

# NNL Publications

Updated August 2019

## Contents

Introduction .....	3
Journal & Review Articles - 2019 .....	5
Journal & Review Articles - 2018 .....	9
Journal & Review Articles – 2017.....	14
Journal & Review Articles - 2016 .....	17
Journal & Review Articles - 2015 .....	20
Journal & Review Articles - 2014 .....	23
Journal & Review Articles - 2013 .....	26
Journal & Review Articles - 2012 .....	28
Journal & Review Articles - 2011 .....	30
Journal & Review Articles - 2010 .....	33
Journal & Review Articles - 2009 .....	34
Journal & Review Articles - 2008 .....	36
Journal & Review Articles - 2007 .....	39
Conference Papers – 2019.....	42
Conference Papers – 2018.....	43
Conference Papers - 2017.....	45
Conference Papers - 2016.....	47
Conference Papers - 2015.....	49
Conference Papers - 2014.....	52
Conference Papers - 2013.....	54
Conference Papers - 2012.....	56
Conference Papers - 2011.....	58
Conference Papers - 2010.....	59
Conference Papers - 2009.....	61
Conference Papers - 2008.....	65
Conference Papers - 2007.....	68

## Introduction

This document details NNL authored publications as indexed by Scopus<sup>1</sup> since 2007.

- Books
- Journal and Review Articles
- Conference Papers

Each reference is hyperlinked to the Scopus record. Open access manuscripts can be freely downloaded. Access to digital copies of other manuscripts will depend on your access rights.

## Books & Book Chapters

[1] [Edwards, L., LeBlanc, D., Rodenburg, C., Uhlí, J., Dai, Z., Lauritzen, B., Allibert, M., Heuer, D., Laureau, A., Merle, E., Brovchenko, M., Delpech, S., Rineiski, A., Vijayan, P.K., Dulera, I.V., Rama Rao, A., Sinha, R.K., Waris, A., Luzzi, L., Cammi, A., Yoshioka, R., Kinoshita, M., Lee, D., Jeong, Y., Kloosterman, J.L., Disen, E., Ponomarev, L.I., Boyes, W., Pázsit, I., Krepel, J., Nichenko, S., Hombourger, B., Pautz, A., Prasser, M., Erbay, L.B., Scott, I., Hodgson, Z., Bakai, A.S., Lackowski, V., Kutsch, J., Greaves, E.D., Sajo-Bohus, L., "Worldwide activities", \(2017\) Molten Salt Reactors and Thorium Energy, pp. 635-774.](#)

[2] [Denecke, M.A., Bryan, N., Kalmykov, S., Morris, K., Quinto, F., "Sources and Behaviour of Actinide Elements in the Environment", \(2016\) Experimental and Theoretical Approaches to Actinide Chemistry: From Fundamental Systems to Practical Applications, pp. 378-444.](#)

[3] [Lewin, R.G., Harrison, M.T., "International developments in electrorefining technologies for pyrochemical processing of spent nuclear fuels", \(2015\) Reprocessing and Recycling of Spent Nuclear Fuel, pp. 373-413.](#)

[4] [Maher, C.J., "Current headend technologies and future developments in the reprocessing of spent nuclear fuels", \(2015\) Reprocessing and Recycling of Spent Nuclear Fuel, pp. 93-124.](#)

[5] [Taylor, R., "Reprocessing and Recycling of Spent Nuclear Fuel", \(2015\) Reprocessing and Recycling of Spent Nuclear Fuel, pp. 1-658.](#)

[6] [Sarsfield, M.J., "The coprecipitation and conversion of mixed actinide oxalates for aqueous-based reprocessing of spent nuclear fuels", \(2015\) Reprocessing and Recycling of Spent Nuclear Fuel, pp. 325-351.](#)

[7] [Hyde, J.M., English, C.A., "Microstructural characterisation techniques for the study of reactor pressure vessel \(RPV\) embrittlement", \(2014\) Irradiation Embrittlement of Reactor Pressure Vessels \(RPVs\) in Nuclear Power Plants, p. 211 294.](#)

---

<sup>1</sup> www.scopus.com

- [8] [Swift, P., Kinoshita, H., Collier, N.C., "The effect of supplementary pulverised fuel ash on calcium aluminate phosphate cement for intermediate-level waste encapsulation", \(2013\) Cement-Based Materials for Nuclear Waste Storage, pp. 215-224.](#)
- [9] [Stewart, M.W.A., Moricca, S.A., Vance, E.R., Arthur Day, R., Maddrell, E.R., Scales, C.R., Hobbs, J., "Hot-isostatic pressing of chlorine-containing plutonium residues and wastes", \(2013\) TMS 2013 142nd Annual Meeting and Exhibition, Annual Meeting, pp. 675-682.](#)
- [10] [Hesketh, K., "Burnable poison-doped fuel", \(2012\) Comprehensive Nuclear Materials, 2, pp. 423-438.](#)
- [11] [Boothby, R.M., "Radiation effects in nickel-based alloys", \(2012\) Comprehensive Nuclear Materials, 4, pp. 123-150.](#)
- [12] [English, C., Hyde, J., "Radiation damage of reactor pressure vessel steels", \(2012\) Comprehensive Nuclear Materials, 4, pp. 151-180.](#)
- [13] [Rossiter, G., "Understanding and modelling fuel behaviour under irradiation", \(2012\) Nuclear Fuel Cycle Science and Engineering, pp. 396-424.](#)
- [14] [Squire, J., Maddrell, E.R., Hyatt, N.C., Stennett, M.C., "Developing the Plutonium Disposition Option: Ceramic Processing Concerns", \(2011\) Advances in Materials Science for Environmental and Nuclear Technology II, 227, pp. 241-249.](#)
- [15] [Whillock, G.O.H., "Corrosion in radiolysis induced environments", \(2010\) Shreir's Corrosion, pp. 1330-1339.](#)
- [16] [Whillock, G.O.H., Worthington, S.E., "Corrosion in nitric acid", \(2010\) Shreir's Corrosion, pp. 1250-1269.](#)
- [17] [Burrows, R., Harris, S., "Electrochemical Corrosion Study of Magnox Al80 and Natural Uranium", \(2007\) Electrochemistry in Light Water Reactors: Reference Electrodes, Measurement, Corrosion and Tribocorrosion Issues, pp. 156-163.](#)

## Journal & Review Articles - 2019

- [1] [Peakman, A., Grove, C., Fitzgerald, K., Gregg, R., "Development of an equilibrium loading pattern and whole-core fuel performance assessment in the Advanced Boiling Water Reactor \(ABWR\) with UO<sub>2</sub> and U<sub>3</sub>Si<sub>2</sub> fuels", \(2019\) Progress in Nuclear Energy, 117, art. no. 103053, .](#)
- [2] [Metcalf, M.P., Tzelepi, A., Copeland, G., "The release of carbon-14 from irradiated PGA graphite by thermal treatment in air", \(2019\) Annals of Nuclear Energy, 133, pp. 110-121.](#)
- [3] [Davidson, E., Betzler, B., Gregg, R., Worrall, A., "Modeling a fast spectrum molten salt reactor in a systems dynamics fuel cycles code", \(2019\) Annals of Nuclear Energy, 133, pp. 409-424.](#)
- [4] [Baron, P., Cornet, S.M., Collins, E.D., DeAngelis, G., Del Cul, G., Fedorov, Y., Glatz, J.P., Ignatiev, V., Inoue, T., Khaperskaya, A., Kim, I.T., Kormilitsyn, M., Koyama, T., Law, J.D., Lee, H.S., Minato, K., Morita, Y., Uhlir, J., Warin, D., Taylor, R.J., "A review of separation processes proposed for advanced fuel cycles based on technology readiness level assessments", \(2019\) Progress in Nuclear Energy, 117, art. no. 103091, .](#)
- [5] [Goode, J.B., Hambley, D.I., Hanson, B.C., "End point determination for spent nuclear fuel drying operations", \(2019\) Progress in Nuclear Energy, 116, pp. 108-114.](#)
- [6] [Goût, T.L., Harrison, M.T., Farnan, I., "Evaluating the temperature dependence of Magnox waste glass dissolution", \(2019\) Journal of Non-Crystalline Solids, 518, pp. 75-84.](#)
- [7] [Goût, T.L., Harrison, M.T., Farnan, I., "Impacts of lithium on Magnox waste glass dissolution", \(2019\) Journal of Non-Crystalline Solids, 517, pp. 96-105.](#)
- [8] [Goode, J.B., Hambley, D.I., Hanson, B.C., "A benchtop comparison of drying methods relevant to failed spent nuclear fuel", \(2019\) Progress in Nuclear Energy, 115, pp. 120-125.](#)
- [9] [Collier, N.C., Heyes, D.W., Butcher, E.J., Borwick, J., Milodowski, A.E., Field, L.P., Kemp, S.J., Mounteney, I., Bernal, S.A., Corkhill, C.L., Hyatt, N.C., Provis, J.L., Black, L., "Gaseous carbonation of cementitious backfill for geological disposal of radioactive waste: Nirex Reference Vault Backfill", \(2019\) Applied Geochemistry, 106, pp. 120-133.](#)
- [10] [Dawson, M., "A pragmatic approach for simulating the fluid flow and heat transfer within industrial evaporator vessels", \(2019\) International Journal of Heat and Mass Transfer, pp. 907-924.](#)
- [11] [Vikman, M., Marjamaa, K., Nykyri, M., Small, J.S., Miettinen, H., Heikinheimo, L., Haavisto, T., Itävaara, M., "The biogeochemistry of gas generation from low-level nuclear waste: Microbiological characterization during 18 years study under in situ conditions", \(2019\) Applied Geochemistry, 105, pp. 55-67.](#)
- [12] [Galvin, T., Hyatt, N.C., Rainforth, W.M., Reaney, I.M., Shepherd, D., "Laser sintering of electrophoretically deposited \(EPD\) Ti<sub>3</sub>SiC<sub>2</sub> MAX phase coatings on titanium", \(2019\) Surface and Coatings Technology, 366, pp. 199-203.](#)

- [13] [Holmes, R., Charnley-Parry, I., Grundy, C., Whitton, J., Cormack, M., "Developing a toolkit for public engagement on nuclear energy issues for application in Europe: A review of stakeholder responses from Finland, France and Germany", \(2019\) Nuclear Future, 15 \(3\), pp. 51-53.](#)
- [14] [Prentice, D.P., Walkley, B., Bernal, S.A., Bankhead, M., Hayes, M., Provis, J.L., "Thermodynamic modelling of BFS-PC cements under temperature conditions relevant to the geological disposal of nuclear wastes", \(2019\) Cement and Concrete Research, 119, pp. 21-35.](#)
- [15] [Sutherland-Harper, S., Livens, F., Pearce, C., Hobbs, J., Orr, R., Taylor, R., Webb, K., Kaltsoyannis, N., "Interactions of HCl and H<sub>2</sub>O with the surface of PuO<sub>2</sub>", \(2019\) Journal of Nuclear Materials, 518, pp. 256-264.](#)
- [16] [Barcellini, C., Harrison, R.W., Dumbill, S., Donnelly, S.E., Jimenez-Melero, E., "Local chemical instabilities in 20Cr–25Ni Nb-stabilised austenitic stainless steel induced by proton irradiation", \(2019\) Journal of Nuclear Materials, 518, pp. 95-107.](#)
- [17] [Maddrell, E.R., Vance, E.R., Grant, C., Aly, Z., Stopic, A., Palmer, T., Harrison, J., Gregg, D.J., "Silver iodide sodalite – Wasteform / Hip canister interactions and aqueous durability", \(2019\) Journal of Nuclear Materials, 517, pp. 71-79.](#)
- [18] [Horsfall, J.P.O., Trivedi, D., Smith, N.T., Martin, P.A., Coffey, P., Tournier, S., Banford, A., Li, L., Whitehead, D., Lang, A., Law, G.T.W., "A new analysis workflow for discrimination of nuclear grade graphite using laser-induced breakdown spectroscopy", \(2019\) Journal of Environmental Radioactivity, 199-200, pp. 45-57.](#)
- [19] [Barcellini, C., Dumbill, S., Jimenez-Melero, E., "Recrystallisation behaviour of a fully austenitic Nb-stabilised stainless steel", \(2019\) Journal of Microscopy, 274 \(1\), pp. 3-12.](#)
- [20] [Van Uffelen, P., Hales, J., Li, W., Rossiter, G., Williamson, R., "A review of fuel performance modelling", \(2019\) Journal of Nuclear Materials, 516, pp. 373-412.](#)
- [21] [Cleary, A., Lloyd, J.R., Newsome, L., Shaw, S., Boothman, C., Boshoff, G., Atherton, N., Morris, K., "Bioremediation of strontium and technetium contaminated groundwater using glycerol phosphate", \(2019\) Chemical Geology, 509, pp. 213-222.](#)
- [22] [Leay, L., Harrison, M.T., "Bubble formation in nuclear glasses: A review", \(2019\) Journal of Materials Research, 34 \(6\), pp. 905-920.](#)
- [23] [Winstanley, E.H., Morris, K., Abrahamsen-Mills, L.G., Blackham, R., Shaw, S., "U\(VI\) sorption during ferrihydrite formation: Underpinning radioactive effluent treatment", \(2019\) Journal of Hazardous Materials, pp. 98-104.](#)
- [24] [Chen, H., Masters, A.J., Taylor, R., Jobson, M., Woodhead, D., "Application of SAFT-VRE in the Flowsheet Simulation of an Advanced PUREX Process", \(2019\) Industrial and Engineering Chemistry Research, 58 \(9\), pp. 3822-3831.](#)
- [25] [Brayshaw, W.J., Cooper, A.J., Sherry, A.H., "Assessment of the micro-mechanical fracture processes within dissimilar metal welds", \(2019\) Engineering Failure Analysis, 97, pp. 820-835.](#)

- [26] [Godfrey, H., Hayes, M., Anderson, D., Rawlinson, S., Borwick, J., Clifford, J., "Corrosion of 1050, 1085, and 5083 grade aluminium in the pore water of a GGBS/CEM I grout up to 777?d", \(2019\) Journal of Nuclear Materials, 515, pp. 257-266.](#)
- [27] [Woodhead, D., McLachlan, F., Taylor, R., Müllich, U., Geist, A., Wilden, A., Modolo, G., "Nitric Acid Extraction into a TODGA Solvent Modified with 1-Octanol", \(2019\) Solvent Extraction and Ion Exchange, 37 \(2\), pp. 173-190.](#)
- [28] [Topping, M., Harte, A., Ungár, T., Race, C.P., Dumbill, S., Frankel, P., Preuss, M., "The effect of irradiation temperature on damage structures in proton-irradiated zirconium alloys", \(2019\) Journal of Nuclear Materials, 514, pp. 358-367.](#)
- [29] [Barcellini, C., Harrison, R.W., Dumbill, S., Donnelly, S.E., Jimenez-Melero, E., "Evolution of radiation-induced lattice defects in 20/25 Nb-stabilised austenitic stainless steel during in-situ proton irradiation", \(2019\) Journal of Nuclear Materials, 514, pp. 90-100.](#)
- [30] [Lynes, O., Austin, J., Kerridge, A., "Ab initio molecular dynamics studies of hydroxide coordination of alkaline earth metals and uranyl", \(2019\) Physical Chemistry Chemical Physics, 21 \(25\), pp. 13809-13820.](#)
- [31] [Mahon, D., Clarkson, A., Gardner, S., Ireland, D., Jebali, R., Kaiser, R., Ryan, M., Shearer, C., Yang, G., "First-of-a-kind muography for nuclear waste characterization", \(2019\) Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences, 377 \(2137\), art. no. 20180048, .](#)
- [32] [Arnold, P.L., Purkis, J.M., Rutkauskaitė, R., Kovacs, D., Love, J.B., Austin, J., "Controlled Photocatalytic Hydrocarbon Oxidation by Uranyl Complexes", \(2019\) ChemCatChem, .](#)
- [33] [Edwards, S., Andrieux, F., Boxall, C., Sarsfield, M.J., Taylor, R.J., Woodhead, D., "Neptunium\(iv\)-hydroxamate complexes: their speciation, and kinetics and mechanism of hydrolysis", \(2019\) Dalton Transactions, 48 \(2\), pp. 673-687.](#)
- [34] [Yang, G., Clarkson, T., Gardner, S., Ireland, D., Kaiser, R., Mahon, D., Jebali, R.A., Shearer, C., Ryan, M., "Novel muon imaging techniques", \(2019\) Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences, 377 \(2137\), art. no. 20180062, .](#)
- [35] [Malmbeck, R., Magnusson, D., Bourg, S., Carrott, M., Geist, A., Hérès, X., Miguiditchian, M., Modolo, G., Müllich, U., Sorel, C., Taylor, R., Wilden, A., "Homogenous recycling of transuranium elements from irradiated fast reactor fuel by the EURO-GANEX solvent extraction process", \(2019\) Radiochimica Acta, .](#)
- [36] [Harrington, C., Baron-Wiechec, A., Burrows, R., Holmes, R., Clark, R., Walters, S., Martin, T.L., Springell, R., Öijerholm, J., Becker, R., Gillén, P., Torella, R., Piccolo, E.L., "Chemistry and corrosion research and development for the water cooling circuits of European DEMO", \(2019\) Fusion Engineering and Design.](#)
- [37] [Joyce, M.J., Sarwar, R., Astromskas, V., Chebboubi, A., Croft, S., Litaize, O., Vogt, R., Zimmerman, C.H., "High-order angular correlation of californium-252 fission neutrons and the effect of detector cross-talk", \(2019\) Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, .](#)

[38] [Insulander Björk, K., Kelly, J.F., Vitanza, C., Drera, S.S., Holcombe, S., Tverberg, T., Tuomisto, H., Wright, J., Sarsfield, M., Blench, T., Yang, J.H., Kim, H.-G., Kim, D.-J., Lau, C.W., "Irradiation testing of enhanced uranium oxide fuels", \(2019\) Annals of Nuclear Energy, 125, pp. 99-106.](#)



## Journal & Review Articles - 2018

- [1] [Brkic, B., Giannoukos, S., Taylor, S., Lee, D.F., "Mobile mass spectrometry for water quality monitoring of organic species present in nuclear waste ponds", \(2018\) Analytical Methods, 10 \(48\), pp. 5827-5833.](#)
- [2] [Crompton, A.J., Gamage, K.A.A., Trivedi, D., Jenkins, A., "The effect of gamma and beta radiation on a UVTRON flame sensor: Assessment of the impact on implementation in a mixed radiation field", \(2018\) Sensors \(Switzerland\), 18 \(12\), art. no. 4394, .](#)
- [3] [Turkington, G., Gamage, K.A.A., Graham, J., "Beta detection of strontium-90 and the potential for direct in situ beta detection for nuclear decommissioning applications", \(2018\) Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 911, pp. 55-65.](#)
- [4] [Merk, B., Bankhead, M., Litskevich, D., Gregg, R., Peakman, A., Shearer, C., "On a roadmap for future industrial nuclear reactor core simulation in the U.K. To support the nuclear renaissance", \(2018\) Energies, 11 \(12\), art. no. 3509, .](#)
- [5] [Connor, D.T., Martin, P.G., Pullin, H., Hallam, K.R., Payton, O.D., Yamashiki, Y., Smith, N.T., Scott, T.B., "Radiological comparison of a FDNPP waste storage site during and after construction", \(2018\) Environmental Pollution, 243, pp. 582-590.](#)
- [6] [Boylan, A.A., Stewart, D.I., Graham, J.T., Burke, I.T., "Behaviour of carbon-14 containing low molecular weight organic compounds in contaminated groundwater under aerobic conditions", \(2018\) Journal of Environmental Radioactivity, 192, pp. 279-288.](#)
- [7] [Kuippers, G., Boothman, C., Bagshaw, H., Ward, M., Beard, R., Bryan, N., Lloyd, J.R., "The biogeochemical fate of nickel during microbial ISA degradation; Implications for nuclear waste disposal", \(2018\) Scientific Reports, 8 \(1\), art. no. 8753, .](#)
- [8] [Rennie, S., Lawrence Bright, E., Sutcliffe, J.E., Darnbrough, J.E., Burrows, R., Rawle, J., Nicklin, C., Lander, G.H., Springell, R., "The role of crystal orientation in the dissolution of UO<sub>2</sub> thin films", \(2018\) Corrosion Science, 145, pp. 162-169.](#)
- [9] [Dyer, A., Hriljac, J., Evans, N., Stokes, I., Rand, P., Kellet, S., Harjula, R., Moller, T., Maher, Z., Heatlie-Branson, R., Austin, J., Williamson-Owens, S., Higgins-Bos, M., Smith, K., O'Brien, L., Smith, N., Bryan, N., "The use of columns of the zeolite clinoptilolite in the remediation of aqueous nuclear waste streams", \(2018\) Journal of Radioanalytical and Nuclear Chemistry, 318 \(3\), pp. 2473-2491.](#)
- [10] [Dvurecenska, K., Graham, S., Patelli, E., Patterson, E.A., "A probabilistic metric for the validation of computational models", \(2018\) Royal Society Open Science, 5 \(11\), art. no. 180687, .](#)
- [11] [Hodgson, B.J., Ward, T.R., Dunnett, B.F., Pyke, C., Cheesewright, J., "Dissolution Rates of Barium Nitrate in Water and Weak Nitric Acid Solutions Under Stirred and Stagnant Conditions", \(2018\) Journal of Solution Chemistry, 47 \(11\), pp. 1858-1874.](#)

- [12] [Thomas, R.N., Paluszny, A., Hambley, D., Hawthorne, F.M., Zimmerman, R.W., "Permeability of observed three dimensional fracture networks in spent fuel pins", \(2018\) Journal of Nuclear Materials, 510, pp. 613-622.](#)
- [13] [Barcellini, C., Dumbill, S., Jimenez-Melero, E., "Isothermal annealing behaviour of nuclear grade 20Cr-25Ni austenitic stainless steel", \(2018\) Materials Characterization, 145, pp. 303-311.](#)
- [14] [Galvin, T., Hyatt, N.C., Rainforth, W.M., Reaney, I.M., Shepherd, D., "Molten salt synthesis of MAX phases in the Ti-Al-C system", \(2018\) Journal of the European Ceramic Society, 38 \(14\), pp. 4585-4589.](#)
- [15] [Burrows, R., Baron-Wiechec, A., Harrington, C., Moore, S., Chaney, D., Martin, T.L., Likonen, J., Springell, R., Surrey, E., "The possible effect of high magnetic fields on the aqueous corrosion behaviour of Eurofer", \(2018\) Fusion Engineering and Design, 136, pp. 1000-1006.](#)
- [16] [Aitken, J.M., Veres, S.M., Shaukat, A., Gao, Y., Cucco, E., Dennis, L.A., Fisher, M., Kuo, J.A., Robinson, T., Mort, P.E., "Autonomous Nuclear Waste Management", \(2018\) IEEE Intelligent Systems, 33 \(6\), art. no. 8255794, pp. 47-55.](#)
- [17] [Styman, P.D., Hyde, J.M., Morley, A., Wilford, K., Riddle, N., Smith, G.D.W., "The effect of Ni on the microstructural evolution of high Cu reactor pressure vessel steel welds after thermal ageing for up to 100,000h", \(2018\) Materials Science and Engineering A, 736, pp. 111-119.](#)
- [18] [Woodward, G.L., Peacock, C.L., Otero-Fariña, A., Thompson, O.R., Brown, A.P., Burke, I.T., "A universal uptake mechanism for cobalt\(II\) on soil constituents: Ferrihydrite, kaolinite, humic acid, and organo-mineral composites", \(2018\) Geochimica et Cosmochimica Acta, 238, pp. 270-291.](#)
- [19] [Ortenzi, V., Marturi, N., Mistry, M., Kuo, J., Stolkin, R., "Vision-Based Framework to Estimate Robot Configuration and Kinematic Constraints", \(2018\) IEEE/ASME Transactions on Mechatronics, 23 \(5\), art. no. 8439000, pp. 2402-2412.](#)
- [20] [Sutherland-Harper, S., Pearce, C., Campbell, C., Carrott, M., Colledge, H., Gregson, C., Hobbs, J., Livens, F., Kaltsoyannis, N., Orr, R., Sarsfield, M., Sims, H., Steele, H., Vatter, I., Walton, L., Webb, K., Taylor, R., "Characterisation and heat treatment of chloride-contaminated and humidified PuO<sub>2</sub> samples", \(2018\) Journal of Nuclear Materials, 509, pp. 654-666.](#)
- [21] [Hyde, J.M., Boothby, R.M., Swan, H., Riddle, N., Wilford, K., Burke, M.G., Efsing, P., "A sensitivity study using maximum entropy to interpret SANS data from the Ringhals Unit 3 NPP", \(2018\) Journal of Nuclear Materials, 509, pp. 417-424.](#)
- [22] [Alshater, A.F., Engelberg, D.L., Donohoe, C.J., Lyon, S.B., Sherry, A.H., "Proton irradiation damage in cold worked Nb-stabilized 20Cr-25Ni stainless steel", \(2018\) Applied Surface Science, 454, pp. 130-137.](#)
- [23] [Sarwar, R., Astromskas, V., Zimmerman, C.H., Nutter, G., Simone, A.T., Croft, S., Joyce, M.J., "An event-triggered coincidence algorithm for fast-neutron multiplicity assay corrected for cross-talk and photon breakthrough", \(2018\) Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 903, pp. 152-161.](#)

- [24] [Nixon, S.L., van Dongen, B.E., Boothman, C., Small, J.S., Lloyd, J.R., "Additives in plasticised polyvinyl chloride fuel microbial nitrate reduction at high pH: Implications for nuclear waste disposal", \(2018\) \*Frontiers in Environmental Science\*, 6 \(SEP\), art. no. 97, .](#)
- [25] [Smith, R.J., Horn, A.J., Sherry, A.H., "Relating Charpy energy to fracture toughness in the lower transition region using a Weibull stress dependent energy scaling model", \(2018\) \*International Journal of Pressure Vessels and Piping\*, 166, pp. 72-83.](#)
- [26] [Neill, T.S., Morris, K., Pearce, C.I., Sherriff, N.K., Burke, M.G., Chater, P.A., Janssen, A., Natrajan, L., Shaw, S., "Stability, Composition, and Core-Shell Particle Structure of Uranium\(IV\)-Silicate Colloids", \(2018\) \*Environmental Science and Technology\*, 52 \(16\), pp. 9118-9127.](#)
- [27] [Smith, K.F., Bryan, N.D., Law, G.T.W., Hibberd, R., Shaw, S., Livens, F.R., Parry, S.A., Mosselmans, J.F.W., Morris, K., "Np\(V\) sorption and solubility in high pH calcite systems", \(2018\) \*Chemical Geology\*, 493, pp. 396-404.](#)
- [28] [Jordan, M.S.L., Ramsay, P., Verrall, K.E., van Staveren, T.O., Brown, M., Davies, B., Tzelepi, A., Metcalfe, M.P., "Determining the electrical and thermal resistivities of radiolytically-oxidised nuclear graphite by small sample characterisation", \(2018\) \*Journal of Nuclear Materials\*, 507, pp. 68-77.](#)
- [29] [Ng, H.C.-H., Cregan, H.L.F., Dodds, J.M., Poole, R.J., Dennis, D.J.C., "Partially filled pipes: Experiments in laminar and turbulent flow", \(2018\) \*Journal of Fluid Mechanics\*, 848, pp. 467-507.](#)
- [30] [Peakman, A., Hodgson, Z., Merk, B., "Advanced micro-reactor concepts", \(2018\) \*Progress in Nuclear Energy\*, 107, pp. 61-70.](#)
- [31] [Blackmur, M.S., Dumbill, S., MacLaren, I., Hernandez-Maldonado, D., Styman, P.D., Gass, M., Nicholls, R.J., Hyde, J.M., Ramasse, Q.M., Annand, K.J., Smith, J.S., Gotham, N., "The association of hydrogen with nanometre bubbles of helium implanted into zirconium", \(2018\) \*Scripta Materialia\*, 152, pp. 102-106.](#)
- [32] [Brown, J., Campbell, C., Carrigan, C., Carrott, M., Greenough, K., Maher, C., McLuckie, B., Mason, C., Gregson, C., Griffiths, T., Holt, J., Sarsfield, M., Stephenson, K., Taylor, R., Tinsley, T., "Americium and Plutonium Purification by Extraction \(the AMPPEX process\): Development of a new method to separate <sup>241</sup>Am from aged plutonium dioxide for use in space power systems", \(2018\) \*Progress in Nuclear Energy\*, 106, pp. 396-416.](#)
- [33] [Carey, T., Williams, C.D., McArthur, D.J., Malkinson, T., Thompson, O.R., Baidak, A., Murtagh, L., Glodan, G., Morgan, S.P., Banford, A.W., "Removal of Cs, Sr, U and Pu species from simulated nuclear waste effluent using graphene oxide", \(2018\) \*Journal of Radioanalytical and Nuclear Chemistry\*, 317 \(1\), pp. 93-102.](#)
- [34] [Harrison, M.T., Brown, G.C., "Chemical durability of UK vitrified high level waste in Si-saturated solutions", \(2018\) \*Materials Letters\*, 221, pp. 154-156.](#)
- [35] [Cooper, A.J., Tuck, O.C.G., Burnett, T.L., Sherry, A.H., "A statistical assessment of ductile damage in 304L stainless steel resolved using X-ray computed tomography", \(2018\) \*Materials Science and Engineering A\*, 728, pp. 218-230.](#)

- [36] [Crompton, A.J., Gamage, K.A.A., Bell, S., Wilson, A.P., Jenkins, A.W., Trivedi, D., "Gas flow to enhance the detection of alpha-induced air radioluminescence based on a UVTron flame sensor", \(2018\) Sensors \(Switzerland\), 18 \(6\), art. no. 1842, .](#)
- [37] [Ashworth, H., Abrahamsen-Mills, L., Bryan, N., Foster, L., Lloyd, J.R., Kellet, S., Heath, S., "Effect of humic acid & bacterial exudates on sorption-desorption interactions of 90Sr with brucite", \(2018\) Environmental Science: Processes and Impacts, 20 \(6\), pp. 956-964.](#)
- [38] [Sutherland-Harper, S., Taylor, R., Hobbs, J., Pimblott, S., Pattrick, R., Sarsfield, M., Denecke, M., Livens, F., Kaltsoyannis, N., Arey, B., Kovarik, L., Engelhard, M., Waters, J., Pearce, C., "Surface speciation and interactions between adsorbed chloride and water on cerium dioxide", \(2018\) Journal of Solid State Chemistry, 262, pp. 16-25.](#)
- [39] [Hodkin, D.J., Stewart, D.I., Graham, J.T., Cibir, G., Burke, I.T., "Enhanced Crystallographic Incorporation of Strontium\(II\) Ions into Calcite via Preferential Adsorption at Obtuse Growth Steps", \(2018\) Crystal Growth and Design, 18 \(5\), pp. 2836-2843.](#)
- [40] [Cooper, A.J., Brayshaw, W.J., Sherry, A.H., "Tensile Fracture Behavior of 316L Austenitic Stainless Steel Manufactured by Hot Isostatic Pressing", \(2018\) Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 49 \(5\), pp. 1579-1591.](#)
- [41] [Whittaker, D., Geist, A., Modolo, G., Taylor, R., Sarsfield, M., Wilden, A., "Applications of Diglycolamide Based Solvent Extraction Processes in Spent Nuclear Fuel Reprocessing, Part 1: TODGA", \(2018\) Solvent Extraction and Ion Exchange, 36 \(3\), pp. 223-256.](#)
- [42] [Walters, W.S., Durham, P., Hodge, N.A., "The adsorption and desorption of water from a carbonaceous deposit layer on the surface of stainless steel representing spent AGR nuclear fuel cladding", \(2018\) Journal of Nuclear Science and Technology, 55 \(4\), pp. 374-385.](#)
- [43] [Cooper, A.J., Brayshaw, W.J., Sherry, A.H., "Ductile Fracture Behaviour of Hot Isostatically Pressed Inconel 690 Superalloy", \(2018\) Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 49 \(4\), pp. 1079-1089.](#)
- [44] [Lo, I.-H., Tzelepi, A., Patterson, E.A., Yeh, T.-K., "A study of the relationship between microstructure and oxidation effects in nuclear graphite at very high temperatures", \(2018\) Journal of Nuclear Materials, 501, pp. 361-370.](#)
- [45] [Isaacs, M., Hayes, M., Rawlinson, S., Angus, M., Qaisar, A., Christie, S., Edmondson, S., Read, D., "Processing and product characteristics of a blended cement grout incorporating polycarboxylate ether superplasticiser", \(2018\) Advances in Cement Research, 30 \(4\), pp. 148-158.](#)
- [46] [Gregson, C.R., Horne, G.P., Orr, R.M., Pimblott, S.M., Sims, H.E., Taylor, R.J., Webb, K.J., "Molecular Hydrogen Yields from the  \$\alpha\$ -Self-Radiolysis of Nitric Acid Solutions Containing Plutonium or Americium", \(2018\) Journal of Physical Chemistry B, 122 \(9\), pp. 2627-2634.](#)

- [47] [Lang, A., Engelberg, D., Smith, N.T., Trivedi, D., Horsfall, O., Banford, A., Martin, P.A., Coffey, P., Bower, W.R., Walther, C., Weiß, M., Bosco, H., Jenkins, A., Law, G.T.W., "Analysis of contaminated nuclear plant steel by laser-induced breakdown spectroscopy", \(2018\) Journal of Hazardous Materials, 345, pp. 114-122.](#)
- [48] [Cooper, A.J., Brayshaw, W.J., Sherry, A.H., "Effect of Temperature on the Fracture Toughness of Hot Isostatically Pressed 304L Stainless Steel", \(2018\) Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 49 \(3\), pp. 811-816.](#)
- [49] [Merk, B., Litskevich, D., Gregg, R., Mount, A.R., "Demand driven salt clean-up in a molten salt fast reactor – Defining a priority list", \(2018\) PLoS ONE, 13 \(3\), art. no. e0192020, .](#)
- [50] [Connor, D.T., Martin, P.G., Smith, N.T., Payne, L., Hutton, C., Payton, O.D., Yamashiki, Y., Scott, T.B., "Application of airborne photogrammetry for the visualisation and assessment of contamination migration arising from a Fukushima waste storage facility", \(2018\) Environmental Pollution, 234, pp. 610-619.](#)
- [51] [Topping, M., Ungár, T., Race, C.P., Harte, A., Garner, A., Baxter, F., Dumbill, S., Frankel, P., Preuss, M., "Investigating the thermal stability of irradiation-induced damage in a zirconium alloy with novel in situ techniques", \(2018\) Acta Materialia, 145, pp. 255-263.](#)
- [52] [Wilbraham, R.J., Boxall, C., Taylor, R.J., "Photocatalytically driven dissolution of macroscopic nickel surfaces", \(2018\) Corrosion Science, 131, pp. 137-146.](#)
- [53] [Maher, C.J., Bouyer, C., Griffiths, T.L., Legand, S., Leturcq, G., Miguiriditchian, M., Sarsfield, M., "Impact of uranium carbide organics treated by prolonged boiling and electrochemical oxidation upon uranium and plutonium solvent extraction", \(2018\) Radiochimica Acta, 106 \(2\), pp. 95-106.](#)
- [54] [Rayment, F., "Keeping our options open in the UK", \(2018\) Nuclear Future, 14 \(1\), pp. 20-22.](#)
- [55] [Fitzgerald, K., Shepherd, D., "Review of SiCf/SiCm corrosion, erosion and erosion-corrosion in high temperature helium relevant to GFR conditions", \(2018\) Journal of Nuclear Materials, 498, pp. 476-494.](#)
- [56] [Whillock, G.O.H., Hands, B.J., Majchrowski, T.P., Hambley, D.I., "Investigation of thermally sensitised stainless steels as analogues for spent AGR fuel cladding to test a corrosion inhibitor for intergranular stress corrosion cracking", \(2018\) Journal of Nuclear Materials, 498, pp. 187-198.](#)
- [57] [Taylor, R., Hobbs, J., Orr, R., Steele, H., "Characterisation of plutonium dioxide", \(2018\) Nuclear Future, 14 \(1\), pp. 40-50.](#)
- [58] [Moore, S., Burrows, R., Picco, L., Martin, T.L., Greenwell, S.J., Scott, T.B., Payton, O.D., "A study of dynamic nanoscale corrosion initiation events using HS-AFM", \(2018\) Faraday Discussions, 210, pp. 409-428.](#)
- [59] [Chen, T.-Y., Maddrell, E.R., Hyatt, N.C., Gandy, A.S., Stennett, M.C., Hriljac, J.A., "Transformation of Cs-IONSIV® into a ceramic wasteform by hot isostatic pressing", \(2018\) Journal of Nuclear Materials, 498, pp. 33-43.](#)
- [60] [Paulillo, A., Clift, R., Dodds, J., Milliken, A., Palethorpe, S.J., Lettieri, P., "Radiological impact assessment approaches for Life Cycle Assessment: A review and possible ways forward", \(2018\) Environmental Reviews, 26 \(3\), pp. 239-254.](#)

## Journal & Review Articles – 2017

- [1] [Mullen, E., Harris, R., Graham, D., Rhodes, C., Hodgson, Z., "Transfer characteristics of a lithium chloride–potassium chloride molten salt", \(2017\) Nuclear Engineering and Technology, 49 \(8\), pp. 1727-1732.](#)
- [2] [Seal, C.K., Sherry, A.H., "Predicting the effect of constraint on cleavage and ductile fracture toughness using area contour toughness scaling", \(2017\) Engineering Fracture Mechanics, 186, pp. 347-367.](#)
- [3] [Oparaji, U., Sheu, R.-J., Bankhead, M., Austin, J., Patelli, E., "Robust artificial neural network for reliability and sensitivity analyses of complex non-linear systems", \(2017\) Neural Networks, 96, pp. 80-90.](#)
- [4] [Hesketh, K., Gregg, R., Butler, G., Worrall, A., "Key conclusions from UK strategic assessment studies of fast reactor fuel cycles", \(2017\) Annals of Nuclear Energy, 110, pp. 330-337.](#)
- [5] [Paul, N., Biggs, S., Shiels, J., Hammond, R.B., Edmondson, M., Maxwell, L., Harbottle, D., Hunter, T.N., "Influence of shape and surface charge on the sedimentation of spheroidal, cubic and rectangular cuboid particles", \(2017\) Powder Technology, 322, pp. 75-83.](#)
- [6] [Crompton, A.J., Gamage, K.A.A., Bell, S., Wilson, A.P., Jenkins, A., Trivedi, D., "First results of using a UVTron flame sensor to detect alpha-induced air fluorescence in the UVC wavelength range", \(2017\) Sensors \(Switzerland\), 17 \(12\), art. no. 2756, .](#)
- [7] [Michel-Sendis, F., Gauld, I., Martinez, J.S., Alejano, C., Bossant, M., Boulanger, D., Cabellos, O., Chrapciak, V., Conde, J., Fast, I., Gren, M., Govers, K., Gysemans, M., Hannstein, V., Havluj, F., Hennebach, M., Hordosy, G., Ilas, G., Kilger, R., Mills, R., Mountford, D., Ortego, P., Radulescu, G., Rahimi, M., Ranta-Aho, A., Rantamäki, K., Ruprecht, B., Soppera, N., Stuke, M., Suyama, K., Tittelbach, S., Tore, C., Winckel, S.V., Vasiliev, A., Watanabe, T., Yamamoto, T., Yamamoto, T., "SFCOMPO-2.0: An OECD NEA database of spent nuclear fuel isotopic assays, reactor design specifications, and operating data", \(2017\) Annals of Nuclear Energy, 110, pp. 779-788.](#)
- [8] [LaFerrere, A., Burrows, R., Glover, C., Clark, R.N., Payton, O., Picco, L., Moore, S., Williams, G., "In situ imaging of corrosion processes in nuclear fuel cladding", \(2017\) Corrosion Engineering Science and Technology, 52 \(8\), pp. 596-604.](#)
- [9] [Tso, C.-H.M., Kuras, O., Wilkinson, P.B., Uhlemann, S., Chambers, J.E., Meldrum, P.I., Graham, J., Sherlock, E.F., Binley, A., "Improved characterisation and modelling of measurement errors in electrical resistivity tomography \(ERT\) surveys", \(2017\) Journal of Applied Geophysics, 146, pp. 103-119.](#)
- [10] [Ortenzi, V., Stolkin, R., Kuo, J., Mistry, M., "Hybrid motion/force control: a review", \(2017\) Advanced Robotics, 31 \(19-20\), pp. 1102-1113.](#)
- [11] [Boylan, A.A., Stewart, D.I., Graham, J.T., Trivedi, D., Burke, I.T., "Mechanisms of inorganic carbon-14 attenuation in contaminated groundwater: Effect of solution pH on isotopic exchange and carbonate precipitation reactions", \(2017\) Applied Geochemistry, 85, pp. 137-147.](#)

- [12] [Maddrell, E.R., Paterson, H.C., May, S.E., Burns, K.M., "Phase evolution in zirconolite glass-ceramic wasteforms", \(2017\) Journal of Nuclear Materials, 493, pp. 380-387.](#)
- [13] [Kerry, T., Banford, A.W., Thompson, O.R., Carey, T., Schild, D., Geist, A., Sharrad, C.A., "Transuranic contamination of stainless steel in nitric acid", \(2017\) Journal of Nuclear Materials, 493, pp. 436-441.](#)
- [14] [Small, J.S., Nykyri, M., Vikman, M., Itävaara, M., Heikinheimo, L., "The biogeochemistry of gas generation from low-level nuclear waste: Modelling after 18 years study under in situ conditions", \(2017\) Applied Geochemistry, 84, pp. 360-372.](#)
- [15] [Wareing, A., Abrahamsen-Mills, L., Fowler, L., Grave, M., Jarvis, R., Metcalfe, M., Norris, S., Banford, A.W., "Development of integrated waste management options for irradiated graphite", \(2017\) Nuclear Engineering and Technology, 49 \(5\), pp. 1010-1018.](#)
- [16] [Watkinson, E.J., Ambrosi, R.M., Kramer, D.P., Williams, H.R., Reece, M.J., Chen, K., Sarsfield, M.J., Barklay, C.D., Fenwick, H., Weston, D.P., Stephenson, K., "Sintering trials of analogues of americium oxides for radioisotope power systems", \(2017\) Journal of Nuclear Materials, 491, pp. 18-30.](#)
- [17] [Brayshaw, W.J., Roy, M.J., Sun, T., Akrivos, V., Sherry, A.H., "Iterative mesh-based hardness mapping", \(2017\) Science and Technology of Welding and Joining, 22 \(5\), pp. 404-411.](#)
- [18] [Al-Shater, A., Engelberg, D., Lyon, S., Donohoe, C., Walters, S., Whillock, G., Sherry, A., "Characterization of the stress corrosion cracking behavior of thermally sensitized 20Cr-25Ni stainless steel in a simulated cooling pond environment", \(2017\) Journal of Nuclear Science and Technology, 54 \(7\), pp. 742-751.](#)
- [19] [Merk, B., Litskevich, D., Bankhead, M., Taylor, R.J., "An innovative way of thinking nuclear waste management – Neutron physics of a reactor directly operating on SNF", \(2017\) PLoS ONE, 12 \(7\), art. no. e0180703, .](#)
- [20] [Bux, J., Paul, N., Hunter, T.N., Peakall, J., Dodds, J.M., Biggs, S., "In situ characterization of mixing and sedimentation dynamics in an impinging jet ballast tank via acoustic backscatter", \(2017\) AIChE Journal, 63 \(7\), pp. 2618-2629.](#)
- [21] [Materazzi, M., Lettieri, P., Dodds, J.M., Milliken, A., "X-ray imaging for design of gas nozzles in large scale fluidised bed reactors", \(2017\) Powder Technology, 316, pp. 41-48.](#)
- [22] [Horn, A.J., Sherry, A.H., Budden, P.J., "Size and geometry effects in notched compact tension specimens", \(2017\) International Journal of Pressure Vessels and Piping, 154, pp. 29-40.](#)
- [23] [English, C., Buckthorpe, D., "Lessons learnt from fission materials R&D programmes", \(2017\) Nuclear Fusion, 57 \(9\), art. no. 092010, .](#)
- [24] [Qaisar, S.A., Comyn, T.P., Bell, A.J., "Temperature Dependence of Domain Contributions as a Function of Aging in Soft and Hard Lead Zirconate Titanate Piezoelectric Ceramics", \(2017\) IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 64 \(6\), art. no. 7885087, pp. 1023-1028.](#)
- [25] [Arun, S., Sherry, A.H., Smith, M.C., Sheikh, M., "Simulations of the large-scale four point bending test using Rousselier model", \(2017\) Engineering Fracture Mechanics, 178, pp. 497-511.](#)

- [26] [Sanderson, R.A., Cann, G.M., Provis, J.L., "Comparison of calorimetric methods for the assessment of slag cement hydration", \(2017\) Advances in Applied Ceramics, 116 \(4\), pp. 186-192.](#)
- [27] [Daly, M., Burnett, T.L., Pickering, E.J., Tuck, O.C.G., Léonard, F., Kelley, R., Withers, P.J., Sherry, A.H., "A multi-scale correlative investigation of ductile fracture", \(2017\) Acta Materialia, 130, pp. 56-68.](#)
- [28] [Cooper, A.J., Smith, R.J., Sherry, A.H., "An Assessment of the Ductile Fracture Behavior of Hot Isostatically Pressed and Forged 304L Stainless Steel", \(2017\) Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 48 \(5\), pp. 2207-2221.](#)
- [29] [Watkinson, E.J., Ambrosi, R.M., Williams, H.R., Sarsfield, M.J., Stephenson, K., Weston, D.P., Marsh, N., Haidon, C., "Cerium neodymium oxide solid solution synthesis as a potential analogue for substoichiometric AmO<sub>2</sub> for radioisotope power systems", \(2017\) Journal of Nuclear Materials, 486, pp. 308-322.](#)
- [30] [Bleyen, N., Smets, S., Small, J., Moors, H., Leys, N., Albrecht, A., De Cannière, P., Schwyn, B., Wittebroodt, C., Valcke, E., "Impact of the electron donor on in situ microbial nitrate reduction in Opalinus Clay: results from the Mont Terri rock laboratory \(Switzerland\)", \(2017\) Swiss Journal of Geosciences, 110 \(1\), pp. 355-374.](#)
- [31] [Horne, G.P., Gregson, C.R., Sims, H.E., Orr, R.M., Taylor, R.J., Pimblott, S.M., "Plutonium and Americium Alpha Radiolysis of Nitric Acid Solutions", \(2017\) Journal of Physical Chemistry B, 121 \(4\), pp. 883-889.](#)
- [32] [Chen, H., Taylor, R.J., Jobson, M., Woodhead, D.A., Boxall, C., Masters, A.J., Edwards, S., "Simulation of Neptunium Extraction in an Advanced PUREX Process—Model Improvement", \(2017\) Solvent Extraction and Ion Exchange, 35 \(1\), pp. 1-18.](#)
- [33] [Elsaye, E.A., McNeil, D.A., Salem, S.M., Rylatt, D., Baker, S., "An experimental study of solids deposited on the base of a heated vessel at low pressure", \(2017\) Applied Thermal Engineering, 118, pp. 41-51.](#)
- [34] [McNeil, D.A., Burnside, B.M., Elsaye, E.A., Salem, S.M., Baker, S., "Shell-side boiling of a glycerol-water mixture at low sub-atmospheric pressures", \(2017\) Applied Thermal Engineering, 115, pp. 1438-1450.](#)
- [35] [Orr, R., Godfrey, H., Broan, C., Goddard, D., Woodhouse, G., Durham, P., Diggle, A., Bradshaw, J., "Kinetics of the reaction between water and uranium hydride prepared under conditions relevant to uranium storage", \(2017\) Journal of Alloys and Compounds, 695, pp. 3727-3735.](#)
- [36] [Merk, B., Litskevich, D., Whittle, K.R., Bankhead, M., Taylor, R.J., Mathers, D., "On a long term strategy for the success of nuclear power", \(2017\) Energies, 10 \(7\), art. no. 867, .](#)
- [37] [Seel, A.G., Swan, H., Bowron, D.T., Wasse, J.C., Weller, T., Edwards, P.P., Howard, C.A., Skipper, N.T., "Electron Solvation and the Unique Liquid Structure of a Mixed-Amine Expanded Metal: The Saturated Li-NH<sub>3</sub>-MeNH<sub>2</sub>System", \(2017\) Angewandte Chemie - International Edition, 56 \(6\), pp. 1561-1565.](#)
- [38] [D'alessandro, R., Ambrosino, F., Bonechi, L., Cimmino, L., Ireland, D.G., Kaiser, R., Mahon, D.F., Mori, N., Noli, P., Saracino, G., Shearer, C., Viliani, L., Yang, G., "Muography applied to nuclear waste storage sites", \(2017\) Annals of Geophysics, 60 \(1\), art. no. S0106, .](#)



## Journal & Review Articles - 2016

- [1] [Fryer-Kanssen, I., Austin, J., Kerridge, A., "Topological Study of Bonding in Aquo and Bis\(triazinyl\)pyridine Complexes of Trivalent Lanthanides and Actinides: Does Covalency Imply Stability?", \(2016\) Inorganic Chemistry, 55 \(20\), pp. 10034-10042.](#)
- [2] [Kuras, O., Wilkinson, P.B., Meldrum, P.I., Oxby, L.S., Uhlemann, S., Chambers, J.E., Binley, A., Graham, J., Smith, N.T., Atherton, N., "Geoelectrical monitoring of simulated subsurface leakage to support high-hazard nuclear decommissioning at the Sellafield Site, UK", \(2016\) Science of the Total Environment, 566-567, pp. 350-359.](#)
- [3] [Martin, P.G., Kwong, S., Smith, N.T., Yamashiki, Y., Payton, O.D., Russell-Pavier, F.S., Fardoulis, J.S., Richards, D.A., Scott, T.B., "3D unmanned aerial vehicle radiation mapping for assessing contaminant distribution and mobility", \(2016\) International Journal of Applied Earth Observation and Geoinformation, 52, pp. 12-19.](#)
- [4] [Cooper, A.J., Cooper, N.I., Dhers, J., Sherry, A.H., "Effect of Oxygen Content Upon the Microstructural and Mechanical Properties of Type 316L Austenitic Stainless Steel Manufactured by Hot Isostatic Pressing", \(2016\) Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 47 \(9\), pp. 4467-4475.](#)
- [5] [Freeman, H.M., Jones, A.N., Ward, M.B., Hage, F.S., Tzelepi, N., Ramasse, Q.M., Scott, A.J., Brydson, R.M.D., "On the nature of cracks and voids in nuclear graphite", \(2016\) Carbon, 103, pp. 45-55.](#)
- [6] [Coe, B.J., Foxon, S.P., Pilkington, R.A., Sánchez, S., Whittaker, D., Clays, K., Van Steerteghem, N., Brunschwig, B.S., "Rhenium\(I\) Tricarbonyl Complexes with Peripheral N-Coordination Sites: A Foundation for Heterotrimetallic Nonlinear Optical Chromophores", \(2016\) Organometallics, 35 \(17\), pp. 3014-3024.](#)
- [7] [Wellington, J.P.W., Kerridge, A., Austin, J., Kaltsoyannis, N., "Electronic structure of bulk AnO<sub>2</sub> \(An = U, Np, Pu\) and water adsorption on the \(111\) and \(110\) surfaces of UO<sub>2</sub> and PuO<sub>2</sub> from hybrid density functional theory within the periodic electrostatic embedded cluster method", \(2016\) Journal of Nuclear Materials, 482, pp. 124-134.](#)
- [8] [Swan, H., Blackmur, M.S., Hyde, J.M., Laferrere, A., Ortner, S.R., Styman, P.D., Staines, C., Gass, M., Hulme, H., Cole-Baker, A., Frankel, P., "The measurement of stress and phase fraction distributions in pre and post-transition Zircaloy oxides using nano-beam synchrotron X-ray diffraction", \(2016\) Journal of Nuclear Materials, 479, pp. 559-575.](#)
- [9] [Weatherill, J.S., Morris, K., Bots, P., Stawski, T.M., Janssen, A., Abrahamsen, L., Blackham, R., Shaw, S., "Ferrihydrite formation: The role of Fe<sup>13</sup> Keggin clusters", \(2016\) Environmental Science and Technology, 50 \(17\), pp. 9333-9342.](#)
- [10] [Fuller, A.J., Shaw, S., Peacock, C.L., Trivedi, D., Burke, I.T., "EXAFS Study of Sr sorption to Illite, Goethite, Chlorite, and Mixed Sediment under Hyperalkaline Conditions", \(2016\) Langmuir, 32 \(12\), pp. 2937-2946.](#)
- [11] [Shaukat, A., Gao, Y., Kuo, J.A., Bowen, B.A., Mort, P.E., "Visual classification of waste material for nuclear decommissioning", \(2016\) Robotics and Autonomous Systems, 75, pp. 365-378.](#)

- [12] [Horne, G.P., Donoclift, T.A., Sims, H.E., Orr, R.M., Pimblott, S.M., "Multi-scale modeling of the gamma radiolysis of nitrate solutions", \(2016\) Journal of Physical Chemistry B, 120 \(45\), pp. 11781-11789.](#)
- [13] [Chen, X., Pao, W., Thornton, S., Small, J., "Unsaturated hydro-mechanical-chemical constitutive coupled model based on mixture coupling theory: Hydration swelling and chemical osmosis", \(2016\) International Journal of Engineering Science, 104, pp. 97-109.](#)
- [14] [Zelenty, J., Smith, G.D.W., Wilford, K., Hyde, J.M., Moody, M.P., "Secondary precipitation within the cementite phase of reactor pressure vessel steels", \(2016\) Scripta Materialia, 115, pp. 118-122.](#)
- [15] [Orr, R., Godfrey, H., Broan, C., Goddard, D., Woodhouse, G., Durham, P., Diggle, A., Bradshaw, J., "Formation and physical properties of uranium hydride under conditions relevant to metallic fuel and nuclear waste storage", \(2016\) Journal of Nuclear Materials, 477, pp. 236-245.](#)
- [16] [Hodkin, D.J., Stewart, D.I., Graham, J.T., Burke, I.T., "Coprecipitation of <sup>14</sup>C and Sr with carbonate precipitates: The importance of reaction kinetics and recrystallization pathways", \(2016\) Science of the Total Environment, 562, pp. 335-343.](#)
- [17] [Rizoulis, A., Milodowski, A.E., Morris, K., Lloyd, J.R., "Bacterial Diversity in the Hyperalkaline Allas Springs \(Cyprus\), a Natural Analogue for Cementitious Radioactive Waste Repository", \(2016\) Geomicrobiology Journal, 33 \(2\), pp. 73-84.](#)
- [18] [Bower, W.R., Morris, K., Mosselmans, J.F.W., Thompson, O.R., Banford, A.W., Law, K., Pattrick, R.A.D., "Characterising legacy spent nuclear fuel pond materials using microfocus X-ray absorption spectroscopy", \(2016\) Journal of Hazardous Materials, 317, pp. 97-107.](#)
- [19] [Vance, E.R., Gregg, D.J., Grant, C., Stopic, A., Maddrell, E.R., "Silver iodide sodalite for <sup>129</sup>I immobilisation", \(2016\) Journal of Nuclear Materials, 480, pp. 177-181.](#)
- [20] [Saunders, F.C., Gale, A.W., Sherry, A.H., "Responding to project uncertainty: Evidence for high reliability practices in large-scale safety-critical projects", \(2016\) International Journal of Project Management, 34 \(7\), pp. 1252-1265.](#)
- [21] [Saunders, F.C., Gale, A.W., Sherry, A.H., "Mapping the multi-faceted: Determinants of uncertainty in safety-critical projects", \(2016\) International Journal of Project Management, 34 \(6\), pp. 1057-1070.](#)
- [22] [Feng, B., Dixon, B., Sunny, E., Cuadra, A., Jacobson, J., Brown, N.R., Powers, J., Worrall, A., Passerini, S., Gregg, R., "Standardized verification of fuel cycle modeling", \(2016\) Annals of Nuclear Energy, 94, pp. 300-312.](#)
- [23] [Yan, P., Delannay, L., Payne, J.F.B., Tzelepi, A., "Micromechanistic modelling of the polycrystalline response of graphite under temperature changes and irradiation", \(2016\) Carbon, 96, pp. 827-835.](#)
- [24] [Whitton, J., Parry, I., Grundy, C., Lillycrop, A., Ross, D., "A review of the Generic Design Assessment \(GDA\) Public Dialogue Pilot \(2015\) for new nuclear build in the UK: Lessons for engagement theory and practice", \(2016\) Journal of Radiological Protection, 36 \(2\), pp. S23-S44.](#)

- [25] [Patterson, E.A., Taylor, R.J., Bankhead, M., "A framework for an integrated nuclear digital environment", \(2016\) Progress in Nuclear Energy, 87, pp. 97-103.](#)
- [26] [Morozov, M., Pierce, S.G., Dobie, G., Bolton, G.T., Bennett, T., "Robotic ultrasonic testing of AGR fuel cladding", \(2016\) Case Studies in Nondestructive Testing and Evaluation, 6, pp. 26-31.](#)
- [27] [Carrott, M., Maher, C., Mason, C., Sarsfield, M., Taylor, R., "'TRU-SANEX': A variation on the EURO-GANEX and i-SANEX processes for heterogeneous recycling of actinides Np-Cm", \(2016\) Separation Science and Technology \(Philadelphia\), 51 \(13\), pp. 2198-2213.](#)
- [28] [Chen, T.-Y., Maddrell, E.R., Hyatt, N.C., Hriljac, J.A., "A Potential Wasteform for Cs Immobilization: Synthesis, Structure Determination, and Aqueous Durability of Cs<sub>2</sub>TiNb<sub>6</sub>O<sub>18</sub>", \(2016\) Inorganic Chemistry, 55 \(24\), pp. 12686-12695.](#)
- [29] [Makkos, E., Kerridge, A., Austin, J., Kaltsoyannis, N., "Ionic adsorption on the brucite \(0001\) surface: A periodic electrostatic embedded cluster method study", \(2016\) Journal of Chemical Physics, 145 \(20\), art. no. 204708, .](#)
- [30] [McLachlan, F., Greenough, K., Geist, A., McLuckie, B., Modolo, G., Wilden, A., Taylor, R., "Nitric Acid Extraction into the TODGA/TBP Solvent", \(2016\) Solvent Extraction and Ion Exchange, 34 \(4\), pp. 334-346.](#)
- [31] [Lindley, B.A., Fiorina, C., Gregg, R., Franceschini, F., Parks, G.T., "The effectiveness of full actinide recycle as a nuclear waste management strategy when implemented over a limited timeframe - Part II: Thorium fuel cycle", \(2016\) Progress in Nuclear Energy, 87, pp. 144-155.](#)
- [32] [Mason, C., Brown, T.L., Buchanan, D., Maher, C.J., Morris, D., Taylor, R.J., "The Decomposition of Oxalic Acid in Nitric Acid", \(2016\) Journal of Solution Chemistry, 45 \(3\), pp. 325-333.](#)
- [33] [Maher, Z., Ivanov, P., O'Brien, L., Sims, H., Taylor, R.J., Heath, S.L., Livens, F.R., Goddard, D., Kellet, S., Rand, P., Bryan, N.D., "Americium and plutonium association with magnesium hydroxide colloids in alkaline nuclear industry process environments", \(2016\) Journal of Nuclear Materials, 468, pp. 84-96.](#)
- [34] [Saunders, F.C., Sherry, A.H., Gale, A.W., "Dualities and dilemmas: contending with uncertainty in large-scale safety-critical projects", \(2016\) Construction Management and Economics, 34 \(9\), pp. 657-675.](#)

## Journal & Review Articles - 2015

- [1] [Fuller, A.J., Shaw, S., Ward, M.B., Haigh, S.J., Mosselmans, J.F.W., Peacock, C.L., Stackhouse, S., Dent, A.J., Trivedi, D., Burke, I.T., "Caesium incorporation and retention in illite interlayers", \(2015\) Applied Clay Science, 108, pp. 128-134.](#)
- [2] [Hayes, A.C., Friar, J.L., Garvey, G.T., Ibeling, D., Jungman, G., Kawano, T., Mills, R.W., "Possible origins and implications of the shoulder in reactor neutrino spectra", \(2015\) Physical Review D - Particles, Fields, Gravitation and Cosmology, 92 \(3\), art. no. 033015, .](#)
- [3] [Walling, S.A., Kinoshita, H., Bernal, S.A., Collier, N.C., Provis, J.L., "Structure and properties of binder gels formed in the system Mg\(OH\)<sub>2</sub>-SiO<sub>2</sub>-H<sub>2</sub>O for immobilisation of Magnox sludge", \(2015\) Dalton Transactions, 44 \(17\), pp. 8126-8137.](#)
- [4] [Carrott, M., Geist, A., Hères, X., Lange, S., Malmbeck, R., Miguiriditchian, M., Modolo, G., Wilden, A., Taylor, R., "Distribution of plutonium, americium and interfering fission products between nitric acid and a mixed organic phase of TODGA and DMDOHEMA in kerosene, and implications for the design of the "eURO-GANEX" process", \(2015\) Hydrometallurgy, 152, pp. 139-148.](#)
- [5] [Bassil, N.M., Bryan, N., Lloyd, J.R., "Microbial degradation of isosaccharinic acid at high pH", \(2015\) ISME Journal, 9 \(2\), pp. 310-320.](#)
- [6] [Styman, P.D., Hyde, J.M., Parfitt, D., Wilford, K., Burke, M.G., English, C.A., Efsing, P., "Post-irradiation annealing of Ni-Mn-Si-enriched clusters in a neutron-irradiated RPV steel weld using Atom Probe Tomography", \(2015\) Journal of Nuclear Materials, 459, pp. 127-134.](#)
- [7] [Cooper, A.J., Cooper, N.I., Bell, A., Dhers, J., Sherry, A.H., "A Microstructural Study on the Observed Differences in Charpy Impact Behavior Between Hot Isostatically Pressed and Forged 304L and 316L Austenitic Stainless Steel", \(2015\) Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 46 \(11\), pp. 5126-5138.](#)
- [8] [Smith, K.F., Bryan, N.D., Swinburne, A.N., Bots, P., Shaw, S., Natrajan, L.S., Mosselmans, J.F.W., Livens, F.R., Morris, K., "U\(VI\) behaviour in hyperalkaline calcite systems", \(2015\) Geochimica et Cosmochimica Acta, 148, pp. 343-359.](#)
- [9] [Perkó, Z., Pelloni, S., Mikityuk, K., Krepel, J., Szieberth, M., Gaëtan, G., Vrban, B., Lüley, J., Cerba, Š., Halász, M., Fehér, S., Reiss, T., Leen Kloosterman, J., Stainsby, R., Poette, C., "Core neutronics characterization of the GFR2400 Gas Cooled Fast Reactor", \(2015\) Progress in Nuclear Energy, 83, pp. 460-481.](#)
- [10] [Coe, B.J., Foxon, S.P., Pilkington, R.A., Sánchez, S., Whittaker, D., Clays, K., Depotter, G., Brunschwig, B.S., "Nonlinear optical chromophores with two ferrocenyl, octamethylferrocenyl, or 4-\(diphenylamino\)phenyl groups attached to rhenium\(I\) or zinc\(II\) centers", \(2015\) Organometallics, 34 \(9\), pp. 1701-1715.](#)
- [11] [Maddrell, E., Thornber, S., Hyatt, N.C., "The influence of glass composition on crystalline phase stability in glass-ceramic wasteforms", \(2015\) Journal of Nuclear Materials, 456, pp. 461-466.](#)

- [12] [Stitt, C.A., Hart, M., Harker, N.J., Hallam, K.R., MacFarlane, J., Banos, A., Paraskevoulakos, C., Butcher, E., Padovani, C., Scott, T.B., "Nuclear waste viewed in a new light; a synchrotron study of uranium encapsulated in grout", \(2015\) Journal of Hazardous Materials, 285, pp. 221-227.](#)
- [13] [Newsome, L., Morris, K., Shaw, S., Trivedi, D., Lloyd, J.R., "The stability of microbially reduced U\(IV\); impact of residual electron donor and sediment ageing", \(2015\) Chemical Geology, 409, pp. 125-135.](#)
- [14] [Lindley, B.A., Fiorina, C., Gregg, R., Franceschini, F., Parks, G.T., "The effectiveness of full actinide recycle as a nuclear waste management strategy when implemented over a limited timeframe - Part I: Uranium fuel cycle", \(2015\) Progress in Nuclear Energy, 85, pp. 498-510.](#)
- [15] [Newsome, L., Morris, K., Trivedi, D., Bewsher, A., Lloyd, J.R., "Biostimulation by Glycerol Phosphate to Precipitate Recalcitrant Uranium\(IV\) Phosphate", \(2015\) Environmental Science and Technology, 49 \(18\), pp. 11070-11078.](#)
- [16] [Orr, R.M., Sims, H.E., Taylor, R.J., "A review of plutonium oxalate decomposition reactions and effects of decomposition temperature on the surface area of the plutonium dioxide product", \(2015\) Journal of Nuclear Materials, 465, art. no. 49196, pp. 756-773.](#)
- [17] [Springell, R., Rennie, S., Costelle, L., Darnbrough, J., Stitt, C., Cocklin, E., Lucas, C., Burrows, R., Sims, H., Wermeille, D., Rawle, J., Nicklin, C., Nuttall, W., Scott, T., Lander, G., "Water corrosion of spent nuclear fuel: Radiolysis driven dissolution at the UO<sub>2</sub>/water interface", \(2015\) Faraday Discussions, 180, pp. 301-311.](#)
- [18] [Insulander Björk, K., Drera, S.S., Kelly, J.F., Vitanza, C., Helsingreen, C., Tverberg, T., Sobieska, M., Oberländer, B.C., Tuomisto, H., Kekkonen, L., Wright, J., Bergmann, U., Mathers, D.P., "Commercial thorium fuel manufacture and irradiation: Testing \(Th, Pu\) O<sub>2</sub> and \(Th, U\) O<sub>2</sub> in the "seven-Thirty" program", \(2015\) Annals of Nuclear Energy, 75, pp. 79-86.](#)
- [19] [Maddrell, E.R., Vance, E.R., Gregg, D.J., "Capture of iodine from the vapour phase and immobilisation as sodalite", \(2015\) Journal of Nuclear Materials, 467, pp. 271-279.](#)
- [20] [Ambrosino, F., Bonechi, L., Cimmino, L., D'Alessandro, R., Ireland, D.G., Kaiser, R., Mahon, D.F., Mori, N., Noli, P., Saracino, G., Shearer, C., Viliani, L., Yang, G., "Assessing the feasibility of interrogating nuclear waste storage silos using cosmic-ray muons", \(2015\) Journal of Instrumentation, 10 \(6\), art. no. T06005, .](#)
- [21] [Clarkson, A., Hamilton, D.J., Hoek, M., Ireland, D.G., Johnstone, J.R., Kaiser, R., Keri, T., Lumsden, S., Mahon, D.F., McKinnon, B., Murray, M., Nutbeam-Tuffs, S., Shearer, C., Yang, G., Zimmerman, C., "Characterising encapsulated nuclear waste using cosmic-ray muon tomography", \(2015\) Journal of Instrumentation, 10 \(3\), art. no. P03020, .](#)
- [22] [Paul, N., Hammond, R.B., Hunter, T.N., Edmondson, M., Maxwell, L., Biggs, S., "Synthesis of nuclear waste simulants by reaction precipitation: Formation of caesium phosphomolybdate, zirconium molybdate and morphology modification with citratomolybdate complex", \(2015\) Polyhedron, 89, pp. 129-141.](#)
- [23] [Squire, J., Maddrell, E.R., Hyatt, N.C., Stennett, M.C., "Influence of lubricants and attrition milling parameters on the quality of zirconolite ceramics, consolidated by hot isostatic pressing, for immobilization of plutonium", \(2015\) International Journal of Applied Ceramic Technology, 12 \(S2\), pp. E92-E104.](#)

- [24] [Wilbraham, R.J., Boxall, C., Goddard, D.T., Taylor, R.J., Woodbury, S.E., "The effect of hydrogen peroxide on uranium oxide films on 316L stainless steel", \(2015\) Journal of Nuclear Materials, 464, pp. 86-96.](#)
- [25] [Styman, P.D., Hyde, J.M., Wilford, K., Parfitt, D., Riddle, N., Smith, G.D.W., "Characterisation of interfacial segregation to Cu-enriched precipitates in two thermally aged reactor pressure vessel steel welds", \(2015\) Ultramicroscopy, 159, pp. 292-298.](#)
- [26] [Metcalf, M.P., Mills, R.W., "Radiocarbon mass balance for a Magnox nuclear power station", \(2015\) Annals of Nuclear Energy, 75, pp. 665-671.](#)
- [27] [Siddeeg, S.M., Bryan, N.D., Livens, F.R., "Behaviour and mobility of U and Ra in sediments near an abandoned uranium mine, Cornwall, UK", \(2015\) Environmental Sciences: Processes and Impacts, 17 \(1\), pp. 235-245.](#)
- [28] [McNeil, D.A., Burnside, B.M., Rylatt, D.I., Elsaye, E.A., Baker, S., "Shell-side boiling of water at sub-atmospheric pressures", \(2015\) International Journal of Heat and Mass Transfer, 85, pp. 488-504.](#)
- [29] [Hiezl, Z., Hambley, D.I., Padovani, C., Lee, W.E., "Processing and microstructural characterisation of a UO<sub>2</sub>-based ceramic for disposal studies on spent AGR fuel", \(2015\) Journal of Nuclear Materials, 456, pp. 74-84.](#)
- [30] [Chen, X., Thornton, S.F., Small, J., "Influence of Hyper-Alkaline pH Leachate on Mineral and Porosity Evolution in the Chemically Disturbed Zone Developed in the Near-Field Host Rock for a Nuclear Waste Repository", \(2015\) Transport in Porous Media, 107 \(2\), pp. 489-505.](#)
- [31] [Boothby, R.M., Hyde, J.M., Swan, H., Parfitt, D., Wilford, K., Lindner, P., "SANS examination of irradiated RPV steel welds during in-situ annealing", \(2015\) Journal of Nuclear Materials, 461, pp. 45-50.](#)
- [32] [Panesar, J.S., Heggs, P.J., Burns, A.D., Ma, L., Graham, S.J., "Predictions of Heat Transfer and Flow Circulations in Differentially Heated Liquid Columns With Applications to Low-Pressure Evaporators", \(2015\) Heat Transfer Engineering, 36 \(14-15\), pp. 1177-1191.](#)

## Journal & Review Articles - 2014

- [1] [Stork, D., Agostini, P., Boutard, J.L., Buckthorpe, D., Diegele, E., Dudarev, S.L., English, C., Federici, G., Gilbert, M.R., Gonzalez, S., Ibarra, A., Linsmeier, C., Li Puma, A., Marbach, G., Morris, P.F., Packer, L.W., Raj, B., Rieth, M., Tran, M.Q., Ward, D.J., Zinkle, S.J., "Developing structural, high-heat flux and plasma facing materials for a near-term DEMO fusion power plant: The EU assessment", \(2014\) Journal of Nuclear Materials, 455 \(1-3\), pp. 277-291.](#)
- [2] [Carrott, M., Bell, K., Brown, J., Geist, A., Gregson, C., Hères, X., Maher, C., Malmbeck, R., Mason, C., Modolo, G., Müllich, U., Sarsfield, M., Wilden, A., Taylor, R., "Development of a New Flowsheet for Co-Separating the Transuranic Actinides: The "EURO-GANEX" Process", \(2014\) Solvent Extraction and Ion Exchange, 32 \(5\), pp. 447-467.](#)
- [3] [Sajih, M., Bryan, N.D., Livens, F.R., Vaughan, D.J., Descostes, M., Phommavanh, V., Nos, J., Morris, K., "Adsorption of radium and barium on goethite and ferrihydrite: A kinetic and surface complexation modelling study", \(2014\) Geochimica et Cosmochimica Acta, 146, pp. 150-163.](#)
- [4] [Moyce, E.B.A., Rochelle, C., Morris, K., Milodowski, A.E., Chen, X., Thornton, S., Small, J.S., Shaw, S., "Rock alteration in alkaline cement waters over 15 years and its relevance to the geological disposal of nuclear waste", \(2014\) Applied Geochemistry, 50, pp. 91-105.](#)
- [5] [Maddrell, E., Gandy, A., Stennett, M., "The durability of iodide sodalite", \(2014\) Journal of Nuclear Materials, 449 \(1-3\), pp. 168-172.](#)
- [6] [Ashley, S.F., Lindley, B.A., Parks, G.T., Nuttall, W.J., Gregg, R., Hesketh, K.W., Kannan, U., Krishnani, P.D., Singh, B., Thakur, A., Cowper, M., Talamo, A., "Fuel cycle modelling of open cycle thorium-fuelled nuclear energy systems", \(2014\) Annals of Nuclear Energy, 69, pp. 314-330.](#)
- [7] [Clarkson, A., Hamilton, D.J., Hoek, M., Ireland, D.G., Johnstone, J.R., Kaiser, R., Keri, T., Lumsden, S., Mahon, D.F., McKinnon, B., Murray, M., Nutbeam-Tuffs, S., Shearer, C., Staines, C., Yang, G., Zimmerman, C., "GEANT4 simulation of a scintillating-fibre tracker for the cosmic-ray muon tomography of legacy nuclear waste containers", \(2014\) Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 746, pp. 64-73.](#)
- [8] [Bosland, L., Dickinson, S., Glowa, G.A., Herranz, L.E., Kim, H.C., Powers, D.A., Salay, M., Tietze, S., "Iodine-paint interactions during nuclear reactor severe accidents", \(2014\) Annals of Nuclear Energy, 74 \(C\), pp. 184-199.](#)
- [9] [Dickinson, S., Auvinen, A., Ammar, Y., Bosland, L., Clément, B., Funke, F., Glowa, G., Kärkelä, T., Powers, D.A., Tietze, S., Weber, G., Zhang, S., "Experimental and modelling studies of iodine oxide formation and aerosol behaviour relevant to nuclear reactor accidents", \(2014\) Annals of Nuclear Energy, 74, pp. 200-207.](#)
- [10] [Newsome, L., Morris, K., Trivedi, D., Atherton, N., Lloyd, J.R., "Microbial reduction of uranium\(VI\) in sediments of different lithologies collected from Sellafield", \(2014\) Applied Geochemistry, 51, pp. 55-64.](#)
- [11] [Jones, A.E., Turner, P., Zimmerman, C., Goulermas, J.Y., "Classification of spent reactor fuel for nuclear forensics", \(2014\) Analytical Chemistry, 86 \(11\), pp. 5399-5405.](#)

- [12] [Clarkson, A., Hamilton, D.J., Hoek, M., Ireland, D.G., Johnstone, J.R., Kaiser, R., Keri, T., Lumsden, S., Mahon, D.F., McKinnon, B., Murray, M., Nutbeam-Tuffs, S., Shearer, C., Staines, C., Yang, G., Zimmerman, C., "The design and performance of a scintillating-fibre tracker for the cosmic-ray muon tomography of legacy nuclear waste containers", \(2014\) Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 745, pp. 138-149.](#)
- [13] [Delannay, L., Yan, P., Payne, J.F.B., Tzelepi, N., "Predictions of inter-granular cracking and dimensional changes of irradiated polycrystalline graphite under plane strain", \(2014\) Computational Materials Science, 87, pp. 129-137.](#)
- [14] [Sinnathamby, G., Phillips, D.H., Sivakumar, V., Paksy, A., "Landfill cap models under simulated climate change precipitation: Impacts of cracks and root growth", \(2014\) Geotechnique, 64 \(2\), pp. 95-107.](#)
- [15] [Ahmed, M.H.M., Lydiatt, F.P., Chekulaev, D., Wincott, P.L., Vaughan, D.J., Jang, J.H., Baldelli, S., Thomas, A.G., Walters, W.S., Lindsay, R., "Wet chemically prepared rutile TiO<sub>2</sub>\(110\) and TiO<sub>2</sub>\(011\): Substrate preparation for surface studies under non-UHV conditions", \(2014\) Surface Science, 630, pp. 41-45.](#)
- [16] [Brown, A.R., Wincott, P.L., Laverne, J.A., Small, J.S., Vaughan, D.J., Pimblott, S.M., Lloyd, J.R., "The impact of ? radiation on the bioavailability of Fe\(III\) minerals for microbial respiration", \(2014\) Environmental Science and Technology, 48 \(18\), pp. 10672-10680.](#)
- [17] [Jackson, S.F., Monk, S.D., Riaz, Z., "An investigation towards real time dose rate monitoring, and fuel rod detection in a First Generation Magnox Storage Pond \(FGMSP\)", \(2014\) Applied Radiation and Isotopes, 94, pp. 254-259.](#)
- [18] [Hyde, J.M., Burke, M.G., Smith, G.D.W., Styman, P., Swan, H., Wilford, K., "Uncertainties and assumptions associated with APT and SANS characterisation of irradiation damage in RPV steels", \(2014\) Journal of Nuclear Materials, 449 \(1-3\), pp. 308-314.](#)
- [19] [Mountford, D.J., Deboer, R.J., Descouvemont, P., Murphy, A.St.J., Uberseder, E., Wiescher, M., "Evaluation of the implementation of the R-matrix formalism with reference to the astrophysically important <sup>18</sup>F\(p,a\)<sup>15</sup>O reaction", \(2014\) Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 767, pp. 359-363.](#)
- [20] [Jackson, S.F., Monk, S.D., Stanley, S.J., Lennox, K., "Sub-aquatic response of a scintillator, fibre optic and silicon photomultiplier based radiation sensor", \(2014\) Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 752, pp. 42-46.](#)
- [21] [Foxhall, H.R., Travis, K.P., Owens, S.L., "Effect of plutonium doping on radiation damage in zirconolite: A computer simulation study", \(2014\) Journal of Nuclear Materials, 444 \(1-3\), pp. 220-228.](#)
- [22] [Mills, R.W., "Uncertainty propagation of fission product yield data in spent fuel inventory calculations", \(2014\) Nuclear Data Sheets, 118 \(1\), pp. 484-487.](#)
- [23] [Dawson, M., Borman, D., Hammond, R.B., Lesnic, D., Rhodes, D., "Moving boundary models for the growth of crystalline deposits from undetected leakages of industrial process liquors", \(2014\) Computers and Chemical Engineering, 71, pp. 331-346.](#)



- [24] [Andrieux, F.P.L., Boxall, C., Steele, H.M., Taylor, R.J., "The hydrolysis of hydroxamic acid complexants in the presence of non-oxidizing metal ions 3: Ferric ions at elevated temperatures", \(2014\) Journal of Solution Chemistry, 43 \(3\), pp. 608-622.](#)
- [25] [Harrison, M., Steele, C., "Product quality of high level waste during three key stages", \(2014\) Glass International, 37 \(8\), pp. 81-84.](#)
- [26] [Leenders, L., Wehmann, U., Grove, C., Hesketh, K., Zwermann, W., "IRPhEP evaluation of VENUS 9 and VENUS 7 experiments", \(2014\) Nuclear Science and Engineering, 178 \(4\), pp. 509-523.](#)
- [27] [Dupont, E., Chadwick, M.B., Danon, Y., De Saint Jean, C., Dunn, M., Fischer, U., Forrest, R.A., Fukahori, T., Ge, Z., Harada, H., Herman, M., Igashira, M., Ignatyuk, A., Ishikawa, M., Iwamoto, O., Jacqmin, R., Kahler, A.C., Kawano, T., Koning, A.J., Leal, L., Lee, Y.O., McKnight, R., McNabb, D., Mills, R.W., Palmiotti, G., Plompen, A., Salvatores, M., Schillebeeckx, P., "Working party on international nuclear data evaluation cooperation \(WPEC\)", \(2014\) Nuclear Data Sheets, 120, pp. 264-267.](#)
- [28] [Abrahamsen, L., Bryan, N., Broan, C., Eaves, C., O'Brien, L., Kellet, S., "Sr and Cs behaviour: Key to safe decommissioning", \(2014\) Nuclear Engineering International, 59 \(725\), pp. 30-32.](#)
- [29] [Hiezl, Z., Hambley, D., Lee, W.E., "Preparation and characterization of UO<sub>2</sub>-based AGR SIMFuel", \(2014\) Journal of Fluid Mechanics, 1665, .](#)

## Journal & Review Articles - 2013

- [1] [Gin, S., Abdelouas, A., Criscenti, L.J., Ebert, W.L., Ferrand, K., Geisler, T., Harrison, M.T., Inagaki, Y., Mitsui, S., Mueller, K.T., Marra, J.C., Pantano, C.G., Pierce, E.M., Ryan, J.V., Schofield, J.M., Steefel, C.I., Vienna, J.D., "An international initiative on long-term behavior of high-level nuclear waste glass", \(2013\) \*Materials Today\*, 16 \(6\), pp. 243-248.](#)
- [2] [Lewis, F.W., Harwood, L.M., Hudson, M.J., Drew, M.G.B., Hubscher-Bruder, V., Videva, V., Arnaud-Neu, F., Stamberg, K., Vyas, S., "BTBPs versus BTPHens: Some reasons for their differences in properties concerning the partitioning of minor actinides and the advantages of BTPHens", \(2013\) \*Inorganic Chemistry\*, 52 \(9\), pp. 4993-5005.](#)
- [3] [Taylor, R.J., Gregson, C.R., Carrott, M.J., Mason, C., Sarsfield, M.J., "Progress towards the Full Recovery of Neptunium in an Advanced PUREX Process", \(2013\) \*Solvent Extraction and Ion Exchange\*, 31 \(4\), pp. 442-462.](#)
- [4] [Steele, H.M., Guillaumont, D., Moisy, P., "Density functional theory calculations of the redox potentials of actinide\(VI\)/actinide\(V\) couple in water", \(2013\) \*Journal of Physical Chemistry A\*, 117 \(21\), pp. 4500-4505.](#)
- [5] [Styman, P.D., Hyde, J.M., Wilford, K., Smith, G.D.W., "Quantitative methods for the APT analysis of thermally aged RPV steels", \(2013\) \*Ultramicroscopy\*, 132, pp. 258-264.](#)
- [6] [Carrot, M.J., Gregson, C.R., Taylor, R.J., "Neptunium Extraction and Stability in the GANEX Solvent: 0.2 M TODGA/0.5 M DMDOHEMA/Kerosene", \(2013\) \*Solvent Extraction and Ion Exchange\*, 31 \(5\), pp. 463-482.](#)
- [7] [Wallace, S.H., Shaw, S., Morris, K., Small, J.S., Burke, I.T., "Alteration of sediments by hyperalkaline k-rich cement leachate: Implications for strontium adsorption and incorporation", \(2013\) \*Environmental Science and Technology\*, 47 \(8\), pp. 3694-3700.](#)
- [8] [Swift, P., Kinoshita, H., Collier, N.C., Utton, C.A., "Phosphate modified calcium aluminate cement for radioactive waste encapsulation", \(2013\) \*Advances in Applied Ceramics\*, 112 \(1\), pp. 1-8.](#)
- [9] [Kinoshita, H., Swift, P., Utton, C., Carro-Mateo, B., Marchand, G., Collier, N., Milestone, N., "Corrosion of aluminium metal in OPC- and CAC-based cement matrices", \(2013\) \*Cement and Concrete Research\*, 50, pp. 11-18.](#)
- [10] [Sims, H.E., Webb, K.J., Brown, J., Morris, D., Taylor, R.J., "Hydrogen yields from water on the surface of plutonium dioxide", \(2013\) \*Journal of Nuclear Materials\*, 437 \(1-3\), pp. 359-364.](#)
- [11] [Beardsmore, D.W., da Fonseca, J.Q., Romero, J., English, C.A., Ortner, S.R., Sharples, J., Sherry, A.H., Wilkes, M.A., "Study of Lüders phenomena in reactor pressure vessel steels", \(2013\) \*Materials Science and Engineering A\*, 588, pp. 151-166.](#)
- [12] [Paul, N., Biggs, S., Edmondson, M., Hunter, T.N., Hammond, R.B., "Characterising highly active nuclear waste simulants", \(2013\) \*Chemical Engineering Research and Design\*, 91 \(4\), pp. 742-751.](#)
- [13] [Jackson, S.F., Monk, S.D., Lennox, K., "Testing of a scintillator and fibre optic based radiation sensor", \(2013\) \*Radiation Measurements\*, 59, pp. 50-58.](#)

- [14] [Mahon, D.F., Clarkson, A., Hamilton, D.J., Hoek, M., Ireland, D.G., Johnstone, J.R., Kaiser, R., Keri, T., Lumsden, S., McKinnon, B., Murray, M., Nutbeam-Tuffs, S., Shearer, C., Staines, C., Yang, G., Zimmerman, C., "A prototype scintillating-fibre tracker for the cosmic-ray muon tomography of legacy nuclear waste containers", \(2013\) Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 732, pp. 408-411.](#)
- [15] [Foxhall, H.R., Travis, K.P., Hobbs, L.W., Rich, S.C., Owens, S.L., "Understanding the radiation-induced amorphization of zirconolite using molecular dynamics and connectivity topology analysis", \(2013\) Philosophical Magazine, 93 \(4\), pp. 328-355.](#)
- [16] [Dawson, M., Borman, D., Hammond, R.B., Lesnic, D., Rhodes, D., "A meshless method for solving a two-dimensional transient inverse geometric problem", \(2013\) International Journal of Numerical Methods for Heat and Fluid Flow, 23 \(5\), pp. 790-817.](#)
- [17] [Griffiths, T.L., Martin, L.R., Zalupski, P.R., Rawcliffe, J., Sarsfield, M.J., Evans, N.D.M., Sharrad, C.A., "Understanding the solution behavior of minor actinides in the presence of EDTA4-, carbonate, and hydroxide ligands", \(2013\) Inorganic Chemistry, 52 \(7\), pp. 3728-3737.](#)
- [18] [Van Uffelen, P., Botazzoli, P., Luzzi, L., Bremier, S., Schubert, A., Raison, P., Eloirdi, R., Barker, M.A., "An experimental study of grain growth in mixed oxide samples with various microstructures and plutonium concentrations", \(2013\) Journal of Nuclear Materials, 434 \(1-3\), pp. 287-290.](#)
- [19] [Metcalf, M.P., Banford, A.W., Eccles, H., Norris, S., "EU Carbowaste project: Development of a toolbox for graphite waste management", \(2013\) Journal of Nuclear Materials, 436 \(1-3\), pp. 158-166.](#)
- [20] [Maddrell, E., "Hot isostatically pressed wastefoms for future nuclear fuel cycles", \(2013\) Chemical Engineering Research and Design, 91 \(4\), pp. 735-741.](#)
- [21] [Staicu, D., Barker, M., "Thermal conductivity of heterogeneous LWR MOX fuels", \(2013\) Journal of Nuclear Materials, 442 \(1-3\), pp. 46-52.](#)
- [22] [Whillock, G.O.H., Donohoe, C.J., "Localized corrosion of stainless steel in a nuclear waste cooling water system-part 6: Testing for stress corrosion cracking susceptibility", \(2013\) Corrosion, 69 \(1\), pp. 9-14.](#)
- [23] [Stanley, S.J., Lennox, K.A.T., Jenkins, A., "The development and testing of a much-improved radball: A small deployable 360-deg-view radiation hot-spot imaging device", \(2013\) Nuclear Technology, 183 \(2\), pp. 260-269.](#)
- [24] [Peck, S.L., "A human performance programme to improve front-line nuclear operations", \(2013\) Cognition, Technology and Work, 15 \(1\), pp. 29-37.](#)
- [25] [Donohoe, C.J., Whillock, G.O.H., "Localized corrosion of stainless steel in a nuclear waste cooling water system - Part 7: Direct radiation experiments", \(2013\) Corrosion, 69 \(2\), pp. 107-121.](#)

## Journal & Review Articles - 2012

- [1] [Wallace, S.H., Shaw, S., Morris, K., Small, J.S., Fuller, A.J., Burke, I.T., "Effect of groundwater pH and ionic strength on strontium sorption in aquifer sediments: Implications for <sup>90</sup>Sr mobility at contaminated nuclear sites", \(2012\) Applied Geochemistry, 27 \(8\), pp. 1482-1491.](#)
- [2] [Reilly, S.D., Gaunt, A.J., Scott, B.L., Modolo, G., Iqbal, M., Verboom, W., Sarsfield, M.J., "Plutonium\(iv\) complexation by diglycolamide ligands - Coordination chemistry insight into TODGA-based actinide separations", \(2012\) Chemical Communications, 48 \(78\), pp. 9732-9734.](#)
- [3] [Sarsfield, M.J., Taylor, R.J., Puxley, C., Steele, H.M., "Raman spectroscopy of plutonium dioxide and related materials", \(2012\) Journal of Nuclear Materials, 427 \(1-3\), pp. 333-342.](#)
- [4] [Brown, J., McLachlan, F., Sarsfield, M., Taylor, R., Modolo, G., Wilden, A., "Plutonium Loading of Prospective Grouped Actinide Extraction \(GANEX\) Solvent Systems based on Diglycolamide Extractants", \(2012\) Solvent Extraction and Ion Exchange, 30 \(2\), pp. 127-141.](#)
- [5] [Sypula, M., Wilden, A., Schreinemachers, C., Malmbeck, R., Geist, A., Taylor, R., Modolo, G., "Use of Polyaminocarboxylic Acids as Hydrophilic Masking Agents for Fission Products in Actinide Partitioning Processes", \(2012\) Solvent Extraction and Ion Exchange, 30 \(7\), pp. 748-764.](#)
- [6] [Mitchell, M.R., Carnevale, D., Orr, R., Whittle, K.R., Ashbrook, S.E., "Exploiting the chemical shielding anisotropy to probe structure and disorder in ceramics: <sup>89</sup>Y MAS NMR and first-principles calculations", \(2012\) Journal of Physical Chemistry C, 116 \(6\), pp. 4273-4286.](#)
- [7] [Girault, N., Bosland, L., Dickinson, S., Funke, F., Güntay, S., Herranz, L.E., Powers, D., "LWR severe accident simulation: Iodine behaviour in FPT2 experiment and advances on containment iodine chemistry", \(2012\) Nuclear Engineering and Design, 243, pp. 371-392.](#)
- [8] [Redfern, S.A.T., Smith, S.E., Maddrell, E.R., "High-temperature breakdown of the synthetic iodine analogue of vanadinite, Pb<sub>5</sub>\(VO<sub>4</sub>\)<sub>3</sub>I: An apatite-related compound for iodine radioisotope immobilization?", \(2012\) Mineralogical Magazine, 76 \(4\), pp. 997-1003.](#)
- [9] [Whillock, G.O.H., Worthington, S.E., Donohoe, C.J., "Localized corrosion of stainless steel in a nuclear waste cooling water system- Part 1: Crevice corrosion studies", \(2012\) Corrosion, 68 \(8\), pp. 677-687.](#)
- [10] [Donohoe, C.J., Whillock, G.O.H., Apps, P.J., "Localized corrosion of stainless steel in a nuclear waste cooling water system-Part 2: Plant inspection findings", \(2012\) Corrosion, 68 \(9\), pp. 844-852.](#)
- [11] [Whillock, G.O.H., Binks, T.J., Donohoe, C.J., "Localized corrosion of stainless steel in a nuclear waste cooling water system-part 4: Artificial pit investigation of nitrate inhibition", \(2012\) Corrosion, 68 \(11\), pp. 967-981.](#)
- [12] [Whillock, G.O.H., Binks, T.J., Donohoe, C.J., "Localized corrosion of stainless steel in a nuclear waste cooling water system-part 3: Development of a large artificial pit", \(2012\) Corrosion, 68 \(10\), pp. 859-871.](#)

- [13] [Wilbraham, R.J., Boxall, C., Taylor, R.J., "Photocatalytically driven dissolution of macroscopic metal surfaces. Part 1: Silver", \(2012\) Journal of Photochemistry and Photobiology A: Chemistry, 249, pp. 21-28.](#)
- [14] [Harrison, M.T., Steele, C.J., Riley, A.D., "The effect on long term aqueous durability of variations in the composition of UK vitrified HLW product", \(2012\) Glass Technology: European Journal of Glass Science and Technology Part A, 53 \(5\), pp. 211-216.](#)
- [15] [Farfán, E.B., Stanley, S., Holmes, C., Lennox, K., Oldham, M., Clift, C., Thomas, A., Adamovics, J., "Locating radiation hazards and sources within contaminated areas by implementing a reverse ray tracing technique in the RadBall™ technology", \(2012\) Health Physics, 102 \(2\), pp. 196-207.](#)
- [16] [Donohoe, C.J., Whillock, G.O.H., "Localized corrosion of stainless steel in a nuclear waste cooling water system-part 5: Inhibition studies using "all-metal" artificial pits", \(2012\) Corrosion, 68 \(12\), pp. 1076-1084.](#)
- [17] [Hesketh, K., "A new non-proliferation assessment tool", \(2012\) Nuclear Engineering International, 57 \(697\), pp. 36-40.](#)
- [18] [Stanley, S.J., Lennox, K., Farfán, E.B., Coleman, J.R., Adamovics, J., Thomas, A., Oldham, M., "Locating, quantifying and characterising radiation hazards in contaminated nuclear facilities using a novel passive non-electrical polymer based radiation imaging device", \(2012\) Journal of Radiological Protection, 32 \(2\), pp. 131-145.](#)
- [19] [Potter, D., Howarth, P., "The economics of advanced forms of nuclear energy", \(2012\) Nuclear Future, 8 \(4\), pp. 48-55.](#)

## Journal & Review Articles - 2011

- [1] [Gupta, J., Nunes, C., Vyas, S., Jonnalagadda, S., "Prediction of solubility parameters and miscibility of pharmaceutical compounds by molecular dynamics simulations", \(2011\) Journal of Physical Chemistry B, 115 \(9\), pp. 2014-2023.](#)
- [2] [Koning, A.J., Bauge, E., Dean, C.J., Dupont, E., Fischer, U., Forrest, R.A., Jacqmin, R., Leeb, H., Kellett, M.A., Mills, R.W., Nordborg, C., Pescarini, M., Rugama, Y., Rullhusen, P., "Status of the JEFF nuclear data library", \(2011\) Journal of the Korean Physical Society, 59 \(23\), pp. 1057-1062.](#)
- [3] [Hyde, J.M., Marquis, E.A., Wilford, K.B., Williams, T.J., "A sensitivity analysis of the maximum separation method for the characterisation of solute clusters", \(2011\) Ultramicroscopy, 111 \(6\), pp. 440-447.](#)
- [4] [Deshon, J., Hussey, D., Kendrick, B., McGurk, J., Secker, J., Short, M., "Pressurized water reactor fuel crud and corrosion modeling", \(2011\) JOM, 63 \(8\), pp. 64-72.](#)
- [5] [Connelly, A.J., Hyatt, N.C., Travis, K.P., Hand, R.J., Maddrell, E.R., Short, R.J., "The structural role of Zr within alkali borosilicate glasses for nuclear waste immobilisation", \(2011\) Journal of Non-Crystalline Solids, 357 \(7\), pp. 1647-1656.](#)
- [6] [Hyde, J.M., Sha, G., Marquis, E.A., Morley, A., Wilford, K.B., Williams, T.J., "A comparison of the structure of solute clusters formed during thermal ageing and irradiation", \(2011\) Ultramicroscopy, 111 \(6\), pp. 664-671.](#)
- [7] [Bai, Y., Collier, N.C., Milestone, N.B., Yang, C.H., "The potential for using slags activated with near neutral salts as immobilisation matrices for nuclear wastes containing reactive metals", \(2011\) Journal of Nuclear Materials, 413 \(3\), pp. 183-192.](#)
- [8] [Williams, C.A., Hyde, J.M., Smith, G.D.W., Marquis, E.A., "Effects of heavy-ion irradiation on solute segregation to dislocations in oxide-dispersion-strengthened Eurofer 97 steel", \(2011\) Journal of Nuclear Materials, 412 \(1\), pp. 100-105.](#)
- [9] [Hyde, J.M., Burke, M.G., Gault, B., Saxey, D.W., Styman, P., Wilford, K.B., Williams, T.J., "Atom probe tomography of reactor pressure vessel steels: An analysis of data integrity", \(2011\) Ultramicroscopy, 111 \(6\), pp. 676-682.](#)
- [10] [Rossiter, G., "Development of the ENIGMA fuel performance code for whole core analysis and dry storage assessments", \(2011\) Nuclear Engineering and Technology, 43 \(6\), pp. 489-498.](#)
- [11] [Hill, G.L., Bailey, E., Stennett, M.C., Hyatt, N.C., Maddrell, E.M., McMillan, P.F., Hriljac, J.A., "High-pressure and-temperature ion exchange of aluminosilicate and gallosilicate natrolite", \(2011\) Journal of the American Chemical Society, 133 \(35\), pp. 13883-13885.](#)
- [12] [Gregson, C.R., Goddard, D.T., Sarsfield, M.J., Taylor, R.J., "Combined electron microscopy and vibrational spectroscopy study of corroded Magnox sludge from a legacy spent nuclear fuel storage pond", \(2011\) Journal of Nuclear Materials, 412 \(1\), pp. 145-156.](#)

- [13] [Preuss, M., Frankel, P., Lozano-Perez, S., Hudson, D., Polatidis, E., Ni, N., Wei, J., English, C., Storer, S., Chong, K.B., Fitzpatrick, M., Wang, P., Smith, J., Grovenor, C., Smith, G., Sykes, J., Cottis, B., Lyon, S., Hallstadius, L., Comstock, B., Ambard, A., Blat-Yrieix, M., "Studies regarding corrosion mechanisms in zirconium alloys", \(2011\) \*Journal of ASTM International\*, 8 \(9\), .](#)
- [14] [Jones, M.J., Butchins, L.J., Charnock, J.M., Pattrick, R.A.D., Small, J.S., Vaughan, D.J., Wincott, P.L., Livens, F.R., "Reactions of radium and barium with the surfaces of carbonate minerals", \(2011\) \*Applied Geochemistry\*, 26 \(7\), pp. 1231-1238.](#)
- [15] [Haque, J.N., Mahmud, T., Roberts, K.J., Liang, J.K., White, G., Wilkinson, D., Rhodes, D., "Free-surface turbulent flow induced by a Rushton turbine in an unbaffled dish-bottom stirred tank reactor: LDV measurements and CFD simulations", \(2011\) \*Canadian Journal of Chemical Engineering\*, 89 \(4\), pp. 745-753.](#)
- [16] [Connelly, A.J., Travis, K.P., Hand, R.J., Hyatt, N.C., Maddrell, E., "Composition-structure relationships in simplified nuclear waste glasses: 1. Mixed alkali borosilicate glasses", \(2011\) \*Journal of the American Ceramic Society\*, 94 \(1\), pp. 151-159.](#)
- [17] [Parry, S.A., O'Brien, L., Fellerman, A.S., Eaves, C.J., Milestone, N.B., Bryan, N.D., Livens, F.R., "Plutonium behaviour in nuclear fuel storage pond effluents", \(2011\) \*Energy and Environmental Science\*, 4 \(4\), pp. 1457-1464.](#)
- [18] [Connelly, A.J., Hyatt, N.C., Travis, K.P., Hand, R.J., Maddrell, E.R., "Predicting the preference for charge compensation in silicate glasses", \(2011\) \*Physics and Chemistry of Glasses: European Journal of Glass Science and Technology Part B\*, 52 \(2\), pp. 64-67.](#)
- [19] [Sarsfield, M.J., Sims, H.E., Taylor, R.J., "Modelling Np\(IV\) solvent extraction between 30% tri-butyl phosphate and nitric acid in the presence of simple hydroxamic acids", \(2011\) \*Solvent Extraction and Ion Exchange\*, 29 \(1\), pp. 49-71.](#)
- [20] [Reid, D., Hyatt, N., Maddrell, E.R., "Immobilising plutonium", \(2011\) \*Materials World\*, 19 \(7\), pp. 26-28.](#)
- [21] [Riley, B.J., Hrna, P.R., Vienna, J.D., Schweiger, M.J., Rodriguez, C.P., Crum, J.V., Lang, J.B., Marra, J.C., Johnson, F.C., Peeler, D.K., Leonelli, C., Ferrari, A.M., Lancellotti, I., Dussossoy, J.-L., Hand, R.J., Schofield, J.M., Connelly, A.J., Short, R., Harrison, M.T., "The Liquidus Temperature of Nuclear Waste Glasses: An International Round-Robin Study", \(2011\) \*International Journal of Applied Glass Science\*, 2 \(4\), pp. 321-333.](#)
- [22] [Von Lensa, W., Vulpius, D., Steinmetz, H.-J., Girke, N., Bosbach, D., Thomauske, B., Banford, A.W., Bradbury, D., Grave, M.J., Jones, A.N., Grambow, B., Petit, L., Pina, G., "Treatment and Disposal of irradiated Graphite and other Carbonaceous Waste", \(2011\) \*ATW - Internationale Zeitschrift fur Kernenergie\*, 56 \(4-5\), pp. 263-269.](#)
- [23] [Rotter, B.E., Barry, D.A., Gerhard, J.I., Small, J.S., "Modeling the effectiveness of U\(VI\) biomineralization in dual-porosity porous media", \(2011\) \*Journal of Hydrology\*, 402 \(1-2\), pp. 14-24.](#)
- [24] [Ortner, S.R., Lee, K.S., Sherry, A.H., "The effect of a residual stress field on fracture initiation in RPV steel", \(2011\) \*Fatigue and Fracture of Engineering Materials and Structures\*, 34 \(12\), pp. 945-955.](#)

- [25] [Connelly, A.J., Travis, K.P., Hand, R.J., Hyatt, N.C., Maddrell, E., "Composition-structure relationships in simplified nuclear waste glasses: 2. the effect of ZrO<sub>2</sub> additions", \(2011\) Journal of the American Ceramic Society, 94 \(1\), pp. 137-144.](#)
- [26] [Gregson, C.R., Hastings, J.J., Sims, H.E., Steele, H.M., Taylor, R.J., "Characterisation of plutonium species in alkaline liquors sampled from a UK legacy nuclear fuel storage pond", \(2011\) Analytical Methods, 3 \(9\), pp. 1957-1968.](#)
- [27] [Tinsley, T., Sarsfield, M., Rice, T., "Alternative radioisotopes for heat and power sources", \(2011\) JBIS - Journal of the British Interplanetary Society, 64 \(1-2\), pp. 49-53.](#)
- [28] [Rushton, M.J.D., Grimes, R.W., Owens, S.L., "Partial ordering of glass networks adjacent to simulated glass-crystal interfaces", \(2011\) Journal of Non-Crystalline Solids, 357 \(16-17\), pp. 3278-3287.](#)
- [29] [Ortner, S.R., "Comparison between particle cracking criteria in models for the fracture of steels", \(2011\) Fatigue and Fracture of Engineering Materials and Structures, 34 \(12\), pp. 956-973.](#)
- [30] [Taylor, R., "Fuelling the coming era", \(2011\) Chemical Engineer, \(844\), pp. 41-43.](#)
- [31] [Wareing, A., "Waste management & minimisation", \(2011\) Chemical Engineer, \(837\), pp. 42-44.](#)



## Journal & Review Articles - 2010

- [1] [Marquis, E.A., Hyde, J.M., "Applications of atom-probe tomography to the characterisation of solute behaviours", \(2010\) Materials Science and Engineering R: Reports, 69 \(4-5\), pp. 37-62.](#)
- [2] [Ni, N., Lozano-Perez, S., Jenkins, M.L., English, C., Smith, G.D.W., Sykes, J.M., Grovenor, C.R.M., "Porosity in oxides on zirconium fuel cladding alloys, and its importance in controlling oxidation rates", \(2010\) Scripta Materialia, 62 \(8\), pp. 564-567.](#)
- [3] [Reid, D.P., Stennett, M.C., Ravel, B., Woicik, J.C., Peng, N., Maddrell, E.R., Hyatt, N.C., "The structure of ion beam amorphised zirconolite studied by grazing angle X-ray absorption spectroscopy", \(2010\) Nuclear Instruments and Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms, 268 \(11-12\), pp. 1847-1852.](#)
- [4] [English, C.A., Jenkins, M.L., "Molecular ion irradiations of molybdenum", \(2010\) Philosophical Magazine, 90 \(7-8\), pp. 821-843.](#)
- [5] [Dickinson, S., Andreo, F., Karkela, T., Ball, J., Bosland, L., Cantrel, L., Funke, F., Girault, N., Holm, J., Guilbert, S., Herranz, L.E., Housiadas, C., Ducros, G., Mun, C., Sabroux, J.-C., Weber, G., "Recent advances on containment iodine chemistry", \(2010\) Progress in Nuclear Energy, 52 \(1\), pp. 128-135.](#)
- [6] [Bromley, M.A., Boxall, C., Galea, S., Goodall, P.S., Woodbury, S., "Photocatalytic initiation of electroless deposition", \(2010\) Journal of Photochemistry and Photobiology A: Chemistry, 216 \(2-3\), pp. 228-237.](#)
- [7] [Quintanilla, M.A.S., Goddard, D.T., "Lateral Force Microscopy with micrometer-sized particles: Effect of wear on adhesion and friction", \(2010\) Wear, 268 \(1\), pp. 277-286.](#)
- [8] [Islam, M.M., Holland, D., Howes, A.P., Scales, C.R., "The effect of divalent additions on the structure of a mixed alkali borosilicate glass for high level waste immobilisation", \(2010\) Physics and Chemistry of Glasses: European Journal of Glass Science and Technology Part B, 51 \(3\), pp. 137-145.](#)
- [9] [Wilkins, M.J., Livens, F.R., Vaughan, D.J., Lloyd, J.R., Beadle, I., Small, J.S., "Fe\(III\) reduction in the subsurface at a low-level radioactive waste disposal site", \(2010\) Geomicrobiology Journal, 27 \(3\), pp. 231-239.](#)
- [10] [Cozzo, C., Staicu, D., Pagliosa, G., Papaioannou, D., Rondinella, V.V., Konings, R.J.M., Walker, C.T., Barker, M.A., Hervé, P., "Thermal diffusivity of homogeneous SBR MOX fuel with a burn-up of 35 MWd/kgHM", \(2010\) Journal of Nuclear Materials, 400 \(3\), pp. 213-217.](#)
- [11] [Whyte, B., "Waste hot, want not", \(2010\) Chemical Engineer, \(832\), pp. 30-31.](#)
- [12] [Tinsley, T., "Past, present, future", \(2010\) Chemical Engineer, \(826\), pp. 45-46.](#)

## Journal & Review Articles - 2009

- [1] [Lozano-Perez, S., Yamada, T., Terachi, T., Schröder, M., English, C.A., Smith, G.D.W., Grovenor, C.R.M., Eyre, B.L., "Multi-scale characterization of stress corrosion cracking of cold-worked stainless steels and the influence of Cr content", \(2009\) Acta Materialia, 57 \(18\), pp. 5361-5381.](#)
- [2] [Marquis, E.A., Hyde, J.M., Saxey, D.W., Lozano-Perez, S., de Castro, V., Hudson, D., Williams, C.A., Humphry-Baker, S., Smith, G.D.W., "Nuclear reactor materials at the atomic scale", \(2009\) Materials Today, 12 \(11\), pp. 30-37.](#)
- [3] [López-Honorato, E., Tan, J., Meadows, P.J., Marsh, G., Xiao, P., "TRISO coated fuel particles with enhanced SiC properties", \(2009\) Journal of Nuclear Materials, 392 \(2\), pp. 219-224.](#)
- [4] [Mahmud, T., Haque, J.N., Roberts, K.J., Rhodes, D., Wilkinson, D., "Measurements and modelling of free-surface turbulent flows induced by a magnetic stirrer in an unbaffled stirred tank reactor", \(2009\) Chemical Engineering Science, 64 \(20\), pp. 4197-4209.](#)
- [5] [Cornet, S.M., Häller, L.J.L., Sarsfield, M.J., Collison, D., Helliwell, M., May, I., Kaltsoyannis, N., "Neptunium\(vi\) chain and neptunium\(vi/v\) mixed valence cluster complexes", \(2009\) Chemical Communications, \(8\), pp. 917-919.](#)
- [6] [Hyde, J.M., Cerezo, A., Williams, T.J., "Statistical analysis of atom probe data: Detecting the early stages of solute clustering and/or co-segregation", \(2009\) Ultramicroscopy, 109 \(5\), pp. 502-509.](#)
- [7] [Haste, T., Giordano, P., Herranz, L., Girault, N., Dubourg, R., Sabroux, J.-C., Cantrel, L., Bottomley, D., Parozzi, F., Auvinen, A., Dickinson, S., Lamy, J.-C., Weber, G., Albiol, T., "SARNET integrated European Severe Accident Research- Conclusions in the source term area", \(2009\) Nuclear Engineering and Design, 239 \(12\), pp. 3116-3131.](#)
- [8] [Sarsfield, M.J., Sims, H.E., Taylor, R.J., "Extraction of Neptunium \(IV\) ions into 30% tri-butyl phosphate from nitric acid", \(2009\) Solvent Extraction and Ion Exchange, 27 \(5-6\), pp. 638-662.](#)
- [9] [Hyde, J.M., Burke, M.G., Boothby, R.M., English, C.A., "Characterisation of the early stages of solute clustering in 1Ni-1.3Mn welds containing Cu", \(2009\) Ultramicroscopy, 109 \(5\), pp. 510-517.](#)
- [10] [Copping, R., Talbot-Eckelaers, C., Collison, D., Helliwell, M., Gaunt, A.J., May, I., Reilly, S.D., Scott, B.L., McDonald, R.D., Valenzuela, O.A., Jones, C.J., Sarsfield, M.J., "Probing the 5f electrons in a plutonyl\(vi\) cluster complex", \(2009\) Dalton Transactions, \(29\), pp. 5609-5611.](#)
- [11] [Dyer, A., Newton, J., O'Brien, L., Owens, S., "Studies on a synthetic sitinakite-type silicotitanate cation exchanger. Part 2. Effect of alkaline earth and alkali metals on the uptake of Cs and Sr radioisotopes", \(2009\) Microporous and Mesoporous Materials, 120 \(3\), pp. 272-277.](#)
- [12] [Dyer, A., Newton, J., O'Brien, L., Owens, S., "Studies on a synthetic sitinakite-type silicotitanate cation exchanger. Part 1: Measurement of cation exchange diffusion coefficients", \(2009\) Microporous and Mesoporous Materials, 117 \(1-2\), pp. 304-308.](#)

- [13] [Hammond, R.B., Orley, M.J., Roberts, K.J., Jackson, R.A., Quayle, M.J., "An examination of the influence of divalent cationic dopants on the bulk and surface properties of Ba\(NO<sub>3</sub>\)<sub>2</sub> associated with crystallization", \(2009\) \*Crystal Growth and Design\*, 9 \(6\), pp. 2588-2594.](#)
- [14] [Collier, N.C., Milestone, N.B., Hill, J., Godfrey, I.H., "Immobilisation of Fe floc: Part 2, encapsulation of floc in composite cement", \(2009\) \*Journal of Nuclear Materials\*, 393 \(1\), pp. 92-101.](#)
- [15] [Doran, S.J., Stanley, S.J., Jenneson, P.M., Prott, E., Adamovics, J., "RadBall™: A new departure for 3-D dosimetry", \(2009\) \*Journal of Physics: Conference Series\*, 164, art. no. 012042, .](#)
- [16] [Collier, N.C., Milestone, N.B., Hill, J., Godfrey, I.H., "Immobilisation of Fe floc: Part 1, pre-treatment of floc with slaked lime", \(2009\) \*Journal of Nuclear Materials\*, 393 \(1\), pp. 77-86.](#)
- [17] [Stanley, S., Bolton, G., Bolton, L., Featonby, P., "Process visualization: Seeing is believing", \(2009\) \*Chemical Engineer\*, \(812\), pp. 38-40.](#)
- [18] [Burke, M.G., Hyde, J.M., Boothby, R.M., English, C.A., "Early stages of solute clustering in irradiated 1 Ni -1.3 mn welds", \(2009\) \*Microscopy and Microanalysis\*, 15 \(SUPPL. 2\), pp. 1352-1353.](#)
- [19] [Stanley, S., Bolton, G., Bolton, L., Featonby, P., "Seeing is believing", \(2009\) \*Chemical Engineer\*, \(812\), pp. 38-40.](#)

## Journal & Review Articles - 2008

- [1] [Collier, N.C., Sharp, J.H., Milestone, N.B., Hill, J., Godfrey, I.H., "The influence of water removal techniques on the composition and microstructure of hardened cement pastes", \(2008\) Cement and Concrete Research, 38 \(6\), pp. 737-744.](#)
- [2] [Parkinson, B.G., Holland, D., Smith, M.E., Larson, C., Doerr, J., Affatigato, M., Feller, S.A., Howes, A.P., Scales, C.R., "Quantitative measurement of Q3 species in silicate and borosilicate glasses using Raman spectroscopy", \(2008\) Journal of Non-Crystalline Solids, 354 \(17\), pp. 1936-1942.](#)
- [3] [Reid, H.J., Bashammakh, A.A., Goodall, P.S., Landon, M.R., O'Connor, C., Sharp, B.L., "Determination of iodine and molybdenum in milk by quadrupole ICP-MS", \(2008\) Talanta, 75 \(1\), pp. 189-197.](#)
- [4] [López-Honorato, E., Meadows, P.J., Xiao, P., Marsh, G., Abram, T.J., "Structure and mechanical properties of pyrolytic carbon produced by fluidized bed chemical vapor deposition", \(2008\) Nuclear Engineering and Design, 238 \(11\), pp. 3121-3128.](#)
- [5] [Copping, R., Jonasson, L., Gaunt, A.J., Drennan, D., Collison, D., Helliwell, M., Pirttijarvi, R.J., Jones, C.J., Huguet, A., Apperley, D.C., Kaltsoyannis, N., May, I., "Tetravalent metal complexation by Keggin and lacunary phosphomolybdate anions", \(2008\) Inorganic Chemistry, 47 \(13\), pp. 5787-5798.](#)
- [6] [Stanley, S.J., Bolton, G.T., "A review of recent electrical resistance tomography \(ERT\) applications for wet particulate processing", \(2008\) Particle and Particle Systems Characterization, 25 \(3\), pp. 207-215.](#)
- [7] [Lozano-Perez, S., Schröder, M., Yamada, T., Terachi, T., English, C.A., Grovenor, C.R.M., "Using NanoSIMS to map trace elements in stainless steels from nuclear reactors", \(2008\) Applied Surface Science, 255 \(4\), pp. 1541-1543.](#)
- [8] [Lozano-Perez, S., Kilburn, M.R., Yamada, T., Terachi, T., English, C.A., Grovenor, C.R.M., "High-resolution imaging of complex crack chemistry in reactor steels by NanoSIMS", \(2008\) Journal of Nuclear Materials, 374 \(1-2\), pp. 61-68.](#)
- [9] [Stanek, C.R., Tan, A.H.H., Owens, S.L., Grimes, R.W., "Atomistic simulation of CeO<sub>2</sub> surface hydroxylation: Implications for glass polishing", \(2008\) Journal of Materials Science, 43 \(12\), pp. 4157-4162.](#)
- [10] [Polovov, I.B., Volkovich, V.A., Charnock, J.M., Kralj, B., Lewin, R.G., Kinoshita, H., May, I., Sharrad, C.A., "In situ spectroscopy and spectroelectrochemistry of uranium in high-temperature alkali chloride molten salts", \(2008\) Inorganic Chemistry, 47 \(17\), pp. 7474-7482.](#)
- [11] [Carrott, M.J., Fox, O.D., LeGurun, G., Jones, C.J., Mason, C., Taylor, R.J., Andrieux, F.P.L., Boxall, C., "Oxidation-reduction reactions of simple hydroxamic acids and plutonium\(IV\) ions in nitric acid", \(2008\) Radiochimica Acta, 96 \(6\), pp. 333-343.](#)
- [12] [Gibb, F.G.F., McTaggart, N.A., Travis, K.P., Burley, D., Hesketh, K.W., "High-density support matrices: Key to the deep borehole disposal of spent nuclear fuel", \(2008\) Journal of Nuclear Materials, 374 \(3\), pp. 370-377.](#)
- [13] [Harrison, M.T., Simms, H.E., Jackson, A., Lewin, R.G., "Salt waste treatment from a LiCl-KCl based pyrochemical spent fuel treatment process", \(2008\) Radiochimica Acta, 96 \(4-5\), pp. 295-301.](#)

- [14] [Andrieux, F.P.L., Boxall, C., May, I., Taylor, R.J., "The hydrolysis of hydroxamic acid complexants in the presence of non-oxidizing metal ions 2: Neptunium \(IV\) ions", \(2008\) Journal of Solution Chemistry, 37 \(2\), pp. 215-232.](#)
- [15] [López-Honorato, E., Chiritescu, C., Xiao, P., Cahill, D.G., Marsh, G., Abram, T.J., "Thermal conductivity mapping of pyrolytic carbon and silicon carbide coatings on simulated fuel particles by time-domain thermoreflectance", \(2008\) Journal of Nuclear Materials, 378 \(1\), pp. 35-39.](#)
- [16] [Lawless, W.F., Whitton, J., Poppeliers, C., "Case studies from the United Kingdom and the United States of stakeholder decision making on radioactive waste management", \(2008\) Practice Periodical of Hazardous, Toxic, and Radioactive Waste Management, 12 \(2\), pp. 70-78.](#)
- [17] [Small, J., Nykyri, M., Helin, M., Hovi, U., Sarlin, T., Itävaara, M., "Experimental and modelling investigations of the biogeochemistry of gas production from low and intermediate level radioactive waste", \(2008\) Applied Geochemistry, 23 \(6\), pp. 1383-1418.](#)
- [18] [Rotter, B.E., Barry, D.A., Gerhard, J.I., Small, J.S., "Parameter and process significance in mechanistic modeling of cellulose hydrolysis", \(2008\) Bioresource Technology, 99 \(13\), pp. 5738-5748.](#)
- [19] [Pitois, A., Ivanov, P.I., Abrahamsen, L.G., Bryan, N.D., Taylor, R.J., Sims, H.E., "Magnesium hydroxide bulk and colloid-associated 152Eu in an alkaline environment: Colloid characterisation and sorption properties in the presence and absence of carbonate", \(2008\) Journal of Environmental Monitoring, 10 \(3\), pp. 315-324.](#)
- [20] [Taylor, R.J., Sinkov, S.I., Choppin, G.R., May, I., "Solvent extraction behavior of neptunium \(IV\) ions between nitric acid and diluted 30% tri-butyl phosphate in the presence of simple hydroxamic acids", \(2008\) Solvent Extraction and Ion Exchange, 26 \(1\), pp. 41-61.](#)
- [21] [Quintanilla, M.A.S., Goddard, D.T., "A calibration method for lateral forces for use with colloidal probe force microscopy cantilevers", \(2008\) Review of Scientific Instruments, 79 \(2\), art. no. 023701, .](#)
- [22] [Martin, P., Pelletier, M., Every, D., Buckthorpe, D., "French and United Kingdom experience of high-burnup mixed-oxide fuel in sodium-cooled fast breeder reactors", \(2008\) Nuclear Technology, 161 \(1\), pp. 35-44.](#)
- [23] [Rotter, B.E., Barry, D.A., Gerhard, J.I., Small, J.S., "Modeling U\(VI\) biomineralization in single- and dual-porosity porous media", \(2008\) Water Resources Research, 44 \(8\), art. no. W08437, .](#)
- [24] [Stanley, S.J., Rhodes, D., Jenneson, P.M., Gilboy, W.B., Simons, S.J.R., "See inside: The development of a cosmic ray muon imaging system to aid the clean up of the UK's nuclear waste legacy", \(2008\) Annals of Nuclear Energy, 35 \(3\), pp. 507-517.](#)
- [25] [Banford, A., Eccles, H., Graves, M., Von Lensa, W., Norris, S., "CARBOWASTE - An integrated approach to irradiated graphite", \(2008\) Nuclear Future, 4 \(5\), pp. 268-270.](#)
- [26] [Rushton, M.J.D., Grimes, R.W., Owens, S.L., "Predicted changes to alkali concentration adjacent to glass-crystal interfaces", \(2008\) Journal of the American Ceramic Society, 91 \(5\), pp. 1659-1664.](#)
- [27] [Gras, Ch., Stanley, S.J., "Post-irradiation examination of a fuel pin using a microscopic X-ray system: Measurement of carbon deposition and pin metrology", \(2008\) Annals of Nuclear Energy, 35 \(5\), pp. 829-837.](#)

- [28] [Andrieux, F.P.L., Boxall, C., Taylor, R.J., "Acetohydroxamatoiron\(III\) complexes: Thermodynamics of formation and temperature dependent speciation", \(2008\) Journal of Solution Chemistry, 37 \(11\), pp. 1511-1527.](#)
- [29] [Lee, C.K., Scholey, J.J., Worthington, S.E., Wilcox, P.D., Wisnom, M.R., Friswell, M.I., Drinkwater, B.W., "Acoustic emission from pitting corrosion in stressed stainless steel plate", \(2008\) Corrosion Engineering Science and Technology, 43 \(1\), pp. 54-63.](#)
- [30] [Islam, M.M., Holland, D., Scales, C.R., "Chemical durability and conductivity of mixed borosilicate glasses for high level waste immobilisation", \(2008\) Physics and Chemistry of Glasses: European Journal of Glass Science and Technology Part B, 49 \(5\), pp. 229-236.](#)
- [31] [Stanley, S., "On the RadBall", \(2008\) Nuclear Engineering International, 53 \(644\), pp. 14-15.](#)
- [32] [Shearer, C., Moore, R.G., Zimmerman, C.H., Scafes, C., Worrall, A., Sims, H.E., Fowler, L., "Options for the disposition of UK civil plutonium stocks", \(2008\) Nuclear Future, 4 \(6\), pp. 341-346.](#)
- [33] [Sharp, B.L., Ignjatovic, L.M., Goodall, P.S., "Inductively coupled plasma mass spectrometry, coincidence laser spectroscopy \(ICP-MS-CLS\), simulation of the transmission efficiency of a 3D quadrupole ion trap for cooling energetic ions from the ICP prior to optical detection", \(2008\) Journal of Analytical Atomic Spectrometry, 23 \(7\), pp. 985-991.](#)

## Journal & Review Articles - 2007

- [1] [Steele, H., Taylor, R.J., "A theoretical study of the inner-sphere disproportionation reaction mechanism of the pentavalent actinyl ions", \(2007\) Inorganic Chemistry, 46 \(16\), pp. 6311-6318.](#)
- [2] [Jia, X., Gan, M., Williams, R.A., Rhodes, D., "Validation of a digital packing algorithm in predicting powder packing densities", \(2007\) Powder Technology, 174 \(1-2\), pp. 10-13.](#)
- [3] [Wilkins, M.J., Livens, F.R., Vaughan, D.J., Beadle, I., Lloyd, J.R., "The influence of microbial redox cycling on radionuclide mobility in the subsurface at a low-level radioactive waste storage site", \(2007\) Geobiology, 5 \(3\), pp. 293-301.](#)
- [4] [Carrott, M.J., Fox, O.D., Maher, C.J., Mason, C., Taylor, R., Sinkov, S.I., Choppin, G.R., "Solvent extraction behavior of plutonium \(IV\) ions in the presence of simple hydroxamic acids", \(2007\) Solvent Extraction and Ion Exchange, 25 \(6\), pp. 723-745.](#)
- [5] [Travis, K.P., Bankhead, M., Good, K., Owens, S.L., "New parametrization method for dissipative particle dynamics", \(2007\) Journal of Chemical Physics, 127 \(1\), art. no. 014109, .](#)
- [6] [Sarsfield, M.J., Taylor, R.J., Maher, C.J., "Neptunium\(V\) disproportionation and cation-cation interactions in TBP/kerosene solvent", \(2007\) Radiochimica Acta, 95 \(12\), pp. 677-682.](#)
- [7] [Birkett, J.E., Carrott, M.J., Fox, O.D., Jones, C.J., Maher, C.J., Roubé, C.V., Taylor, R.J., Woodhead, D.A., "Controlling neptunium and plutonium within single cycle solvent extraction flowsheets for advanced fuel cycles", \(2007\) Journal of Nuclear Science and Technology, 44 \(3\), pp. 337-343.](#)
- [8] [Talbot-Eeckelaers, C., Pope, S.J.A., Hynes, A.J., Copping, R., Jones, C.J., Taylor, R.J., Faulkner, S., Sykes, D., Livens, F.R., May, I., "Luminescence from neptunyl\(VI\) species in solution", \(2007\) Journal of the American Chemical Society, 129 \(9\), pp. 2442-2443.](#)
- [9] [Häller, L.J.L., Kaltsoyannis, N., Sarsfield, M.J., May, I., Cornet, S.M., Redmond, M.P., Helliwell, M., "A structural and theoretical investigation of equatorial cis and trans uranyl phosphinimine and uranyl phosphine oxide complexes UO<sub>2</sub>Cl<sub>2</sub>\(Cy<sub>3</sub>PNH\)<sub>2</sub> and UO<sub>2</sub>Cl<sub>2</sub>\(Cy<sub>3</sub>PO\)<sub>2</sub>", \(2007\) Inorganic Chemistry, 46 \(12\), pp. 4868-4875.](#)
- [10] [Zhang, M., Maddrell, E.R., Abraitis, P.K., Salje, E.K.H., "Impact of leach on lead vanado-iodoapatite \[Pb<sub>5</sub>\(VO<sub>4</sub>\)<sub>3</sub>\]: An infrared and Raman spectroscopic study", \(2007\) Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 137 \(1-3\), pp. 149-155.](#)
- [11] [Hastings, J.J., Rhodes, D., Fellerman, A.S., Mckendrick, D., Dixon, C., "New approaches for sludge management in the nuclear industry", \(2007\) Powder Technology, 174 \(1-2\), pp. 18-24.](#)
- [12] [Parkinson, B.G., Holland, D., Smith, M.E., Howes, A.P., Scales, C.R., "Effect of minor additions on structure and volatilization loss in simulated nuclear borosilicate glasses", \(2007\) Journal of Non-Crystalline Solids, 353 \(44-46\), pp. 4076-4083.](#)

- [13] [John, G.H., May, I., Sarsfield, M.J., Collison, D., Helliwell, M., "Dimeric uranyl complexes with bridging perhenates", \(2007\) Dalton Transactions, \(16\), pp. 1603-1610.](#)
- [14] [Pagliai, P., Simons, S.J.R., Rhodes, D., "A novel experimental study of temperature enhanced cohesive interparticle forces", \(2007\) Powder Technology, 174 \(1-2\), pp. 71-74.](#)
- [15] [Andrieux, F.P.L., Boxall, C., Taylor, R.J., "The hydrolysis of hydroxamic acid complexants in the presence of non-oxidizing metal ions 1: Ferric ions", \(2007\) Journal of Solution Chemistry, 36 \(10\), pp. 1201-1217.](#)
- [16] [Ruozhou, H., Mahmud, T., Prodromidis, N., Roberts, K.J., Williams, R.A., Goddard, D.T., Semeraz, T., "Synthesis of UO<sub>2</sub>F<sub>2</sub> nanoparticles in a tubular aerosol reactor: Reactor design and experimental investigations", \(2007\) Industrial and Engineering Chemistry Research, 46 \(7\), pp. 2020-2033.](#)
- [17] [Wogelius, R.A., Morris, P.M., Kertesz, M.A., Chardon, E., Stark, A.I.R., Warren, M., Brydie, J.R., "Mineral surface reactivity and mass transfer in environmental mineralogy", \(2007\) European Journal of Mineralogy, 19 \(3\), pp. 297-307.](#)
- [18] [Worrall, A., Gregg, R., "Scenario analyses of future UK fuel cycle options", \(2007\) Journal of Nuclear Science and Technology, 44 \(3\), pp. 249-256.](#)
- [19] [Sinkov, S.I., Choppin, G.R., Taylor, R.J., "Spectrophotometry and luminescence spectroscopy of acetohydroxamate complexes of trivalent lanthanide and actinide ions", \(2007\) Journal of Solution Chemistry, 36 \(6\), pp. 815-830.](#)
- [20] [May, I., Copping, R., Cornet, S.M., Talbot-Eeckeleers, C.E., Gaunt, A.J., John, G.H., Redmond, M.P., Sharrad, C.A., Sutton, A.D., Collison, D., Fox, O.D., Jones, C.J., Sarsfield, M.J., Taylor, R.J., "Actinyl chemistry at the Centre for Radiochemistry Research", \(2007\) Journal of Alloys and Compounds, 444-445 \(SPEC. ISS.\), pp. 383-386.](#)
- [21] [Koltunov, V.S., Zhuravleva, G.I., Marchenko, V.I., Dvoeglazov, K.N., Savilova, O.A., Koltunov, G.V., Taylor, R.J., Bankhead, M., "Kinetics and mechanism of the plutonium catalysed nitric acid oxidation of U\(IV\) ions in 30% tributyl phosphate solution", \(2007\) Radiochimica Acta, 95 \(10\), pp. 559-567.](#)
- [22] [Holland, D., Parkinson, B.G., Islam, M.M., Duddridge, A., Roderick, J.M., Howes, A.P., Scales, C.R., "NMR insights into wasteforms for the vitrification of high-level nuclear waste", \(2007\) Applied Magnetic Resonance, 32 \(4\), pp. 483-497.](#)
- [23] [Sharp, B.L., Goodall, P.S., Ignjatovic, L.M., Teng, H., "Coincidence laser spectroscopy \(CLS\) for the detection of ions in ICP-MS \(ICP-MS-CLS\). A feasibility study", \(2007\) Journal of Analytical Atomic Spectrometry, 22 \(12\), pp. 1447-1470.](#)
- [24] [Rice, G., Miles, N., Farris, S., "Approaches to control the quality of cementitious PFA grouts for nuclear waste encapsulation", \(2007\) Powder Technology, 174 \(1-2\), pp. 56-59.](#)
- [25] [Norman, P., Worrall, A., Hesketh, K., "A new dawn for nuclear power", \(2007\) Physics World, 20 \(7\), pp. 25-30.](#)
- [26] [Cornet, S.M., May, I., Sarsfield, M.J., Kaltsoyannis, N., Haller, J., Auwer, C.D., Meyer, D., "Actinyl chemistry across the U, Np and Pu series", \(2007\) Journal of Alloys and Compounds, 444-445 \(SPEC. ISS.\), pp. 453-456.](#)



[27] [Cattle, B.A., "A model problem for restricted-data gamma ray emission tomography of highly active nuclear waste", \(2007\) Annals of Nuclear Energy, 34 \(7\), pp. 591-599.](#)

[28] [Willans, S.M., Galais, N.C.M., Lennon, C.P., Trivedi, D.P., "ReCLAIM v2.0: A spreadsheet tool for calculating doses and soil/water radionuclide screening levels for assessment of radioactively contaminated land", \(2007\) Journal of Radiological Protection, 27 \(1\), art. no. N01, pp. 87-93.](#)

[29] [John, G.H., May, I., Sarsfield, M.J., Collison, D., Helliwell, M., "Dimeric uranyl complexes with bridging perrhenates", \(2007\) Journal of the Chemical Society. Dalton Transactions, \(16\), pp. 1603-1610.](#)

## Conference Papers – 2019

- [1] [Coleman, J., Metelko, C., Murdoch, M., Schnellbach, Y., Touramanis, C., Mills, R., Mountford, D., "VIDARR: Aboveground Reactor Monitoring", \(2019\) Journal of Physics: Conference Series, 1216 \(1\), art. no. 012007, .](#)
- [2] [Tinsley, T., Sarsfield, M., Stephenson, K., Ambrosi, R., "Progress and future roadmap on 241Am production for use in Radioisotope Power Systems", \(2019\) IEEE Aerospace Conference Proceedings, 2019-March, art. no. 8741817, .](#)
- [3] [Watkinson, E.J., Ambrosi, R., Freis, D., Lajarge, P., Vigier, J.-F., Bouexiere, D., Nourry, S., Konings, R., Tinsley, T., Sarsfield, M., Stephenson, K., Najorka, J., "Americium Oxide Surrogate Studies: Pursuing European Radioisotope Power Systems Fuel Form Development", \(2019\) IEEE Aerospace Conference Proceedings, 2019-March, art. no. 8741815, .](#)
- [4] [Ambrosi, R., Watkinson, E.J., Barco, A., Mesalam, R., Crawford, T., Bicknell, C., Williams, H., Perkinson, M.-C., Burgess, C., Gibson, S., Stroud, C., Godfrey, A., Merrifield, J., Kramer, D., Barklay, C., Stephenson, K., Reece, M.J., Simpson, K., Tuley, R., Tinsley, T., Sarsfield, M., "Radioisotope Power Systems for the European Space Nuclear Power Program", \(2019\) IEEE Aerospace Conference Proceedings, 2019-March, art. no. 8742245, .](#)
- [5] [Horner, D.A., Lowden, M., Nevitt, P., Quirk, G., "Hydrogen assisted cracking studies of a 12% chromium martensitic stainless steel—influence of hardness, stress and environment", \(2019\) Minerals, Metals and Materials Series, pp. 1051-1065.](#)
- [6] [Sayers, J., Ortner, S., Li, K., Lozano-Perez, S., "Effect of ph on hydrogen pick-up and corrosion in zircaloy-4", \(2019\) Minerals, Metals and Materials Series, pp. 1169-1180.](#)

## Conference Papers – 2018

- [1] [Gornicki, K., Groves, K., Carrasco, J., Lennox, B., "The Pond Cleaning System", \(2018\) 2018 UKACC 12th International Conference on Control, CONTROL 2018, art. no. 8516738, p. 366.](#)
- [2] [Prentice, D.P., Bernal, S.A., Bankhead, M., Hayes, M., Provis, J.L., "Phase evolution of slag-rich cementitious grouts for immobilisation of nuclear wastes", \(2018\) Advances in Cement Research, 30 \(8\), pp. 345-360.](#)
- [3] [Sanderson, R.A., Cann, G.M., Provis, J.L., "The effect of blast-furnace slag particle size on the hydration of slag-Portland cement grouts at elevated temperatures", \(2018\) Advances in Cement Research, 30 \(8\), pp. 337-344.](#)
- [4] [Summan, R., Jackson, W., Dobie, G., Macleod, C., Mineo, C., West, G., Offin, D., Bolton, G., Marshall, S., Lille, A., "A novel visual pipework inspection system", \(2018\) AIP Conference Proceedings, 1949, art. no. 220001, .](#)
- [5] [Kerry, T., Banford, A.W., Bower, W., Thompson, O.R., Carey, T., Mosselmans, J.F.W., Ignatyev, K., Sharrad, C.A., "Uranium Contamination of Stainless Steel in Nuclear Processing Plants", \(2018\) Industrial and Engineering Chemistry Research, 57 \(11\), pp. 3957-3962.](#)
- [6] [Mills, R.W., Mountford, D.J., Coleman, J.P., Metelko, C., Murdoch, M., Schnellbach, Y.-J., "Modelling of the anti-neutrino production and spectra from a Magnox reactor", \(2018\) EPJ Web of Conferences, 170, art. no. 07008, .](#)
- [7] [Carrott, M., Colledge, H., Dodds, J., Farrer, M., Gregson, C., Holt, J., Mason, C., Orr, R., Sarsfield, M., Sims, H.E., Taylor, R.J., Walton, L., Woodall, S., Woodhead, D., Hobbs, J., Steele, H., "The Sellafield plutonium storage can surveillance programme: Characterization of PuO<sub>2</sub> after extended storage", \(2018\) Plutonium Futures - The Science 2018, pp. 56-57.](#)
- [8] [Cooper, A.J., Burnett, T.L., Tuck, O.C.G., Sherry, A.H., "Challenges associated with the quantitative analysis of ductile damage using X-ray computed tomography", \(2018\) American Society of Mechanical Engineers, Pressure Vessels and Piping Division \(Publication\) PVP, 6B-2018, .](#)
- [9] [Kuo, E.Y., Gregg, D.J., Vance, E.R., Maddrell, E.R., Lumpkin, G.R., "Radioactive Iodine-129 Capture in Mixed Cation Sodalites: Ab initio Modelling", \(2018\) MRS Advances, 3 \(20\), pp. 1105-1110.](#)
- [10] [Cooper, A.J., Tuck, O.G.C., Burnett, T.L., Sherry, A.H., "Ductile fracture assessment of 304l stainless steel using 3D X-ray computed tomography", \(2018\) Minerals, Metals and Materials Series, Part F12, pp. 737-754.](#)
- [11] [Sayers, J., Ortner, S., Li, K., Lozano-Perez, S., "Effect of pH on hydrogen pick-up and corrosion in zircaloy-4", \(2018\) Minerals, Metals and Materials Series, Part F9, pp. 1169-1180.](#)
- [12] [Geddes, D.A., Ke, X., Bernal, S.A., Hayes, M., Provis, J.L., "Metakaolin-based geopolymers for nuclear waste encapsulation", \(2018\) RILEM Bookseries, 16, pp. 183-188.](#)
- [13] [Clark, R.N., Payton, O., Knapp, J., Picco, L., Laferrère, A., Walters, W.S., Moore, S., Burrows, R., "Development of an adapted electrochemical noise technique for in-situ corrosion monitoring of spent nuclear fuel aqueous storage environments", \(2018\) NACE - International Corrosion Conference Series, 2018-April, .](#)

- [14] [Horner, D.A., Lowden, M., Nevitt, P., Quirk, G., "Hydrogen assisted cracking studies of a 12% chromium martensitic stainless steel—influence of hardness, stress and environment", \(2018\) Minerals, Metals and Materials Series, Part F9, pp. 1051-1065.](#)
- [15] [Jones, L., Orr, R., Sims, H., Pimblott, S., "Radiolytic gas generation from adsorbed water on the surface of PuO<sub>2</sub>", \(2018\) Plutonium Futures - The Science 2018, pp. 113-114.](#)
- [16] [Donoclift, T.A., Orr, R.M., Sims, H.E., Pimblott, S.M., "A catalytic approach to thermal recombination of H<sub>2</sub> and O<sub>2</sub> over the surface of PuO<sub>2</sub> and PuO<sub>2</sub> surrogates", \(2018\) Plutonium Futures - The Science 2018, pp. 369-370.](#)
- [17] [Nanstad, R.K., Sokolov, M.A., Ortner, S.R., Styman, P.D., "Neutron and thermal embrittlement of RPV steels: An overview", \(2018\) ASTM Special Technical Publication, STP 1603, pp. 68-106.](#)
- [18] [Wilford, K., Ortner, S., Chivers, K., "UK surveillance schemes", \(2018\) ASTM Special Technical Publication, STP 1603, pp. 296-306.](#)
- [19] [Topping, M., Harte, A., Frankel, P., Race, C., Sundell, G., Thuvander, M., Andrén, H.-O., Jadernas, D., Tejlund, P., Romero, J.E., Darby, E.C., Dumbill, S., Hallstadius, L., Preuss, M., "The effect of iron on dislocation evolution in model and commercial zirconium alloys", \(2018\) ASTM Special Technical Publication, STP 1597, pp. 796-822.](#)
- [20] [Lindley, B., Allen, D., Lillington, J., Smethurst, A., Smith, P., Bowman, D., Dwyer, L., Lai, K., Levers, A., Vikhorev, K., Litskevich, D., Merk, B., Patelli, E., Patterson, E., Bankhead, M., Peakman, A., De Haas, S., Jackson, C., Draup, J., Galenne, E., Parks, G., Shwageraus, E., Eaton, M.D., "Modelling and simulation activities in support of the UK nuclear r&d programme on digital reactor design", \(2018\) International Conference on Nuclear Engineering, Proceedings, ICONE, 3, .](#)
- [21] [Merk, B., Allen, D., Bankhead, M., Bowen, A., Bowman, D., De Haas, S., Draup, J., Dwyer, L., Eaton, M., Galenne, E., Jackson, C., Lai, C.K., Levers, A., Lindley, B., Litskevich, D., Mason, L., Parks, G., Patelli, E., Patterson, E., Peakman, A., Shwageraus, E., Smethurst, A., Smith, P., Toland, A., Vikhorev, K., "The UK nuclear r&d programme on digital nuclear reactor design - modelling, simulation, and virtual engineering", \(2018\) Proceedings of the 2018 International Congress on Advances in Nuclear Power Plants, ICAPP 2018, pp. 1085-1090.](#)

## Conference Papers - 2017

- [1] [Mills, R.W., "A new GBR fission yield evaluation GBRFY3.7", \(2017\) EPJ Web of Conferences, 146, art. no. 04008, .](#)
- [2] [Burnett, T.L., Holroyd, N.J.H., Lewandowski, J.J., Ogurreck, M., Rau, C., Kelley, R., Pickering, E.J., Daly, M., Sherry, A.H., Pawar, S., Slater, T.J.A., Withers, P.J., "Degradation of metallic materials studied by correlative tomography", \(2017\) IOP Conference Series: Materials Science and Engineering, 219 \(1\), art. no. 012001, .](#)
- [3] [Tinsley, T., Sarsfield, M., Stephenson, K., "Update on<sup>241</sup>Am production for use in Radioisotope Power Systems", \(2017\) IEEE Aerospace Conference Proceedings, art. no. 7943562, .](#)
- [4] [Kramer, D.P., Ambrosi, R., Sarsfield, M., Watkinson, E.J., Mesalam, R., Williams, H., Barklay, C., Tinsley, T., Goodrich, S., Pierson, T., Whiting, C., "Recent Joint Studies Related to the Development of Space Radioisotope Power Systems", \(2017\) E3S Web of Conferences, 16, art. no. 05002, .](#)
- [5] [Sarsfield, M.J., Campbell, C., Carrigan, C., Carrott, M.J., Colle, J.-Y., Freis, D., Gregson, C., Griffiths, T., Holt, J., Lajarge, P., Maher, C.J., Manara, D., McLuckie, B., Mason, C., Naji, M., Taylor, R.J., Tinsley, T., Somers, J., Stephenson, K., Vigier, J.-F., "The Separation of <sup>241</sup>Am from Aged Plutonium Dioxide for use in Radioisotope Power Systems", \(2017\) E3S Web of Conferences, 16, art. no. 05003, .](#)
- [6] [Marturi, N., Rastegarpanah, A., Takahashi, C., Adjigble, M., Stolkin, R., Zurek, S., Kopicki, M., Talha, M., Kuo, J.A., Bekiroglu, Y., "Towards advanced robotic manipulation for nuclear decommissioning: A pilot study on tele-operation and autonomy", \(2017\) International Conference on Robotics and Automation for Humanitarian Applications, RAHA 2016 - Conference Proceedings, art. no. 7931866, .](#)
- [7] [Martin, T.L., London, A.J., Jenkins, B., Hopkin, S.E., Douglas, J.O., Styman, P.D., Bagot, P.A.J., Moody, M.P., "Comparing the Consistency of Atom Probe Tomography Measurements of Small-Scale Segregation and Clustering between the LEAP 3000 and LEAP 5000 Instruments", \(2017\) Microscopy and Microanalysis, 23 \(2\), pp. 227-237.](#)
- [8] [Zelenty, J., Dahl, A., Hyde, J., Smith, G.D.W., Moody, M.P., "Detecting Clusters in Atom Probe Data with Gaussian Mixture Models", \(2017\) Microscopy and Microanalysis, 23 \(2\), pp. 269-278.](#)
- [9] [Hyde, J.M., Dacosta, G., Hatzoglou, C., Weekes, H., Radiguet, B., Styman, P.D., Vurpillot, F., Pareige, C., Etienne, A., Bonny, G., Castin, N., Malerba, L., Pareige, P., "Analysis of Radiation Damage in Light Water Reactors: Comparison of Cluster Analysis Methods for the Analysis of Atom Probe Data", \(2017\) Microscopy and Microanalysis, 23 \(2\), pp. 366-375.](#)
- [10] [Tinsley, T., Sarsfield, M., "<sup>241</sup>Am production for use in Radioisotope Power Systems", \(2017\) Transactions of the American Nuclear Society, 117, pp. 1319-1320.](#)
- [11] [O'Neill, A., "Demonstrating compliance with moderator content limits in uranium dioxide powder upon leaving a furnace environment", \(2017\) ANS NCS D - 2017 Nuclear Criticality Safety Division Topical Meeting: Criticality Safety - Pushing Boundaries by Modernizing and Integrating Data, Methods, and Regulations, 2017-September, .](#)

- [12] [Carmack, J., Mathers, D., "U.S. And U.K. International collaboration on nuclear R&D-nuclear fuels and materials", \(2017\) Transactions of the American Nuclear Society, 117, pp. 1313-1314.](#)
- [13] [Mlejnkova, P., Patelli, E., Grundy, C., Hodgson, Z., "Influence of trust in institutions on public acceptance of nuclear power from a historical context across nuclear countries", \(2017\) Risk, Reliability and Safety: Innovating Theory and Practice - Proceedings of the 26th European Safety and Reliability Conference, ESREL 2016, p. 472.](#)
- [14] [Merk, B., Bankhead, M., Dwyer, L., Bowen, A., "The UK national program R&D on digital nuclear reactor design", \(2017\) Transactions of the American Nuclear Society, 117, pp. 1328-1330.](#)
- [15] [Moore, S., Burrows, R., Picco, L., Scott, T., Laferrere, A., Martin, P.G., Payton, O.D., "Investigating corrosion using high-speed AFM", \(2017\) EUROCORR 2017 - The Annual Congress of the European Federation of Corrosion, 20th International Corrosion Congress and Process Safety Congress 2017, .](#)
- [16] [Lowden, M., Horner, T., Nevitt, P., Quirk, G., Barrow, A., "Effect of material hardness and microstructure on the susceptibility of martensitic stainless steels to corrosion and stress corrosion cracking", \(2017\) EUROCORR 2017 - The Annual Congress of the European Federation of Corrosion, 20th International Corrosion Congress and Process Safety Congress 2017, .](#)
- [17] [Howett, E., Boxall, C., Hambley, D., "AGR Cladding Corrosion: Investigation of the Effect of Temperature on Unsensitized Stainless Steel", \(2017\) MRS Advances, 2 \(11\), pp. 615-620.](#)
- [18] [Laventine, D., Wilbraham, R., Boxall, C., Taylor, R., Orr, R., "Direct mass analysis of water absorption onto ceria thin films", \(2017\) MRS Advances, 2 \(12\), pp. 649-654.](#)
- [19] [Tzagkaroulakis, I., Boxall, C., Trivedi, D., "Real-Time Nanogravimetric Monitoring of Corrosion in Radioactive Decontamination Systems", \(2017\) MRS Advances, 2 \(10\), pp. 577-582.](#)
- [20] [Angelici Avincola, V., Fitzgerald, K., Shepherd, D., Kinay, D., Sauder, C., Steinbrueck, M., "High-temperature tests of silicon carbide composite cladding under GFR conditions", \(2017\) Energy Procedia, 127, pp. 320-328.](#)

## Conference Papers - 2016

- [1] [Ortenzi, V., Marturi, N., Stolkin, R., Kuo, J.A., Mistry, M., "Vision-guided state estimation and control of robotic manipulators which lack proprioceptive sensors", \(2016\) IEEE International Conference on Intelligent Robots and Systems, 2016-November, art. no. 7759525, pp. 3567-3574.](#)
- [2] [Guangliang, Y., Clarkson, A., Hamilton, D., Hoek, M., Ireland, D., Johnstone, R., Kaiser, R., Keri, T., Lumsden, S., Mahon, D., McKinnon, B., Murray, M., Nutbeam-Tuffs, S., Shearer, C., Zimmermann, C., "Application of muon tomography to encapsulated nuclear waste", \(2016\) 2015 IEEE 12th International Conference on Electronic Measurement and Instruments, ICEMI 2015, 3, art. no. 7494465, pp. 1359-1362.](#)
- [3] [Rayment, F., "Nuclear fuel cycles in the U.K.", \(2016\) Radwaste Solutions, 23 \(1\), pp. 48-51.](#)
- [4] [Summan, R., Pierce, G., Macleod, C., Mineo, C., Riise, J., Morozov, M., Dobie, G., Bolton, G., Raude, A., Dalpé, C., Braumann, J., "Conformable eddy current array delivery", \(2016\) AIP Conference Proceedings, 1706, art. no. 170003,](#)  
:
- [5] [Seal, C.K., Sherry, A.H., "Weibull distribution of brittle failures in the transition region", \(2016\) Procedia Structural Integrity, 2, pp. 1668-1675.](#)
- [6] [Harrison, M.T., Steele, C.J., "Vitrification of simulated highly active calcines containing high concentrations of sodium and molybdenum", \(2016\) MRS Advances, 1 \(63-64\), pp. 4233-4238.](#)
- [7] [Thorner, S., Heath, P., Maddrell, E., Stennett, M.C., Hyatt, N.C., "Investigation of Processing Parameters for the Consolidation of Actinide Glass-Ceramic Wasteforms by Hot Isostatic Pressing", \(2016\) MRS Advances, 1 \(63-64\), pp. 4269-4274.](#)
- [8] [Peterson, J., Sunny, E., Gregg, R., "Impact of using cross sections versus recipes in transition fuel cycle analysis using ORION", \(2016\) Transactions of the American Nuclear Society, 115, pp. 266-268.](#)
- [9] [Tinsley, T., Rayment, F., "Going from closed to open and then back again: How to keep a level head", \(2016\) Transactions of the American Nuclear Society, 115, pp. 251-253.](#)
- [10] [Sayers, J., Lozano-Perez, S., Ortner, S., "Effect of pH on hydrogen pick-up and corrosion in Zircaloy-4", \(2016\) Top Fuel 2016: LWR Fuels with Enhanced Safety and Performance, pp. 1255-1265.](#)
- [11] [Morozov, M., Pierce, S.G., Dobie, G., Bolton, G.T., Bennett, T., "Robotic ultrasonic inspection of AGR fuel cladding", \(2016\) 55th Annual Conference of the British Institute of Non-Destructive Testing, NDT 2016, pp. 187-197.](#)
- [12] [Kramer, D.P., Ambrosi, R.M., Watkinson, E.J., Goodrich, S.M., Barklay, C.D., Vernon, E., Sarsfield, M., Tinsley, T., "Recent university of dayton and university of leicester collaborations related to radioisotope power systems \(rps\) and nuclear energy technology", \(2016\) Nuclear and Emerging Technologies for Space, NETS 2018, pp. 298-301.](#)
- [13] [Stolkin, R., Kim, J.-H., Leonardis, A., Lee, J.-C., Mistry, M., Choi, Y.-R., Kuo, J., "Robotic system for retrieval of contaminated materials from hazardous zones - A project of the UK-Korea Civil Nuclear Collaboration Program", \(2016\) D and RS 2016 - Decommissioning and Remote Systems, pp. 83-86.](#)

- [14] [Barco, A., Ambrosi, R.M., Crawford, T., Williams, H.R., Godfrey, A., Stroud, C., Stephenson, K., Bicknell, C., Watkinson, E.J., Mesalam, R., Sarsfield, M., Tinsley, T., Chowanietz, M., Cockrill, M., "Design, development and testing of an<sup>241</sup>Am-fuelled rhu for the esa program", \(2016\) Nuclear and Emerging Technologies for Space, NETS 2018, pp. 246-249.](#)
- [15] [Watkinson, E.J., Najorka, J., Ambrosi, R.M., Sarsfield, M.J., Vernon, E., Tinsley, T., Stephenson, K., "High-temperature x-ray diffraction studies of americium oxide surrogates", \(2016\) Nuclear and Emerging Technologies for Space, NETS 2018, pp. 13-16.](#)
- [16] [Goddard, D.T., Mathers, D.P., Eaves, D.G., Xu, P., Lahoda, E.J., Harp, J.M., "Manufacturability of U<sub>3</sub>Si<sub>2</sub> and its high temperature oxidation behaviour", \(2016\) Top Fuel 2016: LWR Fuels with Enhanced Safety and Performance, pp. 31-39.](#)
- [17] [Kuras, O., Shreeve, J., Smith, N., Graham, J., Atherton, N., "Enhanced characterisation of radiologically contaminated sediments at sellafield by MSCL core logging and X-ray imaging", \(2016\) 22nd European Meeting of Environmental and Engineering Geophysics, Near Surface Geoscience 2016, .](#)
- [18] [Oriol, S., Masson, F., Tinsley, T., Stainsby, R., Hodgson, Z., Detsis, E., Worms, J.-C., Koroteev, A.A., Semenkin, A., Solodukhin, A., Jansen, F., Bauer, W., Ferraris, S., Tosi, M.C., Muszynski, M., Lassoudiere, F., "DEMOCRITOS: Development logic for a demonstrator preparing nuclear-electric spacecraft", \(2016\) Nuclear and Emerging Technologies for Space, NETS 2016, pp. 50-60.](#)
- [19] [Ambrosi, R., Williams, H., Perkinson, M.-C., Watkinson, E.J., Mesalam, R., Reed, J., Reece, M., Simpson, K., Stroud, C., Gibson, S., Sarsfield, M., Tinsley, T., Townend, M., Stephenson, K., "European radioisotope-based space nuclear power systems", \(2016\) Proceedings of the International Astronautical Congress, IAC, .](#)
- [20] [Ambrosi, R.M., Williams, H., Watkinson, E.J., Barco, A., Mesalam, R., Crawford, T., Bicknell, C., Sykes, J., Stephenson, K., Perkinson, M.-C., Burgess, C., Reece, M., Chen, K., Simpson, K., Robbins, M., Tuley, R., Gibson, S., Godfrey, A., Stroud, C., Sarsfield, M., Tinsley, T., Fongarland, C., Libessart, M., Kramer, D.P., Barklay, C., Whiting, C.E., "The european space nuclear power program: Development of radioisotope thermoelectric generators and heater units", \(2016\) Nuclear and Emerging Technologies for Space, NETS 2018, pp. 254-257.](#)



## Conference Papers - 2015

- [1] [Ortenzi, V., Stolkin, R., Kuo, J.A., Mistry, M., "Projected inverse dynamics control and optimal control for robots in contact with the environment: A comparison", \(2015\) IEEE International Conference on Intelligent Robots and Systems, 2015-December, art. no. 7353942, pp. 4009-4015.](#)
- [2] [Sherriff, N., Issa, R., Morris, K., Livens, F., Heath, S., Bryan, N., "Reversibility in radionuclide/bentonite bulk and colloidal ternary systems", \(2015\) Mineralogical Magazine, 79 \(6\), pp. 1307-1315.](#)
- [3] [Kuippers, G., Bassil, N.M., Boothman, C., Bryan, N., Lloyd, J.R., "Microbial degradation of isosaccharinic acid under conditions representative for the far field of radioactive waste disposal facilities", \(2015\) Mineralogical Magazine, 79 \(6\), pp. 1443-1454.](#)
- [4] [Bryan, N., Jones, D., Keepax, R., Farrelly, D., Abrahamsen, L., Beard, R., Li, N., Weir, G., "Factors affecting the dissociation of metal ions from humic substances", \(2015\) Mineralogical Magazine, 79 \(6\), pp. 1397-1405.](#)
- [5] [Bassil, N.M., Bewsher, A.D., Thompson, O.R., Lloyd, J.R., "Microbial degradation of cellulosic material under intermediate-level waste simulated conditions", \(2015\) Mineralogical Magazine, 79 \(6\), pp. 1433-1441.](#)
- [6] [Direito, S.O.L., Clark, S., Cousins, C., Fujita, Y., Gluyas, J., Harley, S., Holmes, R.J., Hutchinson, I.B., Kudryavtsev, V.A., Lloyd, J., Main, I.G., Naylor, M., Payler, S., Smith, N., Spooner, N.J.C., Telfer, S., Thompson, L.F., Wouters, K., Wragg, J., Cockell, C., "Geological repositories: Scientific priorities and potential high-technology transfer from the space and physics sectors", \(2015\) Mineralogical Magazine, 79 \(6\), pp. 1651-1664.](#)
- [7] [Rayment, F., Mathers, D., Tinsley, T., "Plutonium disposition R&D within the United Kingdom", \(2015\) Transactions of the American Nuclear Society, 113, pp. 313-314.](#)
- [8] [Rayment, F., Tinsley, T., Taylor, R., Gregg, R., "Moving from closed to open fuel cycle within the UK while keeping future fuel cycle options open", \(2015\) Transactions of the American Nuclear Society, 112, pp. 139-141.](#)
- [9] [Mathers, D., Stainsby, R., Johnston, E., Goddard, D., "Developments in fuel fabrication R&D within the UK", \(2015\) Transactions of the American Nuclear Society, 112, pp. 142-143.](#)
- [10] [Carroll, T., Harris, N., Rendell, J.R., Cumming, C., "The development of criticality response materials", \(2015\) ICNC 2015 - International Conference on Nuclear Criticality Safety, pp. 692-701.](#)
- [11] [Hill, D.A., "Recent activities of the UK working party on criticality", \(2015\) ICNC 2015 - International Conference on Nuclear Criticality Safety, pp. 1584-1590.](#)
- [12] [Harris, N., "The unforeseen component of risk when considering the need for a criticality accident alarm system", \(2015\) ICNC 2015 - International Conference on Nuclear Criticality Safety, pp. 1529-1536.](#)
- [13] [Tinsley, T., Mathers, D., "Opportunities to reuse and recycle redundant radioisotopes", \(2015\) Transactions of the American Nuclear Society, 113, pp. 304-306.](#)

- [14] [Head, W.S., Hodgetts, D., Smith, N.T., "Integrating terrestrial laser scan data with dem for regional scale fault and fracture modelling", \(2015\) 77th EAGE Conference and Exhibition 2015: Earth Science for Energy and Environment, pp. 1090-1094.](#)
- [15] [Clark, R.A., Punzo, G., Dobie, G., Macleod, C.N., Summan, R., Pierce, G., Macdonald, M., Bolton, G., "3D model generation using an airborne swarm", \(2015\) AIP Conference Proceedings, 1650, pp. 1460-1467.](#)
- [16] [Hill, D.A., Wadeson, T.G., "The application of ALARP to legacy residues recovery processes on the Springfields site in the United Kingdom", \(2015\) ICNC 2015 - International Conference on Nuclear Criticality Safety, pp. 139-145.](#)
- [17] [Clarkson, A., Ireland, D.G., Jebali, R.A., Kaiser, R., Lumsden, S., Mahon, D., Mountford, D., Ryan, M., Shearer, C., Yang, G., "Characterising encapsulated nuclear waste using cosmic-ray Muon Tomography \(MT\)", \(2015\) 2015 4th International Conference on Advancements in Nuclear Instrumentation Measurement Methods and their Applications, ANIMMA 2015, art. no. 7465529, .](#)
- [18] [Morozov, M., Pierce, S.G., Bolton, G.T., "Eddy Current Testing of AGR fuel cladding", \(2015\) 54th Annual British Conference of Non-Destructive Testing, NDT 2015, .](#)
- [19] [Ortenzi, V., Adigible, M., Kuo, J.A., Stolkin, R., Mistry, M., "An experimental study of robot control during environmental contacts based on projected operational space dynamics", \(2015\) IEEE-RAS International Conference on Humanoid Robots, 2015-February, art. no. 7041392, pp. 407-412.](#)
- [20] [Watkinson, E.J., Ambrosi, R., Williams, H., Sarsfield, M., Stephenson, K., "Americium oxide space radioisotope power systems: Cerium-neodymium oxide surrogate studies", \(2015\) Transactions of the American Nuclear Society, 113, pp. 13-15.](#)
- [21] [Summan, R., Dobie, G., Guarato, F., Macleod, C., Marshall, S., Forrester, C., Pierce, G., Bolton, G., "Image mosaicing for automated pipe scanning", \(2015\) AIP Conference Proceedings, 1650, pp. 1334-1342.](#)
- [22] [Laferrere, A., Burrows, R., Clark, R., Glover, C., Williams, G., Payton, O., Picco, L., "In situ imaging of corrosion processes in nuclear fuel cladding", \(2015\) European Corrosion Congress, EUROCORR 2015, 1, pp. 616-625.](#)
- [23] [Serikov, A., Bertalot, L., Clough, M., Fischer, U., Suarez, A., "Neutronics analysis for ITER cable looms", \(2015\) Fusion Engineering and Design, 96-97, pp. 943-947.](#)
- [24] [Johal, S.K., Boxall, C., Gregson, C., Steele, C.J., "Ruthenium volatilisation from reprocessed spent nuclear fuel - Studying the baseline thermodynamics of Ru\(III\)", \(2015\) ECS Transactions, 66 \(21\), pp. 31-42.](#)
- [25] [Rauff-Nisthar, N., Boxall, C., Hambley, D., Hiezl, Z., Padovani, C., Wilbraham, R., "Corrosion behaviour of AGR SIMFUELS", \(2015\) ECS Transactions, 66 \(17\), pp. 85-94.](#)
- [26] [Tinsley, T., Mason, F., Detsis, E., Gaia, E., Hodgson, Z., Jansen, F., Semenkin, A., Ruault, J.-M., Worms, J.-C., "MEGAHIT: Conclusion of the development of the advanced propulsion roadmap for HORIZON2020", \(2015\) Nuclear and Emerging Technologies for Space, NETS 2015, pp. 50-57.](#)

[27] [Mori, N., Ambrosino, F., Bonechi, L., Cimmino, L., D'Alessandro, R., Ireland, D., Kaiser, R., Mahon, D., Noli, P., Saracino, G., Shearer, C., Viliani, L., Yang, G., "Feasibility study of detection of high-Z material in nuclear waste storage facilities with atmospheric muons", \(2015\) Proceedings of Science, 30-July-2015, art. no. 563, .](#)

[28] [Masson, F., Ruault, J.-M., Worms, J.-C., Detsis, E., Beaurain, A., Lassouiere, F., Gaia, E., Tosi, M.C., Jansen, F., Bauer, W., Semenkm, A., Tinsley, T., Hodgson, M.Z., "Democritos: Preparing demonstrators for high power nuclear electric space propulsion", \(2015\) Nuclear and Emerging Technologies for Space, NETS 2015, pp. 68-75.](#)

[29] [Jansen, F., Bauer, W., Masson, F., Ruault, J.-M., Worms, J.-C., Detsis, E., Lassoudiere, F., Granjon, R., Gaia, E., Ferraris, S., Tosi, M.C., Koroteev, A.S., Semenkin, A.V., Solodukhin, A., Tinsley, T., Hodgson, Z., Guimarães, L.N.F., "Step-by-step realization of the International Nuclear Power and Propulsion System \(INPPS\) mission", \(2015\) Proceedings of the International Astronautical Congress, IAC, 10, pp. 7716-7724.](#)

## Conference Papers - 2014

- [1] [Stork, D., Agostini, P., Boutard, J.-L., Buckthorpe, D., Diegele, E., Dudarev, S.L., English, C., Federici, G., Gilbert, M.R., Gonzalez, S., Ibarra, A., Linsmeier, C., Puma, A.L., Marbach, G., Packer, L.W., Raj, B., Rieth, M., Tran, M.Q., Ward, D.J., Zinkle, S.J., "Materials R&D for a timely DEMO: Key findings and recommendations of the EU Roadmap Materials Assessment Group", \(2014\) Fusion Engineering and Design, 89 \(7-8\), pp. 1586-1594.](#)
- [2] [Kaiser, R., Clarkson, A., Hamilton, D.J., Hoek, M., Ireland, D.G., Johnston, J.R., Keri, T., Lumsden, S., Mahon, D.F., McKinnon, B., Murray, M., Nutbeam-Tuffs, S., Shearer, C., Staines, C., Yang, G., Zimmerman, C., "A prototype scintillating-fibre tracker for the cosmic-ray Muon tomography of legacy nuclear waste containers", \(2014\) EPJ Web of Conferences, 66, art. no. 10005, .](#)
- [3] [Kuras, O., Wilkinson, P.B., Meldrum, P.I., Oxby, L.S., Uhlemann, S.S., Chambers, J.E., Binley, A., Graham, J., Dewey, G., Atherton, N., "Long-term geoelectrical monitoring to support nuclear decommissioning at the Sellafield Site, UK", \(2014\) Near Surface Geoscience 2014 - 20th European Meeting of Environmental and Engineering Geophysics, .](#)
- [4] [Hiezl, Z., Hambley, D., Lee, W.E., "Preparation and characterization of UO<sub>2</sub>-based AGR SIMFuel", \(2014\) Materials Research Society Symposium Proceedings, 1665, pp. 245-251.](#)
- [5] [Hesketh, K.W., "Thorium research interests in the UK", \(2014\) Transactions of the American Nuclear Society, 111, pp. 191-194.](#)
- [6] [Walling, S.A., Bernal, S.A., Kinoshita, H., Collier, N.C., Provis, J.L., "Cementitious binders in the system Mg\(OH\)<sub>2</sub>-NaAlO<sub>2</sub>-SiO<sub>2</sub>-H<sub>2</sub>O", \(2014\) Advances in Applied Ceramics, 113 \(8\), pp. 496-501.](#)
- [7] [Montague, W., Hayes, M., Vandeperre, L.J., "Strength - Formulation correlations in magnesium phosphate cements for nuclear waste encapsulation", \(2014\) Ceramic Engineering and Science Proceedings, 34 \(9\), pp. 107-117.](#)
- [8] [Orr, R.M., Taylor, R.J., Sims, H.E., Webb, K.J., Woodhead, D.A., Cook, P.M.A., Hobbs, J.W., "Adsorption of water on plutonium dioxide powders", \(2014\) Plutonium Futures: The Science 2014, pp. 381-382.](#)
- [9] [Taylor, R., Webb, K., Gregson, C., Orr, R., Sims, H., Mason, C., Hobbs, J., Bernard, R., "Stabilisation of chloride contaminated plutonium oxide for long term storage", \(2014\) Plutonium Futures: The Science 2014, p. 242.](#)
- [10] [Tinsley, T., Taylor, R., Rayment, F., "New opportunities in plutonium research and development in the UK", \(2014\) Plutonium Futures: The Science 2014, pp. 323-324.](#)
- [11] [Tzelepi, N., "Sample size effects on ultrasonic measurements of elastic moduli-experimental and theoretical investigations", \(2014\) ASTM Special Technical Publication, STP 1578, pp. 144-171.](#)
- [12] [Butler, G., McGlynn, G., Hesketh, K., "Generic feasibility assessment: A methodology for assessing nuclear energy technologies", \(2014\) International Congress on Advances in Nuclear Power Plants, ICAPP 2014, 1, pp. 743-749.](#)

- [13] [Lim, J.J.H., Hyde, J.M., Lozano-Perez, S., Grovenor, C.R.M., "Microstructural characterization of irradiation-induced MnNi-rich solute cluster in highly neutron-irradiated MnNiMo alloyed weld metals", \(2014\) Effects of Radiation on Nuclear Materials: 26th Volume, pp. 57-73.](#)
- [14] [Dawson, M., Borman, D., Hammond, R., Lesnic, D., Rhodes, D., "Modelling the morphology of crystalline deposits evolving from impinging droplets of salt solution", \(2014\) 9th South African Conference on Computational and Applied Mechanics, SACAM 2014, .](#)
- [15] [Rayment, F., Mathers, D., "Creating an international fuel R&D capability", \(2014\) Transactions of the American Nuclear Society, 110, pp. 722-724.](#)
- [16] [Harrison, M.T., Steele, C.J., "The durability of simulated UK high level waste glass compositions based on recent vitrification campaigns", \(2014\) Ceramic Transactions, 246, pp. 211-224.](#)
- [17] [Gribble, N.R., Short, R.J., Dunnett, B.F., Steele, C.J., "Increased molybdenum loading for vitrified high level waste", \(2014\) Materials Research Society Symposium Proceedings, 1665, pp. 253-259.](#)
- [18] [Altmaier, M., Bourg, S., Collings, P., Dacheux, N., Duplantier, B., Ekberg, Ch., Grolmund, D., Natrajan, L., Poinssot, Ch., Raison, Ph., Schaefer, Th., Scheinost, A., Schimmelpfennig, B., "TALISMAN - A European Commission FP7 project promoting transnational access to large infrastructures for a safe management of actinides", \(2014\) Plutonium Futures: The Science 2014, pp. 165-166.](#)
- [19] [Sarsfield, M.J., Bell, K., Maher, C.J., Carrott, M.J., Gregson, C., Brown, J., Woodhead, D.A., Baker, S.R., Taylor, R.J., Tinsley, T.P., Rice, T.G., Rhodes, C.J., Clough, M., Stephenson, K., Wiss, T., "241Am production for use in radioisotope power systems", \(2014\) Plutonium Futures: The Science 2014, pp. 305-306.](#)
- [20] [Metcalf, M.P., Tzelepi, N., Wilde, D., "Effect of test specimen size on graphite strength", \(2014\) ASTM Special Technical Publication, STP 1578, pp. 1-29.](#)
- [21] [Webborn, B., "Challenges associated with the current demand for UK criticality safety assessors", \(2014\) Transactions of the American Nuclear Society, 111, pp. 813-816.](#)
- [22] [Maher, C.J., Baker, S.R., Carrott, M., Lewin, B., Sarsfield, M., Schroeder, S.L.M., Stephenson, K., "Dissolution of aged PuO<sub>2</sub> to production of <sup>241</sup>Am for use in space exploration", \(2014\) Plutonium Futures: The Science 2014, pp. 238-239.](#)
- [23] [Rayment, F., Tinsley, T., Taylor, R., Gregg, R., "Fuel cycle scenarios, challenges, and opportunities - A UK perspective", \(2014\) Transactions of the American Nuclear Society, 111, pp. 213-216.](#)

## Conference Papers - 2013

- [1] [Gregg, R., Hesketh, K., "The benefits of a fast reactor closed fuel cycle in the UK", \(2013\) International Nuclear Fuel Cycle Conference, GLOBAL 2013: Nuclear Energy at a Crossroads, 2, pp. 1235-1244.](#)
- [2] [Rauff-Nisthar, N., Boxall, C., Farnan, I., Hiezl, Z., Lee, W., Perkins, C., Wilbraham, R., "Corrosion behaviour of AGR simulated fuels - Evolution of the fuel surface", \(2013\) ECS Transactions, 53 \(21\), pp. 95-104.](#)
- [3] [Chen, T.-Y., Hriljac, J.A., Gandy, A.S., Stennett, M.C., Hyatt, N.C., Maddrell, E.R., "Thermal conversion of Cs-exchanged IONSIV IE-911 into a novel caesium ceramic wasteform by hot isostatic pressing", \(2013\) Materials Research Society Symposium Proceedings, 1518, pp. 67-72.](#)
- [4] [Ambrosi, R.M., Williams, H.R., Samara-Ratna, P., Jorden, A., Slade, R., Bannister, N.P., Sykes, J., Deacon, T., Stephenson, K., Simpson, K., Reece, M., Ning, H., Stuttard, M., Rice, T., Tinsley, T., Sarsfield, M., Jaegle, M., Koenig, J., Edgington, A., Lerman, H., "Development and testing of an americium-241 radioisotope thermoelectric generator", \(2013\) Nuclear and Emerging Technologies for Space, NETS 2013, pp. 450-454.](#)
- [5] [Stewart, M.W.A., Moricca, S.A., Vance, E.R., Day, R.A., Maddrell, E.R., Scales, C.R., Hobbs, J., "Hot-isostatic pressing of chlorine-containing, plutonium residues and wastes", \(2013\) TMS Annual Meeting, pp. 675-682.](#)
- [6] [Murphy, P., Boxall, C., Taylor, R., Woodhead, D., "Investigation of water adsorption on metal oxide surfaces under conditions representative of PuO<sub>2</sub> storage containers", \(2013\) ECS Transactions, 53 \(21\), pp. 81-94.](#)
- [7] [Sarsfield, M.J., Bell, K., Maher, C.J., Carrott, M.J., Gregson, C., Brown, J., Woodhead, D.A., Baker, S.R., Cordingley, L., Taylor, R.J., Tinsley, T.P., Rice, T.G., Rhodes, C.J., Clough, M., "Progress on <sup>241</sup>Am production for use in radioisotope power systems", \(2013\) Nuclear and Emerging Technologies for Space, NETS 2013, pp. 431-437.](#)
- [8] [Rayment, F., Hesketh, K., Gregg, R., Butler, G., "Exploring technology choices against nuclear energy scenarios", \(2013\) Transactions of the American Nuclear Society, 109 \(PART 1\), pp. 355-358.](#)
- [9] [Hodgson, Z., Hambley, D.I., Gregg, R., Ross, D.N., "The United Kingdom's changing requirements for spent fuel storage", \(2013\) International Nuclear Fuel Cycle Conference, GLOBAL 2013: Nuclear Energy at a Crossroads, 2, pp. 1152-1160.](#)
- [10] [Short, R., Dunnett, B., Gribble, N., Steel, H., Steele, C.J., "Vitrification of high molybdenum feeds in the presence of reprocessing waste liquor", \(2013\) Materials Research Society Symposium Proceedings, 1518, pp. 21-39.](#)
- [11] [Jackson, S.F., Monk, S.D., Lennox, K., Stanley, S.J., "Sub-aquatic response of a scintillator, fibre optic and silicon photomultiplier based radiation sensor", \(2013\) 2013 3rd International Conference on Advancements in Nuclear Instrumentation, Measurement Methods and Their Applications, ANIMMA 2013, art. no. 6727903, .](#)
- [12] [Coppersthaite, D., Greenwood, H., Docrat, T., Allinson, S., Sultan, R., May, S., "Processing liquid organic wastes at the NNL Preston laboratory", \(2013\) Proceedings of the International Conference on Radioactive Waste Management and Environmental Remediation, ICEM, 1, art. no. V001T01A015, .](#)

- [13] [Bux, J., Hunter, T.N., Paul, N., Dodds, J.M., Peakall, J., Biggs, S.R., "Characterising nuclear simulant suspensions in situ with an acoustic backscatter system", \(2013\) Proceedings of the International Conference on Radioactive Waste Management and Environmental Remediation, ICEM, 2, art. no. V002T03A018, .](#)
- [14] [McTeer, J., Morris, J., Wickham, S., Bolton, G., McKinney, J., Morris, D., Angus, M., Cann, G., Binks, T., "Establishing a store baseline during interim storage of waste packages and a review of potential technologies for baselining", \(2013\) Proceedings of the International Conference on Radioactive Waste Management and Environmental Remediation, ICEM, 1, art. no. V001T01A059, .](#)
- [15] [Taylor, T.A., Short, R.J., Gribble, N.R., Roe, J.I., Steele, C.J., "Rhenium volatilisation as caesium perrhenate from simulated vitrified high level waste from a melter crucible", \(2013\) International Nuclear Fuel Cycle Conference, GLOBAL 2013: Nuclear Energy at a Crossroads, 1, pp. 450-452.](#)
- [16] [Godfrey, H., Broan, C., Diggle, A., Goddard, D., Hodge, N., Orr, R., Woodhouse, G., "Uranium metal reactions with hydrogen and water vapour and the reactivity of the uranium hydride produced", \(2013\) International Nuclear Fuel Cycle Conference, GLOBAL 2013: Nuclear Energy at a Crossroads, 2, pp. 1404-1410.](#)
- [17] [Tinsley, T., Sarsfield, M., "Update on <sup>241</sup>Am production for use in radioisotope power systems", \(2013\) Transactions of the American Nuclear Society, 109 \(PART 1\), pp. 31-32.](#)
- [18] [Tinsley, T., Mathers, D., Rayment, F., "International collaboration, the route to fuel cycle R&D", \(2013\) International Nuclear Fuel Cycle Conference, GLOBAL 2013: Nuclear Energy at a Crossroads, 1, pp. 641-644.](#)
- [19] [Patel, N., Hambley, D., Simpson, K., Clarke, S., "Influence of uranium hydride oxidation on uranium metal behaviour", \(2013\) International Nuclear Fuel Cycle Conference, GLOBAL 2013: Nuclear Energy at a Crossroads, 2, pp. 1197-1203.](#)
- [20] [Tinsley, T., CliquetMoreno, E., "MEGAHIT: Megawatt highly efficient technologies for space power and propulsion systems - Roadmap for HORIZON2020", \(2013\) Transactions of the American Nuclear Society, 109 \(PART 1\), pp. 33-35.](#)
- [21] [Francis, S., "Safeguards on uranium ore concentrate? The impact of modern mining and milling processes", \(2013\) International Nuclear Fuel Cycle Conference, GLOBAL 2013: Nuclear Energy at a Crossroads, 1, pp. 53-58.](#)
- [22] [Gate, A.M., Hambley, D.I., "Examination of long-stored uranium metal", \(2013\) International Nuclear Fuel Cycle Conference, GLOBAL 2013: Nuclear Energy at a Crossroads, 2, pp. 1179-1187.](#)
- [23] [Hambley, D.I., "Technical basis for extending storage of the UK's advanced gas-cooled reactor fuel", \(2013\) International Nuclear Fuel Cycle Conference, GLOBAL 2013: Nuclear Energy at a Crossroads, 2, pp. 1161-1170.](#)

## Conference Papers - 2012

- [1] [Styman, P.D., Hyde, J.M., Wilford, K., Morley, A., Smith, G.D.W., "Precipitation in long term thermally aged high copper, high nickel model RPV steel welds", \(2012\) Progress in Nuclear Energy, 57, pp. 86-92.](#)
- [2] [Rizoulis, A., Steele, H.M., Morris, K., Lloyd, J.R., "The potential impact of anaerobic microbial metabolism during the geological disposal of intermediate-level waste", \(2012\) Mineralogical Magazine, 76 \(8\), pp. 3261-3270.](#)
- [3] [Gibb, F.G.F., Travis, K.P., Hesketh, K.W., "Deep borehole disposal of higher burn up spent nuclear fuels", \(2012\) Mineralogical Magazine, 76 \(8\), pp. 3003-3017.](#)
- [4] [Dunnett, B.F., Gribble, N.R., Short, R., Turner, E., Steele, C.J., Riley, A.D., "Vitrification of high molybdenum waste", \(2012\) Glass Technology: European Journal of Glass Science and Technology Part A, 53 \(4\), pp. 166-171.](#)
- [5] [Butcher, E.J., Borwick, J., Collier, N., Williams, S.J., "Long term leachate evolution during flow-through leaching of a vault backfill \(NRVB\)", \(2012\) Mineralogical Magazine, 76 \(8\), pp. 3023-3031.](#)
- [6] [York, T.A., Green, P.N., Green, P.R., Phasouliotis, A., Qu, Z., Watson, S., Hussain, M., Nawaz, S., Trigoni, N., Stanley, S., "Acoustic sensor networks for decommissioning", \(2012\) Measurement and Control, 45 \(2\), pp. 48-54.](#)
- [7] [Travis, K.P., Gibb, F.G.F., Hesketh, K.W., "Modelling deep borehole disposal of higher burn-up spent nuclear fuels", \(2012\) Materials Research Society Symposium Proceedings, 1475, pp. 391-396.](#)
- [8] [Dawson, M., Borman, D., Hammond, R.B., Lesnic, D., Rhodes, D., "Detection of a two-dimensional moving cavity", \(2012\) International Journal of Computer Mathematics, 89 \(11\), pp. 1569-1582.](#)
- [9] [Cronin, J., Collier, N., "Corrosion and expansion of grouted Magnox", \(2012\) Mineralogical Magazine, 76 \(8\), pp. 2901-2909.](#)
- [10] [Farfán, E.B., Coleman, J.R., Stanley, S., Adamovics, J., Oldham, M., Thomas, A., "Submerged RadBall® deployments in hanford site hot cells containing 137CsCl capsules", \(2012\) Health Physics, 103 \(1\), pp. 100-106.](#)
- [11] [Metcalf, M.P., Koch, W., Turner, G., "Break-up testing of waste-form materials", \(2012\) Mineralogical Magazine, 76 \(8\), pp. 2975-2983.](#)
- [12] [Rayment, F., Tinsley, T., "Nuclear fuel cycle R&D in the UK", \(2012\) Transactions of the American Nuclear Society, 107, pp. 269-272.](#)
- [13] [Collier, N., Harrison, M., Brogden, M., Hanson, B., "Release of uranium from candidate wasteforms", \(2012\) Mineralogical Magazine, 76 \(8\), pp. 2939-2948.](#)
- [14] [Montague, W., Vandeperre, L., Hayes, M., "Processing characteristics and strength of magnesium phosphate cement formulations compatible with UK nuclear waste treatment plants", \(2012\) Materials Research Society Symposium Proceedings, 1475, pp. 287-292.](#)
- [15] [Tinsley, T., Sarsfield, M., "Developing an alternative radioisotopes supply for heat and power sources", \(2012\) Transactions of the American Nuclear Society, 107, pp. 21-23.](#)



[16] [Wilbraham, R.J., Boxall, C., Taylor, R.J., "Surface decontamination by photocatalysis", \(2012\) Materials Research Society Symposium Proceedings, 1383, pp. 119-125.](#)

[17] [Edwards, S., Andrieux, F., Boxall, C., Taylor, R., Woodhead, D., "Hydrolysis of hydroxamic acid complexants in the presence of non-oxidizing metal ions", \(2012\) Materials Research Society Symposium Proceedings, 1383, pp. 89-94.](#)

[18] [Hyde, J.M., Boothby, R.M., English, C.A., Styman, P., Thompson, H., Smith, G.D.W., Wilford, K., Williams, T.J., "Microstructural characterisation of nanometre scale irradiation damage in high-Ni welds", \(2012\) TMS Annual Meeting, 2, pp. 489-502.](#)

[19] [Onggo, S., Jennings, P., "Nuclear reprocessing: A simulation metamodelling approach", \(2012\) 2012 Operational Research Society Simulation Workshop, SW 2012, pp. 10-18.](#)

## Conference Papers - 2011

- [1] [Preuss, M., Frankel, P., Lozano-Perez, S., Hudson, D., Polatidis, E., Ni, N., Wei, J., English, C., Storer, S., Chong, K.B., Fitzpatrick, M., Wang, P., Smith, J., Grovenor, C., Smith, G., Sykes, J., Cottis, B., Lyon, S., Hallstadius, L., Comstock, R.J., Ambard, A., Blat-Yrieix, M., "Studies regarding corrosion mechanisms in zirconium alloys", \(2011\) ASTM Special Technical Publication, 1529 STP, pp. 649-681.](#)
- [2] [Bommer, J.J., Papaspiliou, M., Price, W., "Earthquake response spectra for seismic design of nuclear power plants in the UK", \(2011\) Nuclear Engineering and Design, 241 \(3\), pp. 968-977.](#)
- [3] [Shevelan, J., Smith, N.T., "Characterisation of the geology of the UK Low Level Waste Repository", \(2011\) Proceedings of the International Conference on Radioactive Waste Management and Environmental Remediation, ICEM, \(PARTS A AND B\), pp. 361-370.](#)
- [4] [Tinsley, T., Sarsfield, M., Rice, T., "Alternative radioisotopes for heat and power sources", \(2011\) Nuclear and Emerging Technologies for Space 2011, NETS-2011, pp. 543-550.](#)
- [5] [Ferguson, K., Zhang, J., Steele, C., Clarke, C., Morris, J., "Modelling vitrified glass viscosity in a nuclear fuel reprocessing plant using neural networks", \(2011\) NCTA 2011 - Proceedings of the International Conference on Neural Computation Theory and Applications, pp. 322-325.](#)
- [6] [Squire, J., Maddrell, E.R., Hyatt, N.C., Stennett, M.C., "Developing the plutonium disposition option: Ceramic processing concerns", \(2011\) Ceramic Transactions, 227, pp. 241-249.](#)

## Conference Papers - 2010

- [1] [Primrose, K.M., Qiu, C., Bolton, G.T., Talmon, A.M., Glen, N., Ross, A., Learmouth, D., "Visualisation and measurement of 3 phase \(air water oil\) flow and 2 phase flow \(sand water\) with electrical tomography", \(2010\) 6th World Congress in Industrial Process Tomography, pp. 108-118.](#)
- [2] [Farfán, E.B., Foley, T.Q., Jannik, G.T., Harpring, L.J., Gordon, J.R., Blessing, R., Coleman, J.R., Holmes, C.J., Oldham, M., Adamovics, J., Stanley, S.J., "RadBall™ technology testing in the Savannah river site's health physics instrument calibration laboratory", \(2010\) Journal of Physics: Conference Series, 250, art. no. 012080, pp. 398-402.](#)
- [3] [Farfán, E.B., Foley, T.Q., Coleman, J.R., Jannik, G.T., Holmes, C.J., Oldham, M., Adamovics, J., Stanley, S.J., "RadBall™ technology testing and MCNP modeling of the tungsten collimator", \(2010\) Journal of Physics: Conference Series, 250, art. no. 012081, pp. 403-407.](#)
- [4] [Oldham, M., Clift, C., Thomas, A., Farfan, E., Foley, T., Jannik, T., Adamovics, J., Holmes, C., Stanley, S., "Initial experience with optical-CT scanning of RadBall dosimeters", \(2010\) Journal of Physics: Conference Series, 250, art. no. 012079, pp. 394-397.](#)
- [5] [Brookes, C., Harrison, M., Riley, A., Steele, C., "The effect of increased waste loading on the durability of high level waste glass", \(2010\) Materials Research Society Symposium Proceedings, 1265, pp. 109-114.](#)
- [6] [Alapour, A., Joyce, R.M., DiGiovine, A.S., Tarves, S., Patino, N., Worrall, A., Gregg, R., Rossiter, G., "Robust PCI monitoring during PWR operation at Southern Nuclear", \(2010\) LWR Fuel Performance Meeting/Top Fuel/WRFPM 2010, pp. 210-217.](#)
- [7] [Hesketh, K.W., Worrall, A., "Benchmarking UK National Nuclear Laboratory's proliferation resistance assessment methodology", \(2010\) Transactions of the American Nuclear Society, 102, pp. 122-123.](#)
- [8] [Lord, J.D., McCormick, N.J., Urquhart, J.M., Klimaytys, G.M., Lingham, I.J., "Measuring the static modulus of nuclear graphite from four-point flexural strength tests and DIC", \(2010\) Applied Mechanics and Materials, 24-25, pp. 385-390.](#)
- [9] [Thomas, G.M., Hesketh, K.W., Arm, S.T., "The potential of pressurized water reactors for recycle of americium-curium", \(2010\) International Conference on the Physics of Reactors 2010, PHYSOR 2010, 3, pp. 1991-2002.](#)
- [10] [Lawless, W.F., Akiyoshi, M., Whitton, J., Angiellari-Dajci, F., Poppeliers, C., "A comparative study of stakeholder participation in the cleanup of radioactive wastes in the US, JAPAN and UK", \(2010\) Proceedings of the International Conference on Radioactive Waste Management and Environmental Remediation, ICEM, 1, pp. 519-530.](#)
- [11] [Jennings, P., "The benefits and issues of using complementary models at a nuclear reprocessing plant", \(2010\) Proceedings of the 2010 Operational Research Society Simulation Workshop, SW 2010, pp. 156-163.](#)
- [12] [Taylor, R., McLachlan, F., Sarsfield, M., "Plutonium extraction chemistry in diglycolamide based solvents for the GANEX process", \(2010\) Plutonium Futures - The Science 2010, pp. 168-169.](#)

- [13] [Farfán, E.B., Foley, T.Q., Jannik, G.T., Gladden, J.B., Mackenzie, D., Stanley, S.J., Holmes, C.J., Oldham, M., Adamovics, J., Gordon, J.R., Harpring, L.J., "RadBall technology testing for hot cell characterization", \(2010\) Decommissioning, Decontamination, and Reutilization Topical Meeting 2010, DD and R 2010, pp. 199-200.](#)
- [14] [Tverberg, T., Wiesenack, W., Yagnik, S.K., Rossiter, G., "Behavior of homogeneous and heterogeneous MOX fuel", \(2010\) LWR Fuel Performance Meeting/Top Fuel/WRFPM 2010, pp. 845-851.](#)
- [15] [Sarsfield, M.J., Taylor, R.J., "Raman spectroscopy of plutonium dioxide and related materials", \(2010\) Plutonium Futures - The Science 2010, pp. 379-380.](#)
- [16] [Gregg, R., "A United Kingdom nuclear fuel cycle scenario assessment", \(2010\) International Conference on the Physics of Reactors 2010, PHYSOR 2010, 4, pp. 3496-3511.](#)
- [17] [Steele, H., Taylor, R.J., "A computational study of the reduction of Pu\(IV\) by hydroxamic acids", \(2010\) Plutonium Futures - The Science 2010, pp. 401-402.](#)
- [18] [McDonald, L., "New ALARP residues recovery system - Design concept to operation", \(2010\) Transactions of the American Nuclear Society, 103, p. 391.](#)
- [19] [Currie, R., Gregory, C.V., Stuart, R.A., "Maximizing the value of the UK's fast reactor knowledge base", \(2010\) Transactions of the American Nuclear Society, 103, pp. 586-587.](#)

## Conference Papers - 2009

- [1] [Kwong, S., Small, J., "Reactive transport modelling of the interaction of fission product ground contamination with alkaline and cementitious leachates", \(2009\) Proceedings of the ICEM2007 - 11th International Conference on Environmental Remediation and Radioactive Waste Management, \(PART B\), pp. 1307-1315.](#)
- [2] [Willans, M., Galais, N., Lennon, C., Trivedi, D., "ReCLAIM V2.0: Comparison of calculated doses with other assessment tools when emulating contaminated land scenarios", \(2009\) Proceedings of the ICEM2007 - 11th International Conference on Environmental Remediation and Radioactive Waste Management, \(PART A\), pp. 193-198.](#)
- [3] [Booth, P., Lennon, C., "European Network on the determination of site end points for radiologically contaminated land", \(2009\) Proceedings of the ICEM2007 - 11th International Conference on Environmental Remediation and Radioactive Waste Management, \(PART A\), pp. 703-705.](#)
- [4] [Brown, A., "An overview of the challenges associated with the processing of obsolete UF6 cylinders at the Springfields fuels limited site at preston in the United Kingdom", \(2009\) American Nuclear Society - Nuclear Criticality Safety Division Topical Meeting on Realism, Robustness and the Nuclear Renaissance 2009, pp. 115-119.](#)
- [5] [Thomas, M., "UK-titled thorp plutonium stockpile evaluation for potential loading in sizewell 'B' and an AP-1000", \(2009\) American Nuclear Society - 4th Topical Meeting on Advances in Nuclear Fuel Management 2009, ANFM IV, 2, pp. 1043-1057.](#)
- [6] [Grove, C., "Modelling of VENUS reactor configurations 9 and 9/1 using CASMO-4", \(2009\) American Nuclear Society - 4th Topical Meeting on Advances in Nuclear Fuel Management 2009, ANFM IV, 2, pp. 820-829.](#)
- [7] [Gregg, R., "A fuel cycle scenario assessment for the UK covering the next 100 years", \(2009\) American Nuclear Society - 4th Topical Meeting on Advances in Nuclear Fuel Management 2009, ANFM IV, 1, pp. 556-574.](#)
- [8] [Thomas, M., Worrall, A., Phillips, C., Wells, A., "An assessment of the impact of AMCM target rods on the core physics of a PWR", \(2009\) Transactions of the American Nuclear Society, 101, pp. 767-769.](#)
- [9] [Bolton, G., Stanley, S., "Measurement of solid-liquid mixtures using electrical tomography measurement techniques", \(2009\) Proceedings of the International Conference on Radioactive Waste Management and Environmental Remediation, ICEM, 1, pp. 215-220.](#)
- [10] [Lawson, Y., Steele, C.J., Brookes, C.M., Sarsfield, M.J., "Understanding potential release mechanisms of volatile ruthenium during the vitrification of high level waste", \(2009\) Proceedings of the International Conference on Radioactive Waste Management and Environmental Remediation, ICEM, 1, pp. 859-868.](#)
- [11] [Dean, J., Rossiter, D., "Delivering step change improvements to UK low level waste strategy", \(2009\) Proceedings of the International Conference on Radioactive Waste Management and Environmental Remediation, ICEM, 1, pp. 457-464.](#)

- [12] [Scales, C.R., Maddrell, E.R., Dowson, M., "Developing ceramic based technology for the immobilisation of waste on the sellafield site", \(2009\) Proceedings of the International Conference on Radioactive Waste Management and Environmental Remediation, ICEM, 1, pp. 585-592.](#)
- [13] [Hudson, D., Ni, N., Lozano-Perez, S., Saxey, D., English, C., Smith, G.D.W., Sykes, J., Grovenor, C., "The atomic scale structure and chemistry of the zircaloy-4 metal-oxide interface", \(2009\) 14th International Conference on Environmental Degradation of Materials in Nuclear Power Systems Water Reactors 2009, 2, pp. 1407-1418.](#)
- [14] [Harbottle, D., Rhodes, D., Fairweather, M., Biggs, S., "The effect of particle-particle interaction forces on the flow properties of silica slurries", \(2009\) Proceedings of the ICEM2007 - 11th International Conference on Environmental Remediation and Radioactive Waste Management, \(PART B\), pp. 1147-1152.](#)
- [15] [Deegan, D., Scales, C., "The role of tetronics plasma vitrification technology in the management and conditioning of nuclear waste", \(2009\) Proceedings of the ICEM2007 - 11th International Conference on Environmental Remediation and Radioactive Waste Management, \(PART B\), pp. 1179-1187.](#)
- [16] [Spasova, L.M., Ojovan, M.I., Hayes, M., Godfrey, H., "Acoustic emission monitoring of cement-based structures immobilising radioactive waste", \(2009\) Proceedings of the ICEM2007 - 11th International Conference on Environmental Remediation and Radioactive Waste Management, \(PART A\), pp. 631-638.](#)
- [17] [Dunnett, B.F., Gribble, N.R., Riley, A.D., Steele, C.J., "Initial investigation into the vitrification of high molybdenum solids in borosilicate glass", \(2009\) Materials Research Society Symposium Proceedings, 1193, pp. 291-298.](#)
- [18] [Hyatt, N.C., Stennett, M., Jenni, A., Reid, D., Maddrell, E.R., "Ceramic formulation and processing design for plutonium disposition", \(2009\) Materials Research Society Symposium Proceedings, 1193, pp. 61-66.](#)
- [19] [Gribble, N.R., Short, R., Tumer, E., Riley, A.D., "The impact of increased waste loading on vitrified HLW quality and durability", \(2009\) Materials Research Society Symposium Proceedings, 1193, pp. 283-290.](#)
- [20] [Riley, A., Walker, S., Gribble, N.R., "Composition changes and future challenges for the sellafield waste vitrification plant", \(2009\) Materials Research Society Symposium Proceedings, 1193, pp. 267-273.](#)
- [21] [Hill, D.A., Clemson, P.D., "Criticality and fire-fighting - Recent developments at westinghouse, springfields fuels limited", \(2009\) American Nuclear Society - Nuclear Criticality Safety Division Topical Meeting on Realism, Robustness and the Nuclear Renaissance 2009, pp. 108-114.](#)
- [22] [Worrall, A., DiGiovine, A.S., ""ONUS": On-line fuel performance surveillance - Linking Studsvik's CMS with UK NNL'S ENIGMA-B", \(2009\) American Nuclear Society - 4th Topical Meeting on Advances in Nuclear Fuel Management 2009, ANFM IV, 1, pp. 626-637.](#)
- [23] [Stewart, M.W.A., Moricca, S.A., Begg, B.D., Day, R.A., Scales, C.R., Maddrell, E.R., Eilbeck, A.B., "Flexible process options for the immobilisation of residues and wastes containing plutonium", \(2009\) Proceedings of the ICEM2007 - 11th International Conference on Environmental Remediation and Radioactive Waste Management, \(PART B\), pp. 1453-1460.](#)

- [24] [Nickson, I.D., Boxall, C., Jackson, A., Whillock, G.O.H., "The development of a method for the simultaneous measurement of cerium \(IV\) and chromium \(VI\) species in nitric acid media", \(2009\) Proceedings of the International Conference on Radioactive Waste Management and Environmental Remediation, ICEM, 1, pp. 163-169.](#)
- [25] [Stennett, M.C., Hyatt, N.C., Reid, D.P., Maddrell, E.R., Peng, N., Jeynes, C., Kirkby, K.J., Woicik, J.C., Ravel, B., "Heavy ion implantation combined with grazing incidence X-ray absorption spectroscopy \(GIXAS\): A new methodology for the characterisation of radiation damage in nuclear ceramics", \(2009\) Materials Research Society Symposium Proceedings, 1193, pp. 67-72.](#)
- [26] [Fairhall, G.A., "The national nuclear laboratory and collaborative university research in the UK", \(2009\) Materials Research Society Symposium Proceedings, 1124, pp. 65-76.](#)
- [27] [Small, J.S., Thompson, O.R., "Modelling the spatial and temporal evolution of pH in the cementitious backfill of geological disposal facility", \(2009\) Materials Research Society Symposium Proceedings, 1124, pp. 327-332.](#)
- [28] [Steele, C.J., Scales, C., Dunnett, B., "Widening the envelope of UK HLW vitrification-experimental studies with high waste loading formulations containing platinoids", \(2009\) Materials Research Society Symposium Proceedings, 1124, pp. 141-146.](#)
- [29] [Stennett, M.C., Hyatt, N.C., Reid, D.P., Maddrell, E.R., Peng, N., Jeynes, C., Kirkby, K.J., Woicik, J.C., "Characterisation of ion beam irradiated zirconolite for pu disposition", \(2009\) Materials Research Society Symposium Proceedings, 1124, pp. 243-248.](#)
- [30] [Von Lensa, W., Bradbury, D., Cardinal, G., Eccles, H., Fachinger, J., Grambow, B., Grave, M.J., Marsden, B.J., Pina, G., "CARBOWASTE: New euratom project on 'treatment and disposal of irradiated graphite and other carbonaceous waste"', \(2009\) 2008 Proceedings of the 4th International Topical Meeting on High Temperature Reactor Technology, HTR 2008, 2, pp. 677-682.](#)
- [31] [Basini, V., Guillermier, P., Michel, F., Fütterer, M.A., Abram, T., De Groot, S., Charollais, F., Bottomley, D., Hiernaut, J.-P., Verfondern, K., Kissane, M., "High-temperature reactor fuel technology in the raphael european project", \(2009\) 2008 Proceedings of the 4th International Topical Meeting on High Temperature Reactor Technology, HTR 2008, 1, pp. 297-306.](#)
- [32] [Kuijper, J.C., Petrov, B.Y., De Haas, J.B.M., Bomboni, E., Cerullo, N., Lomonaco, G., Mazzini, G., Bernnat, W., Meier, A., Van Den Durpel, L., Chauvet, V., Cetnar, J., Girardi, E., Somers, J., Abram, T., Hesketh, K., Mignanelli, M., Jonnet, J., Kloosterman, J.L., Trakas, C., Shihab, S., Toury, G., McEachern, D., Venneri, F., Zakova, J., Millington, D., Murgatroyd, J., Werner, H., Nabilek, H., Verfondern, K., "PU and MA management in thermal htgrs - impact at fuel, reactor and fuel cycle levels", \(2009\) 2008 Proceedings of the 4th International Topical Meeting on High Temperature Reactor Technology, HTR 2008, 1, pp. 73-81.](#)
- [33] [Sarsfield, M.J., Taylor, R.J., Boxall, C., Adrieux, F., Sims, H.E., "Some aspects of neptunium acetohydroxamic acid chemistry under acidic conditions", \(2009\) Radiochimica Acta, 97 \(4-5\), pp. 219-222.](#)
- [34] [Whitton, J., "Stakeholder participation for the legacy ponds and legacy silos \(LP&LS\) Facility at sellafield, cumbria. UK: The nature and effectiveness of the dialogue", \(2009\) Proceedings of the International Conference on Radioactive Waste Management and Environmental Remediation, ICEM, 2, pp. 737-747.](#)

[35] [Wilbraham, R.J., Boxall, C., Taylor, R.J., "Surface decontamination by photocatalysis", \(2009\) Proceedings of the International Conference on Radioactive Waste Management and Environmental Remediation, ICEM, 2, pp. 185-193.](#)



## Conference Papers - 2008

- [1] [Hesketh, K., Thomas, M., Worrall, A., "Fuel cycle options and sustainability for new nuclear build in the UK", \(2008\) International Conference on the Physics of Reactors 2008, PHYSOR 08, 4, pp. 3295-3302.](#)
- [2] [Rondinella, V.V., Serrano-Purroy, D., Hiernaut, J.-P., Wegen, D., Papaioannou, D., Barker, M., "Grain boundary inventory and instant release fractions for SBR MOX", \(2008\) American Nuclear Society - 12th International High-Level Radioactive Waste Management Conference 2008, 2, pp. 418-423.](#)
- [3] [Lozano-Perez, S., English, C.A., Terachi, T., Yamada, T., "A multi-scale approach to stress corrosion cracking", \(2008\) NACE - International Corrosion Conference Series, 9 p.](#)
- [4] [Lozano-Perez, S., English, C.A., Terachi, T., Yamada, T., "A multi-scale approach to stress corrosion cracking", \(2008\) NACE - International Corrosion Conference Series, pp. 084951-084959.](#)
- [5] [Poette, C., Brun-Magaud, V., Morin, F., Dor, I., Pignatell, J.-F., Bertrand, F., Stainsby, R., Pelloni, S., Every, D., Da Cruz, D., "ETDR, the European Union's experimental gas-cooled fast reactor project", \(2008\) International Conference on the Physics of Reactors 2008, PHYSOR 08, 3, pp. 2197-2204.](#)
- [6] [Rugama, Y., Blomquist, R., Brady Raap, M., Briggs, B., Gulliford, J., Miyoshi, Y., Suyama, K., Ivanova, T., "Overview of the Activities of the OECD/NEA/NSC Working Party on Nuclear Criticality Safety", \(2008\) International Conference on the Physics of Reactors 2008, PHYSOR 08, 2, pp. 1619-1623.](#)
- [7] [Hambley, M.J., Dumbill, S., Maddrell, E.R., Scales, C.R., "Characterisation of 20 year old Pu238-Doped Synroc C", \(2008\) Materials Research Society Symposium Proceedings, 1107, pp. 373-380.](#)
- [8] [Harrison, M.T., Scales, C.R., "Durability of borosilicate glass compositions for the immobilisation of the UK's separated plutonium stocks", \(2008\) Materials Research Society Symposium Proceedings, 1107, pp. 429-436.](#)
- [9] [Hastings, J.J., "Release behaviour of Sr-90 from hydraulically retrieved ILW sludge", \(2008\) Materials Research Society Symposium Proceedings, 1107, pp. 613-620.](#)
- [10] [Harrison, M.T., Scales, C.R., "Development of borosilicate glass compositions for the immobilisation of the UK's separated plutonium stocks", \(2008\) Materials Research Society Symposium Proceedings, 1107, pp. 405-412.](#)
- [11] [Fairhall, G.A., "The UK National Nuclear Laboratory and waste management R&D", \(2008\) Materials Research Society Symposium Proceedings, 1107, pp. 3-13.](#)
- [12] [Small, J.S., Lennon, C., Kwong, S., Scott, R.J., "Development and validation of a model of uranium release to groundwater from legacy disposals at the UK Low Level Waste Repository", \(2008\) Materials Research Society Symposium Proceedings, 1107, pp. 657-664.](#)
- [13] [Bingham, P.A., Hand, R.J., Stennett, M.C., Hyatt, N.C., Harrison, M.T., "The use of surrogates in waste immobilization studies: A case study of plutonium", \(2008\) Materials Research Society Symposium Proceedings, 1107, pp. 421-428.](#)

- [14] [Holland, D., Parkinson, B.G., Islam, M.M., Duddridge, A., Roderick, J.M., Howes, A.P., Scales, C.R., "NMR investigation of cation distribution in HLW wastefrom glass", \(2008\) Materials Research Society Symposium Proceedings, 1107, pp. 199-206.](#)
- [15] [Rushton, M.J.D., Grimes, R.W., Owens, S.L., "Changes to alkali ion content adjacent to crystal-glass interfaces", \(2008\) Materials Research Society Symposium Proceedings, 1107, pp. 207-213.](#)
- [16] [Angus, M.J., Butcher, E., Godfrey, I.H., Milestone, N.B., "The role and management of free water in the production of durable radioactive waste products using hydraulic cements", \(2008\) Materials Research Society Symposium Proceedings, 1107, pp. 117-125.](#)
- [17] [Gordon, L.E., Milestone, N.B., Angus, M.J., "The immobilisation of clinoptilolite within cementitious systems", \(2008\) Materials Research Society Symposium Proceedings, 1107, pp. 135-142.](#)
- [18] [Short, R., Turner, E., Dunnett, B., Riley, A., "Devitrified and phase separated material found in simulated high level nuclear waste glasses containing Ca and Zn additions", \(2008\) Materials Research Society Symposium Proceedings, 1107, pp. 261-267.](#)
- [19] [Stennett, M.C., Hyatt, N.C., Gilbert, M., Livens, F.R., Maddrell, E.R., "Towards a single host phase ceramic formulation for UK plutonium disposition", \(2008\) Materials Research Society Symposium Proceedings, 1107, pp. 413-420.](#)
- [20] [Abram, T., "A review of cladding corrosion in UK advanced gas-cooled reactors", \(2008\) Transactions of the American Nuclear Society, 98, pp. 1175-1176.](#)
- [21] [López-Honorato, E., Meadows, P.J., Tan, J., Xiao, P., Marsh, G., Abram, T., "Fluidized bed chemical vapor deposition of pyrolytic carbon and silicon carbide for very high temperature reactor fuels", \(2008\) Transactions of the American Nuclear Society, 98, pp. 988-989.](#)
- [22] [Lewin, R.G., Fairhall, G.A., Farrant, D., "Moving towards industrialisation - the strategy behind the science and engineering of pyrochemistry in Nexia Solutions", \(2008\) Societe Francaise d'Energie Nucleaire - International Congress on Advances in Nuclear Power Plants - ICAPP 2007, "The Nuclear Renaissance at Work", 2, pp. 1127-1133.](#)
- [23] [Banford, A.W., Hanson, B.C., Scully, P.J., Taylor, R., "Formulation of engineering design principles for the treatment of irradiated fuel and associated radioactive waste", \(2008\) Societe Francaise d'Energie Nucleaire - International Congress on Advances in Nuclear Power Plants - ICAPP 2007, "The Nuclear Renaissance at Work", 2, pp. 1017-1023.](#)
- [24] [Mills, R.W., "Tritium production within thermal reactor nuclear fuel", \(2008\) Societe Francaise d'Energie Nucleaire - International Congress on Advances in Nuclear Power Plants - ICAPP 2007, "The Nuclear Renaissance at Work", 2, pp. 693-698.](#)
- [25] [Poette, C., Garnier, J.C., Klein, J.C., Morin, F., Tosello, A., Dor, I., Bertrand, F., Mitchell, C., Every, D., Coddington, P., "Status of the ETDR design", \(2008\) Societe Francaise d'Energie Nucleaire - International Congress on Advances in Nuclear Power Plants - ICAPP 2007, "The Nuclear Renaissance at Work", 2, pp. 1198-1207.](#)

- [26] [Von Lensa, W., Boucher, L., Gonzales, E., Greneche, D., Gudowski, W., Marivoet, J., Nabbi, R., Odoj, R., Zimmerman, C.H., "Red-impact: A European research programme to assess the impact of partitioning and transmutation on final nuclear waste disposal", \(2008\) Societe Francaise d'Energie Nucleaire - International Congress on Advances in Nuclear Power Plants - ICAPP 2007, "The Nuclear Renaissance at Work", 4, pp. 2564-2573.](#)
- [27] [Bourg, S., Caravaca, C., Finne, J., De Angelis, G., Malmbeck, R., Lewin, B.G., Uhlir, J., Inoue, T., Luca, V., Madic, C., "Pyrochemistry within Europart Assessment of the Studies on spent fuel treatment processes Collective Work", \(2008\) Societe Francaise d'Energie Nucleaire - International Congress on Advances in Nuclear Power Plants - ICAPP 2007, "The Nuclear Renaissance at Work", 2, pp. 945-951.](#)
- [28] [Utton, C.A., Hayes, M., Hill, J., Milestone, N.B., Sharp, J.H., "Effect of temperatures up to 90°C on the early hydration of Portland-blastfurnace slag cements", \(2008\) Journal of the American Ceramic Society, 91 \(3\), pp. 948-954.](#)
- [29] [Gibb, F.G.F., Travis, K.P., McTaggart, N.A., Burley, D., Hesketh, K.W., "Modeling temperature distribution around very deep borehole disposals of HLW", \(2008\) Nuclear Technology, 163 \(1\), pp. 62-73.](#)
- [30] [Guilbert, S., Bosland, L., Fillet, S., Jacquemain, D., Clement, B., Andreo, F., Ducros, G., Dickinson, S., Herranz, L., Ball, J., "Formation of organic iodide in the containment in case of a severe accident", \(2008\) Transactions of the American Nuclear Society, 98, pp. 291-292.](#)

## Conference Papers - 2007

- [1] [Harrison, M.T., Scales, C.R., Bingham, P.A., Hand, R.J., "Survey of potential glass compositions for the immobilisation of the UK's separated plutonium stocks", \(2007\) Materials Research Society Symposium Proceedings, 985, pp. 151-156.](#)
- [2] [Barker, M.A., Stephenson, K., Weston, R., "The manufacture and performance of homogeneous- microstructure SBR mox fuel", \(2007\) American Nuclear Society - 2007 LWR Fuel Performance/Top Fuel, pp. 52-61.](#)
- [3] [Stennett, M.C., Maddrell, E.R., Scales, C.R., Livens, F.R., Gilbert, M., Hyatt, N.C., "An evaluation of single phase ceramic formulations for plutonium disposition", \(2007\) Materials Research Society Symposium Proceedings, 985, pp. 145-150.](#)
- [4] [Hyatt, N.C., Morgan, S., Stennett, M.C., Scales, C.R., Deegan, D., "Characterisation of plasma vitrified simulant plutonium contaminated material waste", \(2007\) Materials Research Society Symposium Proceedings, 985, pp. 393-398.](#)
- [5] [Fox, O.D., Carrott, M.J., Gaubert, E., Maher, C.J., Mason, C., Taylor, R.J., Woodhead, D.A., "Development and validation of process models for minor actinide separations processes using centrifugal contactors", \(2007\) GLOBAL 2007: Advanced Nuclear Fuel Cycles and Systems, pp. 182-188.](#)
- [6] [Kuijper, J.C., Cetnar, J., Shihab, S., Toury, G., Cerullo, N., Lomonaco, G., Girardi, E., Venneri, F., Bernnat, W., Somers, J., Zakova, J., Wallenius, J., Van Den Durpel, L., Abram, T., Millington, D., Chauvet, V., Kloosterman, J.L., Jonnet, J., Werner, H., Trakas, C., "PUMA - Plutonium and minor actinides management in thermal high-temperature reactors", \(2007\) Transactions of the American Nuclear Society, 96, pp. 750-751.](#)
- [7] [Worrall, A., Thomas, G.M., "Potential plutonium utilisation in UK PWRs using MOX and IMF: AP1000", \(2007\) Transactions of the American Nuclear Society, 96, pp. 187-188.](#)
- [8] [Stanley, S.J., Rhodes, D., Jenneson, P.M., Gilboy, W.B., Simons, S.J.R., "Muon imaging 1: Detecting the frequency and location of cosmic ray muon events to enable the development of a muon based imaging system", \(2007\) 5th World Congress in Industrial Process Tomography, pp. 585-591.](#)
- [9] [Worrall, A., Abram, T.J., Gregg, R.W.H., Hesketh, K.W., Palmer, I.D., Rossiter, G.D., Thomas, G.M., "Plutonium utilization options in future UK PWRs using MOX and Inert Matrix Fuels", \(2007\) GLOBAL 2007: Advanced Nuclear Fuel Cycles and Systems, pp. 1191-1200.](#)
- [10] [Staicu, D., Pagliosa, G., Papaioannou, D., Rondinella, V.V., Cozzo, C., Konings, R., Walker, C.T., Barker, M., Weston, R., "Thermal diffusivity of homogeneous SBR MOX fuel with a burn-up of 35 MWd/kgHM", \(2007\) American Nuclear Society - 2007 LWR Fuel Performance/Top Fuel, pp. 274-282.](#)
- [11] [Taylor, R.J., Fox, O.D., Sarsfield, M.J., Carrott, M.J., Mason, C., Woodhead, D.A., Maher, C.J., Steele, H., Koltunov, V.S., "Fundamental chemical kinetic and thermodynamic data for purex process models", \(2007\) GLOBAL 2007: Advanced Nuclear Fuel Cycles and Systems, pp. 180-181.](#)

- [12] [Stanley, S.J., Rhodes, D., Jenneson, P.M., Gilboy, W.B., Simons, S.J.R., "Muon imaging 2: Two dimensional density mapping using naturally occurring cosmic ray muons", \(2007\) 5th World Congress in Industrial Process Tomography, pp. 644-651.](#)
- [13] [Kato, T., Usami, T., Kurata, M., Inoue, T., Sims, H.E., Jenkins, J.A., "Chemical reduction of SIM MOX in molten lithium chloride using lithium metal reductant", \(2007\) Zeitschrift fur Naturforschung - Section A Journal of Physical Sciences, 62 \(9\), pp. 513-523.](#)
- [14] [Murphy, S.C., Stanley, S.J., Rhodes, D., York, T.A., "Electrical impedance tomography \(EIT\) imaging of solid-liquid suspensions using vertically deployable sensor electrode arrays", \(2007\) 5th World Congress in Industrial Process Tomography, pp. 487-494.](#)
- [15] [Galea, S., Boxall, C., Goodall, P.S., Woodbury, S., "Photocatalytic initiation of electroless deposition", \(2007\) ECS Transactions, 6 \(8\), pp. 199-208.](#)
- [16] [Banfield, Z., Banford, A.W., Hanson, B.C., Scully, P.J., "Nuclear processing - A simple cost equation or a complex problem?", \(2007\) GLOBAL 2007: Advanced Nuclear Fuel Cycles and Systems, pp. 541-549.](#)
- [17] [Stanley, S.J., Scully, P., "Cosmic rays to acoustics: Non-intrusive monitoring for nuclear applications", \(2007\) GLOBAL 2007: Advanced Nuclear Fuel Cycles and Systems, pp. 1822-1830.](#)
- [18] [Harbottle, D., Rhodes, D., Jones, T.F., Biggs, S.R., "Remote characterization of the rheological properties of sludges and slurries - Preliminary investigations into a novel in situ sensor", \(2007\) HYDROTRANSPORT 17 - The 17th International Conference on the Hydraulic Transport of Solids, pp. 281-290.](#)
- [19] [Westlén, D., Norris, S., Gonzalez-Romero, E.M., Greneche, D., Boucher, L., Marivoet, J., Zimmerman, C., Von Lensa, W., "Impact of P&T on geological repositories an overview of the euratom red impact project", \(2007\) GLOBAL 2007: Advanced Nuclear Fuel Cycles and Systems, pp. 772-781.](#)
- [20] [Thomas, G.M., Worrall, A., "Potential plutonium utilisation in UK PWRs using MOX and IMF; sizewell 'B'", \(2007\) Transactions of the American Nuclear Society, 96, pp. 189-190.](#)