Poster Session
Monday Evening, October 24, 2011

Chair – Jared Johnson, Oak Ridge National Laboratory
Co-Chair – Jon Garrison, Oak Ridge National Laboratory

Student Presentations:

Synergistic Extraction of Dy and La in a System Combining TBP and DBP, *A. D. Braatz*, T. Anderson and M. Nilsson, University of California, Irvine*

Modeling Water Activities for Aqueous Sulfuric Acid, *D. Caldwell, University of Tennessee*

Thiosemicarbazone and Semicarbazone Chelating Resins and Their Use in Environmental Applications, *A. J. Crook*, D. D. Ensor, E. C. Lisic, *Tennessee Technological University*

Kinetic Study of DOTA as a Trivalent Ln/An Separations Agent in Advanced Fuel Reprocessing Schemes, *J. A. Drader*, K. L. Nash, *Washington State University*

Insulator-Based Dielectrophoretic Separation and Concentration of a Mixture of Particles, *R. C. Gallo-Villanueva*, V. H. Pérez-González, R. Davalos, B. H. Lapizco-Encinas, *Tecnológico de Monterrey*

Phosphonium Carboxylate Ionic Liquids: Preparation, Characterization and Evaluation as Extraction Solvents, *S.L. Garvey*, M.L. Dietz, I. A. Shkrob, T. W. Marin,*University of Wisconsin–Milwaukee*

Taxonomy of the Electrostatic Potential in a Divergent and Convergent Channel for Separation in Microfluidic Applications, *P. Golbayani*, A. Motamedilamouki, P. E. Arce, K. T. Seale, R. Sanders, *Tennessee Technological University*

Optimization and Evaluation of Uranium Sorptive Bio-materials, *C. S. Griggs*, S. L. Larson, J. H. Ballard, P. S. Barber, and R.D. Rogers, *University of Alabama*

Fundamental Investigation of the Next Generation Caustic Side Solvent Extraction (NG-CSSX) Process, *T. G. Hill*, M. Morgan, C. Shults, J. Buckner, D. D. Ensor, L. H. Delmau, B. A. Moyer,*Tennessee Technological University*

Removal of Anionic and Cationic Dyes from Water by Fe-Al Binary Oxide, *H.-J. Hong*, J.-S. Yang, E. J. Kim, Y.-J. Lee, J.-W. Yang, *KAIST*

The Effects of Sky Spectrum on Photovoltaic (PV) Modules, *I. B. Karki*, D. Faiman, J. J. Nakarmi, S. Chatterjee, *Tribhuvan University*

N-Donor Ionic Liquids as Unique Environments for f-Element Chemistry, *S. P. Kelley, E. L. Stoner, R. D. Rogers, *University of Alabama*

Adsorption Characteristics of As(III) and As(V) Onto Sludge From Water Purification Facility, *Y-S Kim*, S-M Park, J-S Yang, K. Baek, *Kumoh National Institute of Technology*

Removal of As(III) and As(V) Using Iron-Loaded Sludge From Treatment Plant Of Acid Mine Drainage, *Y.S. Kim*, J.-S. Yang, K. Baek, *Kumoh National Institute of Technology*

Prediction of Separation Characteristics of Multicomponent Systems for Energy-Efficient Processing, *P. Mair-Zelenka*, T. Wallek, A. Reiter, M. Siebenhofer, *Graz University of Technology*

Effects of cell morphology on dielectrophoretic immobilization employing arrays of insulating structures, *B. H. Lapizco-Encinas*, H. Moncada-Hernández, J. Baylon-Cardiel, V. H. Pérez-González, *Tennessee Technological University*

Degradation Studies of CYANEX® 301, *P. Marc*, R. Custelcean[1], J. R. Klaehn, D. R. Peterman, L.H. Delmau, Oak Ridge National Laboratory*

A Step by Step Methodology for the Design of a Base Case Redox-Flow Battery, *M. Moore*, R.M. Counce, J.S. Watson, T.A. Zawodzinski, *University of Tennessee-Knoxville*

Sensitivity Analysis of the Capital Costs of an All Vanadium Redox-Flow Battery, *M. Moore*, J.S. Watson, T.A. Zawodzinski, R.M. Counce, *University of Tennessee-Knoxville*

Microwave assisted Extraction of Vanillin from Cured Vanilla Pods, *Rekha B.N, V.G. Gaikar, V.K. Rathod*, *Institute of Chemical Technology, Matunga, Mumbai, India*

Separation of Americium from Europium using Pyridine-based Receptors, *R. Severance*, P.V. Bonnesen, L H. Delmau, *Oak Ridge National Laboratory*

Role of Material Morphology on Electrophoresis of Biomolecules: Assessment of Convective-Diffusive Transport in Poiseuille Flows, *J. J. Simhadri*, H. A. Stretz, P. E. Arce, Tennessee Technological University*

Application of Ionic Liquids for Separations in the Thorium Nuclear Fuel Cycle, *E.L. Stoner*, S.P. Kelley, R.D. Rogers, *University of Alabama*

Optimization of Centrifuge Extraction Operation by Visualization of Oil-water Countercurrent Flow, *M.Nakase*, R.Makabe, K.Takeshita, H.Kikura,*Tokyo Institute of Technology*

Washing Characteristics of Heavy Metals from Dredged Marine Sediments, *J.C. Yoo*, C.-D. Lee, K. Baek, *Kumoh National Institute of Technology*

Step-wise Extraction of Metals from Dredged Marine Sediments, *J.-C. Yoo*, C.-D. Lee, K. *Kumoh National Institute of Technology*

A Step by Step Design for Membraneless and High Energy Density Redox Flow Battery, *M Zhang*, T.A. Zawodzinski, R.M. Counce, J.S. Watson, *University of Tennessee-Knoxville*

The Behavior of Nitrous Acid in the HNO_3/TBP Extraction System, *M. Precek*, A.Paulenova, *Oregon State University*

<u>General Presentations:</u>

Separation of Heavy Metals by Nitrogen-donor Multidentate Ligands bearing Pyrazine Rings, *K. Takeshita, D.Kuwae and Y. Inaba, Tokyo Institute of Technology*

Redox Chemistry of Third Phases Formed in the Cerium–Nitric Acid–Malonamide–*n*-Dodecane Solvent Extraction System, *M. R. Antonio[*], L. D'Amico, R. J. Ellis, [*]Argonne National Laboratory*

Electrochemical Transformation of Selenate in a Sand Column, *K.Baek*, A. Ciblak, D. Vesper, I. Padillar, A. Alshawabkeh, * Kumoh National Institute of Technology*

Mn-Fe-CO_3 Layered Double Hydroxide for New Adsorbent of As(III) and As(V), *K. Baek*, E. Otgonjargal, J.-S. Yang, *Kumoh National Institute of Technology*

Photovoltaic Powered Electrokientic Restoration of Saline Soil, *K.Baek*, J.-M. Jung, S-U. Jo, D.-H. Kim, *Kumoh National Institute of Technology*

A Pilot Scale Electrokinetic Remediation of Arsenic Contaminated Soil, *K. Baek*, D.-H. Kim, B.-R. Hwang, Y.-H. Kim, H.-B. Jung, S.-W. Ko, Kumoh National Institute of Technology*

Electrokinetic Extraction of Heavy Metals from Anaerobic Digestion Sludge: Influence of Pre-treatment Using Acid, *K.Baek*, E.-K. Jeon, J-M. Jung, J.-C. Yoo, D.-H. Kim, Kumoh National Institute of Technology*

Design and Coordination of f-elements with Amidoxime-Functionalized Ionic Liquids, *P.S. Barber*, S. Kelley, R. D. Rogers, *University of Alabama*

Extraction Chromatographic Clean-up of Potentially Acidic Hanford Wastes Containing $Al(NO_3)_3$ using Tri-n-octyl Phosphine Oxide, *J.C. Braley*, M.D. Ogden, J. Sulakova, K.L. Nash, *Washington State University*

Raman Based Process Monitoring Methods for Continuous Real-Time Analysis of High Level Radioactive Waste, *S. A. Bryan*, T. G. Levitskaia, Pacific Northwest National Laboratory*

Recycle of Zirconium from Used Nuclear Fuel Cladding, An Economic and Waste Reduction Incentive*, E. D. Collins*, G. D. Del Cul, B. B. Spencer, R. R. Brunson, D. S. Terekhov, N. V. Emmanuel, *Oak Ridge National Laboratory*

Separation of Hemicellulose from Alkaline Pulping Liquors, *A.L. Compere*, W. L. Griffith, *Oak Ridge National Laboratory*

Study and Modeling of High-Level Waste Simulant Slurry Filtration Dynamics, *R.C. Daniel*, P.P. Schonewill, R.L. Russell, R.W. Shimskey, C.A. Burns, J.M. Billing, R.A. Peterson, *Pacific Northwest National Laboratory*

Value Added Products from Lignocellulose Based Biochar, *R.Feiner*, N. Schwaiger, S. Lux, M. Siebenhofer, *Graz University of Technology*

Modeling Oil-in-Water Coalescing Behavior on Polyphenylene Sulfide Fibers: Experiments versus Computations, *F. F. Fondeur*, S. D. Fink,*Savannah River National Laboratory*

The Chemical and Radiation Resistance of Polyphenylene Sulfide under Solvent Extraction Conditions, *F. F. Fondeur*, M. R. Poirier, D. T. Herman, T. B. Peters, S. D. Fink, *Savannah River National Laboratory*

Thermal Stability of Formohydroxamic Acid*, F. F. Fondeur* and T. S. Rudisill, *Savannah River National Laboratory*

Tank Type IIIa Analysis and Cleaning Protocol, *F. F. Fondeur*, T. L. White, L. N. Oji, C. J. Martino, W. R. Wilmarth, *Savannah River National Laboratory*

Nitrophenol Hydrogenation Using Pd Immobilized on Ionic Liquid-Alginate Spherical Resins, *E. Guibal[*], J. Czulak, C. Jouannin, T. Vincent, I. Dez, A.-C. Gaumont,[*]Ecole des Mines d'Alès*

Zirconium Masking in Actinide and Lanthanide SEParation Process (ALSEP), *E.O. Krahn*, A.V. Gelis, *Argonne National Laboratory*

Effect of Pulse Power on Electrokinetic Removal of Salts from Saline Soil, *Y.-J. Lee*, J.-H. Choi, H.-G. Lee, T.-H. Ha, J.-H. Bae, *Korea Electrotechnology Research Institute*

Modeling of Metal Ion Transport in TALSPEAK-Like Extraction Systems, *T. G. Levitskaia*, J. C. Braley, G.J. Lumetta, D. Neiner, T. Robinson, P. Zalupski, Pacific Northwest National Laboratory*

The Effect of Temperature on the Dissolution of Lignocellulose in Ionic Liquids, *S.A. Morton III*; A.J. Placido, A.R.Sharits, L.A. Morton, *University of Kentucky*

Temperature Dependence of Microscopic Structure Formed by Tri-n-butyl Phosphate and Zirconium Ion in Extracted Solution, *R. Motokawa*, S. Suzuki, and T. Yaita, *Japan Atomic Energy Agency*

Actinide Extraction by 2.6-Bis[(bis(2-N-octyl)phosphino)methyl]pyridine N,P,P`-trioxide TO(NOPOPO) from Nitrate and Thiocyanate Media, *K.L. Nash*, J. Sulakova, R.T. Paine, M. Chakravarty, *Washington State University*

Processing Macrobatches 3 and 4 at the Savannah River Site Integrated Salt Disposition Process, *T. B. Peters*, R. A. Pierce, F. F. Fondeur, M.W. Geeting, S. D. Fink, *Savannah River National Laboratory*

Sulfate-Binding Cages for Separation Applications in Moderately to Highly Alkaline Solutions, *A. Rajbanshi*, B.A. Moyer, R. Custelcean, *Oak Ridge National Laboratory*

Full-Scale Centrifugal Contactor Testing with Next Generation Solvent at the Savannah River Site, *M. L. Restivo*,T. B. Peters, T. J. Steeper, M. R. Williams, B. J. Giddings, M.W. Geeting, R. A. Pierce, S. D. Fink, *Savannah River National Laboratory*

A Water Activity Data Assessment for Hanford High-Level Tank Waste, *J. G. Reynolds*, R. Carter, R. S. Disselkamp, D. A. Greer, *Washington River Protection Solutions, LLC*

The Apparent Solubility of Aluminum(III) in Hanford High-Level Waste Tanks, *J. G. Reynolds, Washington River Protection Solutions, LLC*

Speciation Behavior of Americium Higher Oxidation States for the Separation of Americium from Curium in Nuclear Fuel Cycle Separations, *C. L. Riddle*, K. R. Czerwinski, P. Paviet-Hartmann, F. Poineau, P. F. Weck, T. Hartmann, Idaho National Laboratory*

Aluminum Solubility: Experimental Studies in Mixed Sodium Salt Solutions, *L. T. Smith,* R. K. Toghiani, Y. Xia, and J. S. Lindner, Mississippi State University*

Pilot Test for Separation of Sr^{2+} and Nd(III) from HLLW Using TiBOGA, *G. Tian*, Y. Shen,J. Wang, L. Rao, *Lawrence Berkeley National Laboratory*

Enhancement of Ion Transport in Carbon Electrodes using Low-Amplitude, High-Frequency Electrical Signals, *C. Tsouris*, K. Sharma, R. T. Mayes, J. O. Kiggans, S. Yiacoumi, D. W. DePaoli, S. Dai, *Oak Ridge National Laboratory*

Uptake of Uranium from Seawater: Testing of Sorbents, *C. Tsouris*, S. Siddiqui, Y. Oyola, C.J. Janke, R.T. Mayes, S. Dai, *Oak Ridge National Laboratory*

Separation Characteristics of Manganese as a Surrogate for Americium during the Distillation Operations of Pyroprocessing, *B.R. Westphal*, J.C. Price, L.E. Foulkrod, M. Rodriquez, D.G. Cummings, J.J. Giglio, *Idaho National Laboratory*

Coordination and Separation Behavior of Actinides, Lanthanides, and d-Transition Metals with Phenanthroline Amide (PTA), *T. Yaita, T. Kobayashi, K. Akutsu, S. Suzuki, H. Shiwaku, Japan Atomic Energy Agency*

Building Thermodynamic Models of Solution Mixtures to Support Predictive Modeling of Liquid-Liquid Distribution Systems, *P.R. Zalupski*, S.L. Clegg, L.H. Delmau, *Idaho National Laboratory*

Developing Actinyl Force Field for Modeling Solvent Extraction Processes, *N. Rai*, S. P. Tiwari, and E. J. Maginn, *University of Notre Dame*