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Date of birth Sept. 04, 1956

Nationality / Place of birth : Korean / Seoul, Korea

Professional Interests

- Carbon adsorption in aqueous systems
- Capacitive deionization (electrosorption) by carbon based materials
- Chemical decontamination of radionuclides & inorganic chemical species by chemical solution, gel, or foam

Educations

- BS, Yonsei University, Chemical engineering, Seoul, Korea (1979-1981)
- MS, Yonsei University, Chemical engineering , Seoul, Korea (1981-1983)
- Ph.D., Chungnam National University, Chemical Engineering, Daejeon, Korea (1988-1994)

Dissertation Title : A study on the Preparation of Activated Carbon Fibers and Their Radioactive Co(II) Adsorption Characteristics

Work Experiences

- Researcher, KAERI (1983- 1987)
- Senior Researcher, KAERI (1987- 1994)
- Principal Researcher, KAERI (1994- present)
- Exchanging Scientists, PNC in Japan (Scientists Exchange Program, Title : Chemical decontamination of NPPs primary coolant system , 1990-1991)

- Head (Project Manager), Decontamination R&D Department, KAERI (2003-2005)
- Head (Project Manager), Decommissioning R&D Department, KAERI (2006-2008)
- Director, Decontamination and Decommissioning Research Division, KAERI (2006-2008)
 - Adjunct Professor, Environmental Eng. Department, Hanbat National Univ. (1995- present)
 - Adjunct Professor, Quantum Energy Chemical Eng. Department, Univ. of Science & Technology (2011-2014)
 - Lecturer, Environmental Eng. Department, Hanbat National Univ. (1994-2011)
- Visiting Professor, Chemistry Dept., Univ. of Western Ontario, Canada (2013-2014)

Membership

- A Life Member, Committee Chair in Nuclear Materials Committee, Korea Carbon Society (2010-present)
- Member, Director, Editor & Vice President, The Korean Society of Thermal Environmental Engineers (2011-present)
- Editor, Journal of Photocatalysis Science (2010- present)
- Editor, Korean Radioactive Waste Society (2006-2007)
- A Life Member, Korean Nuclear Society (1986-present)
- A Life Member, Korean Radioactive Waste Society (2003-present)
- Member, The Korean Institute of Chemical Engineers (1983-present)
- Member, The Korean Society of Industrial & Engineering Chemistry (1986-present)
- Member, Korean Society of Environmental Engineers (1992-present)

Publications

- Stability of Foaming Agent for Foam decontamination, *Asian Journal of Chemistry*, Vol 27, No.11 (2015)
- Synthesis and Application of Tricaprylmethylammoniumthiosalicylate Task Specific Ionic liquid as an Extracting Agent, *Asian Journal of Chemistry*, Vol 27, No.11 (2015)
- Effect of silica nanoparticles on the stability of decontamination foam and their application for oxide dissolution, *Annals of Nuclear Energy*, Vol 73 (2014)
- Decontamination foam containing silica nanoparticles of various structures, *Asian Journal of Chemistry*, Vol 26, No.5 (2014)
- Morphological control of mesoporous silica nanoparticles and their

application for foam stability, *Asian Journal of Chemistry*, Vol 26, No.5 (2014)

- Size Distribution and Filtration Property of Particles Generated from Laser Ablation Decontamination Process, *Environmental Progress & Sustainable Energy*, Vol 32, No. 3 (2013)
- Adsorption of Perfluorocarbon Surfactant on Activated Carbon Adsorbents, *Asian Journal of Chemistry*, Vol 25, No.10 (2013)
- Decontamination of Radioactive Material by Nd:YAG Laser, *Asian Journal of Chemistry*, Vol 25, No.10 (2013)
- Treatment of Organic Liquid Waste Containing a PFC Surfactant by Carbon Adsorbents, *Journal of Multifunctional Materials & Photoscience*, Vol 4, No.2 (2013)
- Silica-based Chemical Gels for Decontamination of Radionuclides, *Asian Journal of Chemistry*, Vol 24, No. 9 (2012)
- Electrosorption of Uranium Ions on Activated Carbon Fibers, *Journal of Radioanalytical Nuclear Chemistry*, Vol 287, No.3 (2011)
- The Effect of NO_3^- and OH^- Ions on the Laser Ablation of Cs^+ Ion Type 304 Stainless Steel, *Journal of Radioanalytical Nuclear Chemistry*, Vol 287, No. 3 (2011)
- Electrochemically Modified Activated Carbon Fiber for the Removal of Uranium Ions, *Asian Journal of Chemistry*, Vol 23, No. 5 (2011)
- Removal of Uranium Ions in Radioactive Liquid Waste, *Journal of Photocatalysis Science*, Vol 2, No. 1 (2011)
- A Comprehensive Study on the Laser Removal of Cs^+ Ion from Type 304 Stainless Steel, *Journal of Chem. Eng.*, Vol 27, No.6 (2010)
- Particle Collection from Light Ablation Decontamination of Hot Cell, *Journal of Environmental & Thermal Eng.*, Vol 7, No.1 (2010)
- A Comprehensive Study on the Laser Decontamination of Surfaces Contaminated with Cs^+ Ion, *Applied Radiation and Isotopes*, Vol 67, (2009)
- Partition Characteristics of Radionuclides during a Melt Decontamination of a Contaminated Metal Waste, *Journal of Industrial and Engineering Chemistry*, Vol 15 (2009)
- Partitioning Ratio of Depleted Uranium during a Melt Decontamination by an Arc Melting, *Nuclear Engineering and Technology*, Vol.40 (2008)
- Cold Plasma Processing and Plasma Chemistry of Metallic Cobalt Surface, *Plasma Chem Plasma Process*, Vol 28 (2008)
- Effect of a Slag Former on the Absorption of Cerium and Uranium Oxide within a Slag during a Melting of Stainless Steel Contaminated with Uranium, *Separation and Purification Technology*, Vol. 60 (2008)
- Distribution of the Radionuclides during the Melting of Aluminum

- Wastes, *Journal of Chemical Engineering of Japan*, Vol 41, No. 7 (2008)
- Melting Decontamination of Radioactive Scrap Metal by Graphite Arc Melter, *Journal of Chemical Engineering of Japan*, Vol 41, No. 7 (2008)
- An Analysis of a Flushing Effect on the Electrokinetic-flushing Removal of Cobalt and Cesium from a Soil around Decommissioning Site, *Separation and Purification Technology*, Vol. 63, (2008)
- Adsorptive Separation of Palladium from a Simulated Nuclear Waste Solution with Activated Carbon Fibers, *Separation Science and Technology*, Vol. 43 (2008)
- Evaluation of Ferrocyanide Anion Exchange Resins Regarding the Uptake of Cs Ions and Their Regeneration, *Nuclear Engineering and Technology*, Vol. 40, No. 6 (2008)

Patents

- Chemical gel decontamination reagents having reducing agent for radioactive contamination, preparation method thereof and decontamination method using the same, 10-1278212, Korea (2013)
- Chemical gel decontamination reagents having reducing agent for radioactive contamination, preparation method thereof and decontamination method using the same, Patent no. 10-1278212, Korea (2013)
- Method for the improvement of laser decontamination performance, Patent no. 2012-0066957, Korea (2012)
- Method for removing cobalt and cesium from radioactive wastewater, Patent no. 1068523, Korea (2011)
- Preparation method of inorganic-inorganic composite ion exchangers for a treatment of radioactive waste solutions, Patent no. 1072836, Korea (2011)
- Method and device for collecting particulate contaminants during CO₂ blasting decontamination, GB 2397168A United Kingdom (2006), US 7097717 B2 (2006), EP 1451829 B1 France (2011)
- Method for removal of radium in solution generated from the decontamination of phosphogypsum, Patent no. 995168, Korea (2010)
- Removal method of radium radionuclides in phosphogypsum, Patent no. 949671, Korea (2009)
- Regenerative electrochemical polishing decontamination of metallic radioactive wastes and decontamination liquid waste treatment by electro-sorption and electro-desorption, Patent no. 934929, Korea (2009)
- Volume reduction and vitrification treatment method for spent uranium catalyst wastes, Patent no. 926462, Korea (2009)
- Method and device for improvement and collection of particulate contaminants during dry ice pellet blasting decontamination, Patent no.

795777, Korea (2008)

- Method for recovering of the spent ion exchange materials selective for the Cs and Sr ion sorption, Patent no. 764904, Korea (2007)
- Improvement method for electrosorption treatment of uranium-containing liquid waste, Patent no. 577522, Korea (2006)
- Volume reduction method of uranium-containing sludge, Patent no. 579370, Korea (2006)
- Selective removal methods, materials, and it's fabrication method for uranium ions, radioactive ions and salts in liquid waste by electrosorption technique, Patent no. 488576, Korea (2005)
- Electrosorption equipments for selective removal of inorganic ions in liquid waste, Patent no. 454324, Korea (2004)