Fired Thermal Power Plants Using ICP-MS and TIMS
PO-1-8-20	Keisuke Sueki	Isotope ratios of ³⁶ Cl/ ³⁵ Cl in soils at the south Tohoku by AMS
PO-1-8-21	Hideo Sugiyama	Intake of Po-210 and K-40 from the total daily diet for adults in Japanese cities.
PO-1-8-22	Keiko Tagami	Rhenium Concentration Effect on Technetium Transfer Through Radish Roots and Rhenium Toxic Concentration Levels in Radish
PO-1-8-23	Tomoyuki Takahashi	Development and Analysis of a Dynamic Compartment Model to Predict Carbon-14 Behavior in Rice Paddy Field for Dose Assessment of Atmospheric Release
PO-1-8-24	Punam Thakur	Environmental Monitoring of Radioactive and Non-Radioactive constituents in the vicinity of WIPP- A CEMRC Perspective
PO-1-8-25	Shigeo Uchida	Iodine Transfer from Agricultural Soils to Edible Part of Crops
PO-1-8-26	Paitoon Wanabongse	Measurement of radon gas, gamma-ray exposure and some naturally occurring radionuclides.
PO-1-8-27	Masato Yamawaki	A Study of ³² P-Phosphate Uptake in a Plant Using a Real-Time RI Imaging System
PO-1-8-28	Mavrik Zavarin	Interaction of Plutonium with Montmorillonite: Surface Complexation and Ion Exchange

Poster Session II – Tuesday, December 1, 2009 – 5:30 – 8:30 PM

Subject Area 3 - Radiation Detection: Radiation dosimetry and metrology

PO-2-3-1	Yoshimune Ogata	Estimation of Thermal Neutron Flux in PET Cyclotron Rooms by means of Radioactive Analysis of Bolts in the Rooms
PO-2-3-2	Koichi Takamiya	A New Preparation Method for Neutron Monitor Using Ink-Jet Printer
PO-2-3-3	Hiroshi Yasuda	Dosimetry of Cosmic Radiation in the Upper Atmosphere Based on the Measurements at the Summit of Mt. Fuji

Subject Area 5 - Nuclear reactions, nuclear decay/structure/cross sections, nuclear fission, heavy and super heavy elements science

PO-2-5-1	Daniel Cummings	Advancements in Burn-Up Measurements by Inductively Coupled Plasma Mass Spectrometry
PO-2-5-2	Parnika Das	Change of Electron Capture Decay Rate in a Compact Medium
PO-2-5-3	Roger Henderson	Recent Developments in Heavy Element Separation Methods Using DGA Resin
PO-2-5-4	Daiya Kaji	Preparation of ^{248}Cm Target from Old ^{252}Cf Neutron Source
PO-2-5-5	Daiya Kaji	Average Equilibrium Charge States of Superheavy Recoil Ions Moving a Dilute Helium Gas
PO-2-5-6	Kentaro Hirose	Precision Measurement of the Half-Life of ^{196}Au and ^{202}Tl
PO-2-5-7	Hidetishi Kikunaga	Precision Measure of the Half-Life of ^{90}mNb and $^{99\text{m}}\text{Tc}$
PO-2-5-8	Yukiko Komori	Development of an On-Line Liquid Scintillation Alpha Particle Detection System for Aqueous Chemical Studies of Superheavy Elements
PO-2-5-9	Yuichiro Nagame	Chemical Equilibrium in Atom-at-a-time Chemistry
PO-2-5-10	Ichiro Nishinaka	Radiochemical Study of Sub-Barrier Fusion Hindrance in $^{19}\text{F}+^{209}\text{Bi}$ Reaction
PO-2-5-11	Takashi Omoto	Cross-Section Measurements for Monoenergetic Neutron-Induced Reactions at RCNP
PO-2-5-12	Kazuhiro Ooe	Extraction Behavior of Carrier-Free and Macro Amounts of Molybdenum and Tungsten from HCl Solution
PO-2-5-13	Alexander A. Plionis	Improved Nuclear Data Measurements of Alpha-Emission Branching Ratios by Ultra-High Resolution Microcalorimetry
PO-2-5-14	P.K. Pujari	Complete and Incomplete Fusion in $^9\text{Be} + ^{124}\text{Sn}$ System
PO-2-5-15	Tetsuya K. Sato	Development of an On-Line Isothermal Gas Chromatographic Apparatus for Db and Sg
PO-2-5-16	S. Sekimoto	Measurements of ^{10}Be and ^{26}Al Production Cross Sections for Cr, Y, and Yb with 285 MeV Neutron
PO-2-5-17	Tarkeshwar Trivedi	Lifetime Measurement of High Spin States in ^{75}Br Through Doppler Shift Attenuation Method
PO-2-5-18	Hiroshi Yashima	Measurements of the neutron activation cross sections for Bi at 300 and 400 MeV
PO-2-5-19	Akihiko Yokoyama	Study on the Synthesis of Heavy Elements Through Nuclear Fusion Induced by Oxygen-16 on Rare Earth Targets

Subject Area 4 - Nuclear energy chemistry, the Global Nuclear Energy Partnership (GNEP), and Global Warming: Fuel reprocessing and new separation process; nuclear waste management and disposal; nuclide migration and performance assessment of geologic (high-level) nuclear repositories

PO-1-4-20	Yasuhisa Oya	Dynamics of energetic hydrogen isotopes in carbon-related materials for fusion reactor application
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Subject Area 9 - Nuclear Analytical techniques: Neutrons; Ions; X-ray; Synchrotron radiation, etc.

PO-2-9-1	Amares Chatt	An Analytical Figure of Merit (AFOM) Factor For Evaluating Advantages of Anticoincidence Gammy-Ray Spectrometry in Neutron Activation Analysis
PO-2-9-2	Juan F. Facetti-Masulli	Selected trace and minor elements of bottom sediments from Acaray Reservoir
PO-2-9-3	Jun Furukawa	Quantitative Trait Locus Analysis for Seed Zinc Accumulation in Model Legume, Lotus Japonicus
PO-2-9-4	Jong-Myoung Lim	Characteristics of the Trace Elements in Indoor PM10 and PM2.5 at Subway Station Using Neutron Activation Analysis
PO-2-9-5	A. A. Naqvi	Optimization of Performance of a Channel Moderator of a PGNA Setup for Carbon, Nitrogen and Oxygen Detection
PO-2-9-6	Takahito Osawa	Preliminary Research for Iridium in Cretaceous-Tertiary Boundary Clay Using Multi-Gammy Ray Detection
PO-2-9-7	Gwang-Min Sun	Application of Instrumental Neutron Activation Analysis for Examination of Oil Pigments
PO-2-9-8	Gwang-Min Sun	Determination of Degradation Constant of Li Ion from ^{10}B ^7Li reaction in Various Media
PO-2-9-9	Diandou Xu	Hybrid Neutron Activation Analysis for Study of Organic Halogens in Precipitation in Beijing, China

Subject Area 10 - Radiopharmaceutical chemistry, including Tc chemistry, nuclear imaging, and radioisotope production

PO-2-10-1	Sima Attar Nosrati	Evaluation of synthetic conditions of zirconium molybdate gel for use in the $^{99}\text{Mo}/^{99\text{m}}\text{Tc}$ generators
PO-2-10-2	Yutaka Ezaki	Production of Rare Earth Multitracer from natHf with 125-MeV/Nucleon ^{14}N Ions
PO-2-10-3	Sandrine Huclier-Markai	Evaluation of Gallium Polyaminopolycarboxylate Complexes
PO-2-10-4	Noriko Ishioka	Synthesis and Evaluation of Br-76 Labeled Glucose for Tumor Diagnosis with PET
PO-2-10-5	Shigeki Watanabe	Synthesis of ^{77}Br Labeled Phenylalanine: A Preliminary Investigation for the Preparation of Radiobromine Labeled Peptide

Subject Area 11 - Applications of nuclear & radiochemical techniques in Life Science; Nano Science; Environmental Science; Geo-and Cosmo sciences, Archaeology; etc.

PO-2-11-1	Pisutti Dararutana	A XANES Study on Ancient Thai Glass
PO-2-11-2	Maria do Carmo Freitas	Air Pollution in chemical Elements, Determined by INAA, and Childhood Leukaemia in Portugal
PO-2-11-3	Maria do Carmo Freitas	Analysis of Air Particulate Matter in Teflon and Quartz Filters by Short-Irradiation, Epithermal-Neutron Activation with Compton Suppression
PO-2-11-4	Maria do Carmo Freitas	Characterisation of Biomonitors Used in Metal Air Pollution Studies: Capacity, pK-Values and Metal-Exchange Behaviour of <i>Parmelia sulcata</i>
PO-2-11-5	Maria do Carmo Freitas	Characterisation of Soils, Plants, and Water Samples Collected at Sao Domingos Mine, Portugal
PO-2-11-6	Mitsuru Ebihara	Application of NAA to the Trace Elemental Determination for Nail Samples from Residents of Tokyo, Japan
PO-2-11-7	Mitsuru Ebihara	Determination of ultra-trace rare earth elements in ureilite meteorites by radiochemical neutron activation analysis with an emphasis of the correction for the contribution caused by neutron-induced fission of uranium

PO-2-11-8	Mitsuru Ebihara	Cosmogenic Sc-45 in Gibeon Iron Meteorite by Radioanalytical Neutron Activation Analysis
PO-2-11-9	Toshiyuki Fujii	Mass-Dependent and Mass-Independent Isotope Fractionations of Lead in Chemical Exchange Reaction Using a Crown Ether
PO-2-11-10	Satoshi Fukutani	Study on Antimony Pollution Form in Soil Around Smelter by means of INAA
PO-2-11-11	Etsuko Furuta	Heavy metal elements in toiletries analyzed by INAA and ICP-MS
PO-2-11-12	Xiao He	Deposition in Lung and Translocation to Secondary Target Organs After Intratracheal Instillation of Nano-Ceria
PO-2-11-13	Inaya Lima	Investigation of minerals distributions in bone of tibolone therapy by Synchrotron X-Ray Fluorescence Microscopy
PO-2-11-14	Inaya Lima	The Zinc Distribution in Bone
PO-2-11-15	Mutsuo Inoue	Vertical Distributions of ²²⁸ Ra and ²²⁶ Ra in the Japan Basin; Implications for Water Circulation and Residence Time
PO-2-11-16	Satish Kayasth	Separation Science and Instrumental Approaches in Radioanalytical Chemistry
PO-2-11-17	Yoko Kokubu	Application of continuous heating method by thermal ionization mass spectrometry for measurement of isotope ratios of plutonium and uranium in trace amount of MOX sample
PO-2-11-18	Myung-Ho Lee	Isotope Correlations for Alpha Specific Activity and Isotopic Composition of Plutonium in High Burn-Up Pressurized Water Reactor Samples
PO-2-11-19	Jong-Myoung Lim	Elemental Analysis of Fly and Bottom Ashes from a Coal Power Plant by Neutron Activation Analysis
PO-2-11-20	Yukihiro Murakami	Measurements of detection limits for trace elements by multiple prompt gamma-ray analysis
PO-2-11-21	Kevin Norbash	Reprocessing of Research Reactor Nuclear Fuel Based on Pyrochemical Separations Technique
PO-2-11-22	Shin-ichi Sawada	Water diffusion in fluoropolymer-based fuel-cell electrolyte membranes investigated by radioactivated-tracer permeation technique
PO-2-11-23	Keisuke Sueki	Synthesis of water-soluble encapsulated-radioisotope fullerenes
PO-2-11-24	Shinji Sugihara	The Extraction of Past Environmental Information Using ¹³⁷ Cs and Some elements in Terrestrial Carbonate Deposits
PO-2-11-25	Gwang-Min Sun	Development of Classification Technology for the Characterization of Raw Materials at Production Kilns in Baekje Period
PO-2-11-26	Naruto Takahashi	Preparation of Labeled Porphyrin Compounds for PET and Gamma CT
PO-2-11-27	Junpei Tomita	Ra isotopes in Na-Cl type groundwaters from deep wells in the coastal areas of Himi City, Toyama Prefecture, Japan
PO-2-11-28	Tong-Zai Yang	Structural Change of Multiwalled Carbon Nanotubes Through X-Ray Irradiation
PO-2-11-29	Hiroya Yokoyama	Meteorological Factors Producing Variation of Tritium Concentrations Measured in Fukuoka, Japan
PO-2-11-30	Hong Zhang	Cyclic Neutron Activation Analysis of Fluorine in Commercial Tea at Shenzhen, China
PO-2-11-31	Zhiyong Zhang	Radiotracer Technique: A Useful Tool for Studies of the Environmental Behavior of Nanomaterials

Subject Area 12 - Nuclear probes for new materials: Mossbauer; perturbed angular correlations; positron annihilation, etc.

PO-2-12-1	Kiyoshi Nomura	Characterization of ⁵⁷ Fe implanted SnO ₂ films by Mossbauer spectroscopy and Nuclear Inelastic Scattering.
PO-2-12-2	Kiyoshi Nomura	H/D Isotope Effect and Magnetic Properties of Cyanide-Bridged Nd(III)-Fe(III) Complex
PO-2-12-3	P.K. Pujari	Positronium Chemistry in Nanodroplets
PO-2-12-4	Yasuhiro Yamada	In-Beam Mossbauer Spectroscopy of ⁵⁷ Mn Implanted Into Aluminum Oxide
PO-2-12-5	Yasuhiro Yamada	In-Beam Mossbauer Spectroscopy of ⁵⁷ Mn Implanted Into Magnesium Oxide
PO-2-12-6	Yasuhiro Yamada	Laser Deposition of Iron in Oxygen Atmosphere
PO-2-12-7	Akihiko Yokoyama	Local fields at impurity sites in ZnO