

Titles of abstracts submitted to the ICIP Conference

Related to reactors but not related to cobalt production or use:

1. Unraveling the Chemistry of Non-Equilibrium Radiation-Induced Actinide Species
2. Mechanistic aspects of radiation-induced dissolution of UO₂-based used nuclear fuel
3. Probing Radiation Stability of Solid-State Actinide Oxalate Compounds
4. New possibilities for radiation induced damage research at Delft reactor institute
5. Solvent Effects on Radiation-Induced Reaction Pathways of Minor Actinide Separation Extractants
6. Redox Chemistry of Uranyl Complexes via Pulse Radiolysis
7. Enhancement of Gamma Irradiation-Induced Radiocatalytic Degradation of Organic Pollutants by BaF₂/TiO₂ Radiocatalysts
8. The structure and reactivity of neutral radicals and radical-ions formed from ligands used for nuclear waste separation
9. From Reactor to Repository –Advanced Platform to Study and Visualize MSR Fuel Salt Disposal: Experimental validation
10. Monitoring the formation of superoxide in studtite and metastudtite in response to ionizing radiation exposure
11. Radiolytic Production of Supra-Equilibrium Polyhalide and Interhalide Species in Molten Alkali Halide Salts: In Situ Time-Resolved UV-Vis Spectroscopy
12. Radiation-Induced Transformations of Sulfur-Donor Extractant Models for Actinide/Lanthanide Separation
13. Effects of dissolved metal ions on radiolysis reactions in molten salt matrices
14. Effects of Ionizing Radiation on the Recovery of Uranium from Caustic Guanidinium Carbonate Media

Related to electron beams, pulse radiolysis, and segue into medical applications:

15. Calculation of economic - efficiency of plastic degradation via electron accelerator application by Excel-Based Economic Assessment Modeling (E-BEAM) tool
16. Impacts of water structure on radiolysis products generated by gamma irradiation of solid-state materials
17. Electron Beam Irradiation of Lignin
18. Radiation-powered short-chain PFAS mineralization and kinetics study
19. Solid-State Electron Beam Irradiation as a Scalable Platform for the Fabrication of Functional Ovalbumin-Based Nanoparticles
20. Advanced oxidation process based on water radiolysis to degrade and mineralize chloroorganic pollutants
21. Direct photochemistry of gaseous CO₂, a modelling and experimental study
22. Radiation-Induced Degradation of Oxalic Acid, Ascorbic Acid, and Hydroxylammonium Nitrate in Nitric Acid: A Combined Experimental and Multiscale Modeling Study
23. Engineering Deep Marcus Inverted-Region Electron Transfer Through Charge Delocalization in Nonpolar Media

24. Radiolytic Transformation of Gibbsite in Alkaline NaOH–NaNO₃ Systems under Gamma Irradiation
25. Electronic Structure and Radiation-Induced Transient Chemistry in Dimethylaminopyridinium (DMAP) Ionic Liquids
26. Pulse Radiolysis of Thiocyanate Anion in Continuous-Flow Deep Eutectic Solvent
27. Pulse Radiolysis as a Tool to Investigate a Novel Pathway for the Formation of a Key Metal-Hydride Intermediate in Reductive Catalysis
28. Redox Properties of Strongly Oxidizing Organic Radicals Probed by Pulse Radiolysis
29. Reaction kinetics and temperature dependence of aqueous transition metal ions in reactions with the superoxide anion
30. Radiolysis Yields with Acetate and Borate: Buffers as Proton Scavengers in High-Temperature Water
31. Mapping aqueous redox boundaries: from monovalent intermediates to high-valent metal ions
32. Using Ionizing Radiation to Determine the Energies of Ions and Ion Pairs in Nonpolar Media
33. Impact of Cation Size of Radiolytic Behavior on Metal Oxide Surfaces
34. Morphology-Tuned Iron Oxide Nanoparticles via Radiolytic Synthesis: Magnetic Hyperthermia Performance and Cytotoxicity Assessment
35. Harnessing Dark Excitons in Heterostructured QD-based Scintillators
36. Assessment of early metabolic responses to ultra-high dose-rate irradiation in zebrafish embryos by RPLC-DAD
37. Chemical modifications in helium-irradiated purine nucleobases characterised by time-of-flight spectrometry
38. Radiation induced activation of complex gas mixtures, a modelling workflow
39. Influence of Crystal Phase on the Radiocatalytic activity of HfO₂ Nanoparticles under X-Ray Irradiation
40. Spin-Orbit Origin of the Near-Infrared Band of I₂^{•−} in Aqueous Solution and Its Implications for Interhalide Radical Anion Identification
41. Effect of gold and metal oxide nanoparticles on the yields of spin-trapped water radiolysis products
42. Use of ALA to understand chemical change in irradiated explosives
43. Ultrafast tracking of ionization-generated reactive species in aqueous solution
44. Radiation Astrochemistry
45. Physical and chemical modification of carbon monoxide ice during cosmic ray irradiation
46. Quantification of processes resulting in health damage and other biological effects caused by ionizing radiation
47. From Radical Chemistry to Redox Signaling: A Compartmentalized Framework for the FLASH Effect
48. Ionizing-Radiation Activation of Chlorin e6 for Enhanced Cancer Radiotherapy
49. Influence of radiolytic synthesis parameters on the structural properties and radiosensitizing efficacy of bismuth based nanoparticles
50. Radiation-synthesized radioisotope nanocarriers for cancer theranostics based on synthetic and natural polymers
51. Combined Environment Capability Development at LANL