Radiochemistry Group

Young Researchers Meeting 2021

13 – 15th July 2021

Agenda

Outline

Young Researchers in academia and industry are invited to present their current research work in radiochemistry in oral format at the meeting, which will be held over three sessions on the afternoons of 13-15 July 2021.

This year, we have invited some distinguished scientists to give keynote talks and a panel of appointed judges will score each presenter to determine a winner.

Meeting Access

This is a virtual webinar - all reference times are in BST (UTC+1), The meeting will take place on the RSC webinar platform provided by GoToWebinar, which can be accessed either on the desktop or mobile application.

Registration URL - https://attendee.gotowebinar.com/register/837761202495991310

Once registered a link will be provided to attend the webinar

Webinar ID - 991-613-739

As a backup for any IT issues a toll-free number is also provided to attend, participants can use their telephone or computer mic & speakers (VoIP) on 0800 169 0433 (Access Code: 619-172-106). Speakers will be given an alternate access code by email.

Organised By

Dr Matthew Higginson, AWE

Dr Dan Whittaker, National Nuclear Laboratory

Dr Rosie Hibberd, Radioactive Waste Management

Dr Sarah Wallace, Environment Agency

Day 1 – 13 July 2021 Chair Dr Nick Evans, Nottingham Trent University, Deputy – Dr Matthew Higginson, AWE	
13:00 – 13:00	Welcome & House Keeping
13:10 – 13:40	**Keynote:** Forty years in radiochemistry - then and now; changes and challenges *Paul Thompson, AWE*
13:40 – 14:00	Synthesis of CyMe4 BTBP and $CyMe_4$BTPhen Solvent Impregnated Extraction Chromatography Resins and Application to Americium Separation *Joe Mahmoud, The University of Manchester*
14:00 – 14:10	Break
14:10 – 14:30	Process monitoring for next-generation nuclear fuel reprocessing *Catriona McFarlan, University of Strathclyde*
14:30 – 14:50	Head-End Separation of Caesium from Uranium in Spent Nuclear Fuel Recycling using AMP-PAN Composites *Alistair F. Holdsworth, The University of Manchester*
14:50 – 15:10	Studies into the effect of insoluble fission products on the generation of Ag(II) for the dissolution of MOx fuel *Michael Chimes, Lancaster University*
15:10 – 15:20	Break
15:20 – 15:40	MOX SIMfuels: Preparation of Europium doped Cerium Oxide Surrogates *Ian Robertson, Lancaster University*
15:40 – 16:00	Understanding the dissolution behaviour of modern Cr-doped UO2 Fuel *Hannah Smith, University of Sheffield*
16:00 – 17:00	**Keynote:** Why radiation is so much safer than fire *Prof. Wade Alison, Oxford University*

Day 2 – 14 July 2021 **Chair Prof. David Read, University of Surrey, Deputy – Dr Dan Whittaker, NNL**	
13:00 – 13:10	Welcome & House Keeping
13:10 – 13:40	**Keynote:** Environmental radiochemistry - underpinning radioactive waste disposal and environmental remediation *Prof. Kath Morris, The University of Manchester*
13:40 – 14:00	Fe(II) induced reduction of incorporated U(VI) to U(V) in goethite *Olwen Stagg, The University of Manchester*
14:00 – 14:10	Break
14:10 – 14:30	Electrokinetic Remediation for Nuclear Site Decommissioning *Jamie M. Purkis, University of Southampton*
14:30 – 14:50	Anaerobic biodegradation and biotransformation of Ni-citrate complexes at alkaline pH *Natalie Byrd, The University of Manchester*
14:50 – 15:10	Approaches to Sellafield Groundwater Radionuclide Remediation - In Situ Phosphate Mineralisation *Callum Robinson, The University of Manchester*
15:10 – 15:20	Break
15:20 – 15:40	Stability of hydrotalcite colloids and the adsorption of uranium(VI) *Chris Foster, The University of Manchester*
15:40 – 16:00	Identification and characterisation of secondary uranium phases in cementitious systems *Antonia Yorkshire, University of Sheffield*
16:00 – 16:30	**Keynote:** Career reflections of a radio-analytical chemist in support of international security missions *Dr Lav Tandon, Los Alamos National Laboratory*

Day 3 – 15 July 2021

Chair Prof. Phil Blower, King's College London, Deputy – Dr Matthew Higginson, AWE

13:00 – 13:10	Welcome & House Keeping
13:10 – 13:30	Rapid prototyping LoCs for the future: A numerical optimisation of bulk optical parameters in microfluidic systems *Sarah Lu, University of Southampton*
13:30 – 13:50	Characterisation of Materials from the Hunterston a Spent Nuclear Fuel Storage Pond *Anna Denman, The University of Manchester*
13:50 – 14:10	Glass dissolution feature is (probably) not boring *James Mansfield, University of Sheffield*
14:10 – 14:20	Break
14:20 – 14:40	Synthesis, in vitro and in vivo evaluation of a PSMA targeting bioconjugate using thallium-201 *Alex Rigby, King's College London*
14:40 – 15:00	Exploring Cationic Group 14 Metal Chelates as Fluoride Binders for 18F Positron Emission Tomography (PET) Applications *Madeleine Woodward, University of Southampton*
15:00 – 15:20	Polarised covalent thorium(IV) – and uranium(IV)–silicon bonds *Benjamin L. L. Réant, The University of Manchester*
15:20 – 15:30	Break
15:30 – 15:50	Simulating Uranyl Oxygen K-edge XANES using Multiconfigurational RASSCF Methods *Kurtis Stanistreet-Welsh, Lancaster University*
15:50 – 16:20	**Keynote:** Radioisotope power systems: fuelling knowledge of the solar system *Dr Mark Sarsfield, National Nuclear Laboratory*
16:20 – 16:30	Closing Remarks