



# **NRC10: 10<sup>th</sup> INTERNATIONAL CONFERENCE ON NUCLEAR AND RADIOCHEMISTRY**

Brighton, UK, 2024

Hosted by the:



# **PROGRAMME**

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## **SUNDAY 25<sup>th</sup> AUGUST**

**12:00 – 18:00      CONFERENCE REGISTRATION OPENS**

**Double Tree by Hilton Brighton Metropole Hotel and  
Conference Centre**

**Kings Road**

**Brighton**

**UK**

**BN1 2FU**

**The registration desk will be manned during the Conference at refreshment breaks and lunchtime. Any delegate concerns outside these times can be brought to the attention of any member of the conference organising committee.**

**19:00 – 21:00      Conference Ice-Breaker Drinks Reception**

**Clarence Room**

**Double Tree by Hilton Brighton Metropole Hotel**

09:00 – 09:10 **NRC10 Welcome Address –**  
Professor Marko Štrok EuChemS – DNRC Chair  
Dr Louise Natarajan RSC – Radiochemistry Interest Group Chair

## SESSION 1: ENVIRONMENTAL RADIOCHEMISTRY

Chair – Professor D Read, University of Surrey

09:15 – 09:45 **Invited Plenary Lecture:** Abstract 1  
**Environmental Radioactivity at the Department of Energy's Hanford Site:  
Sources and Sinks.**

**Dr Carolyn Pearce.**  
Pacific Northwest National Laboratory, USA

09:45 – 10:00 **ENVIRONMENTAL 1** Abstract 2  
**Investigating radioactive beach finds.**  
Laura Newsome  
Sellafield Ltd UK

10:00 – 10:15 **ENVIRONMENTAL 2** Abstract 3  
**Environmental Radioactivity in China – Level, distribution and source of  
artificial radionuclides in marine and terrestrial environment**  
Xiaolin Hou  
Lanzhou University, School of Nuclear Sciences and Technology, China

10:15 – 10:30 **ENVIRONMENTAL 3** Abstract 4  
**Influence of Al on the retention of tri-valent actinides and their  
homologues on feldspar.**  
Jessica Lessing  
Helmholtz-Zentrum Dresden-Rossendorf e.V., Institute of Resource Ecology, Germany

10:30 – 10:45 **ENVIRONMENTAL 4** Abstract 5  
**Investigation of the migration behaviour of I-125 using a laboratory  
lysimeter with reference soil**  
Nils Sassenberg  
Leibniz University Hannover, Institute of Radioecology and Radiation Protection,  
Germany

10:45 – 11:15 **Tea And Coffee – CAMBRIDGE & DURHAM ROOMS**

## SESSION 1: ENVIRONMENTAL RADIOCHEMISTRY continued

Chair – Dr Marko Strot, Jožef Stefan Institute, Slovenia

11:15 – 11:30 **ENVIRONMENTAL 5** Abstract 6  
**From concrete to plants: Phytoremediation of soil from German nuclear  
facilities.**  
Tobias Blencke  
Institute of Radioecology and Radiation Protection, Leibniz University Hannover,  
Germany

- 11:30 – 11:45 ENVIRONMENTAL 6** Abstract 7  
**Anthropogenic U-236 in Artic and Antarctic moss and lichens**  
 Jerzy-W. Mietelski  
 Henryk Niewodniczański Institute of Nuclear Physics Polish Academy of Sciences,  
 Kraków, Poland
- 11:45 – 12:00 ENVIRONMENTAL 7** Abstract 8  
**Element and particle fractionation during the transport of Eu(III) – silicate colloids in water saturated porous media.**  
 Daming Zhang  
 MOE Frontier Science Center for Rare Isotopes; School of Nuclear Science and Technology, Lanzhou university, China
- 12:00 – 12:15 ENVIRONMENTAL 8** Abstract 9  
**Vertical variation of radon activity concentration in Amazon forest.**  
 Paulo Sergio Cardoso Silva  
 Instituto de Pesquisas Energéticas e Nucleares, São Paulo, Brazil
- 12:15 – 12:30 ENVIRONMENTAL 9** Abstract 10  
**Radionuclide mobility in geological formations analysed by ICP-MS and ICP-QQQ coupling methods**  
 Ralf Kautenburger  
 WASTE group, Inorganic Solid-State Chemistry, Saarland University, Germany
- 12:30 – 12:45 ENVIRONMENTAL 10** Abstract 11  
**Colloids pose an enhanced transport risk of actinide in saturated porous media**  
 Wangsuo Wu  
 MOE Frontiers Science Center for Rare Isotopes, Lanzhou University, Lanzhou 730000, China
- 12:45 – 14:00 Buffet Lunch – CAMBRIDGE & DURHAM ROOMS**

## **SESSION 2: ENVIRONMENTAL RADIOCHEMISTRY - SPECIATION**

**Chair: Professor Thorsten Stumpf, Helmholtz Zentrum, Dresden-Rossendorf, Germany**

- 14:00 – 14:15 SPECIATION 1** Abstract 12  
**Speciation of Uranium (VI) in organic phase after extraction with a monoamide solvent. Experimental data acquisition and thermodynamic equilibrium modelling.**  
 Thibau Blanc  
 CEA, DES, ISEC, DMRC, Univ Montpellier, Marcoule, France
- 14:15 – 14:30 SPECIATION 2** Abstract 13  
**Effect of decorporation agents on the speciation of lanthanides and actinides in artificial biofluids of the human digestion system.**  
 A Barkleit  
 Helmholtz-Zentrum Dresden-Rossendorf, Institute of Resource Ecology, Germany
- 14:30 – 14:45 SPECIATION 3** Abstract 14  
**Micromechanism of adsorption of strontium and cesium on different expansive clay minerals**  
 Junjun Hou  
 School of Nuclear Science and Technology, Lanzhou University, China

- 14:45 – 15:00 SPECIATION 4** Abstract 15  
**Investigation of trivalent actinide and lanthanide complex speciation with cement additive PBTC.**  
 Anne Wollenberg  
 Dresden University of Technology, Central Radionuclide Laboratory, 01062 Dresden, Germany.
- 15:00 – 15:15 SPECIATION 5** Abstract 16  
**Toward new macrocycle-based Ra resins.**  
 Illarion Dovhyi  
 Triskem International, 3 rue des champs Geons, ZAC de l'Eperon, 35170 Bruz, France
- 15:15 – 15:30 SPECIATION 6** Abstract 17  
**Applying electrochemical methods to real-life samples for radionuclide separation.**  
 Martin Heule  
 Department of Radiation Safety and Security, Paul Scherrer Institute, Switzerland
- 15:30 – 16:00 Tea And Coffee – CAMBRIDGE & DURHAM ROOMS**

### **SESSION 3: RADIOCHEMISTRY EDUCATION**

**Chair: Dr Mojmir Nemeč, Czech Technical University in Prague, Czech Republic.**

- 16:00 – 16:15 INTRODUCTION – Session Chair**
- 16:15 – 16:30 EDUCATION 1** Abstract 18  
**Educational activities on environmental radioactivity and medical applications of radiation at University of Milano and INFN in Italy**  
 Flavia Groppi  
 LASA laboratory, National Institute of Nuclear Physics - INFN, Italy
- 16:30 – 16:45 EDUCATION 2** Abstract 19  
**Virtual labs supporting radiochemistry hands-on laboratory: the Politecnico di Milano experience.**  
 Maddalena Negrin  
 Department of Energy, Politecnico di Milano, Milano, Italy
- 16:45 – 17:00 EDUCATION 3** Abstract 20  
**Open access to nuclear research infrastructures of the Joint Research Centre - A European tool for education and training.**  
 Alice Seibert  
 European Commission, Joint Research Centre (JRC), Karlsruhe, Germany
- 19:00 - 21:00 Poster Exhibition (Session 1) with Wine and Hot-Cold Buffet**  
**DURHAM ROOM EXHIBITION HALL**

**SESSION 4: RADIOANALYTICAL CHEMISTRY**

Chair: Professor Xiaolin Hou, Lanzhou University, China

- 09:00 – 09:30**      **Invited Plenary Lecture:** Abstract 21  
**Radioanalytical chemistry in the “Anthropocene”.**  
  
**Professor Andy Cundy**  
**GAU Radioanalytical, University of Southampton, UK**
- 09:30 – 09:45**      **RADIOANALYSIS 1** Abstract 22  
**Radioanalytical determination of <sup>225</sup>Ac and <sup>227</sup>Ac in the presence of <sup>243</sup>Am tracer using solid-phase extraction with ion-imprinted polymer resin.**  
Ruslan Cusnir  
Institute of Radiation Physics, Rue du Grand-Pre 1, Lausanne CH-1007, Switzerland
- 09:45 – 10:00**      **RADIOANALYSIS 2** Abstract 23  
**Problems and solutions to the accumulation of TODGA degradation compounds in the separation of Am by AmSel process.**  
Pablo Vacas-Arquero  
Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas (CIEMAT). Madrid (Spain)
- 10:00 – 10:15**      **RADIOANALYSIS 3** Abstract 24  
**Developments in the Radiochronometric Analysis of Actinide Materials for Nuclear Forensics**  
Matthew Higginson,  
AWE Nuclear Security Technologies, UK
- 10:15 – 10:30**      **RADIOANALYSIS 4** Abstract 25  
**Simultaneous determination of key seven radionuclide in food samples**  
Yanqin Ji  
China CDC Key Laboratory of Radiological Protection and Nuclear Emergency, National Institute for Radiological Protection, China CDC
- 10:30– 10:45**      **RADIOANALYSIS 5** Abstract 26  
**Determination of mixtures of radionuclides (<sup>89</sup>Sr + <sup>90</sup>Sr and <sup>90</sup>Sr + plutonium isotopes) using PS resin in tandem.**  
Alex Tarancón Sanz  
Department d’Enginyeria Química, Universitat de Barcelona, Spain
- 10:45 – 11:15**      **Tea and Coffee – CAMBRIDGE & DURHAM ROOMS**
- 11:15 – 11:30**      **RADIOANALYSIS 6** Abstract 27  
**Method development for simultaneous determination of <sup>93</sup>Mo, <sup>93</sup>Zr and <sup>94</sup>Nb in high activity steel.**  
Veronika Meriläinen  
VTT Technical Research Centre of Finland, Finland

- 11:30 – 11:45**      **RADIOANALYSIS 7** Abstract 28  
**Development of a technology for the analysis of tritium and other hydrogen isotopologues using Raman spectroscopy and hollow-core microstructured optical fibres.**  
 Anna Denman  
 Jacobs Ltd, 601 Faraday Street, Birchwood Park, Warrington, Cheshire, UK
- 11:45 – 12:00**      **RADIOANALYSIS 8** Abstract 29  
**Development of HCl-free analytical method for <sup>79</sup>Se in concrete rubble by ICP-MS/MS.**  
 Van Khoai Do  
 Japan Atomic Energy Agency (JAE)
- 12:00 – 12:15**      **RADIOANALYSIS 9** Abstract 30  
**Development of a chemical separation strategy for r-process derived radionuclides from terrestrial and lunar geological archives.**  
 Sebastian Fichter  
 Institute of Ion Beam Physics and Materials Research, Dresden, Germany
- 12:15 – 12:30**      **RADIOANALYSIS 10** Abstract 31  
**Enhancing the radioanalytical process through micro-fluidics: integrated separation and detection of <sup>90</sup>Sr in an automated microfluidic system.**  
 Sarah Lu  
 Los Alamos National Laboratory, Bikini Atoll Rd, Los Alamos, NM, United States
- 12:30 – 13:45**      **BUFFET LUNCH - CAMBRIDGE & DURHAM ROOMS**

#### **SESSION 4: RADIOANALYTICAL CHEMISTRY continued**

Chair: Dr Matt Higginson, AWE – Nuclear Security Services, UK

- 13:45 – 14:15**      **RADIOANALYSIS 11** Abstract 32  
**Chemistry of individual micrometre-sized “hot particles”: How to measure the bioavailability of radionuclides.**  
 Tobias Weissenborn  
 University of Hanover, Institute of Radioecology and Radiation Protection, Germany
- 14:15 – 14:30**      **RADIOANALYSIS 12** Abstract 33  
**Intra-laboratory comparison of <sup>137</sup>Cs radioactivity in seawater: AMP – PAN column chromatography vs. AMP batch method.**  
 Jin O Lee  
 Korea Institute of Nuclear Safety, ‡Korea Atomic Energy Research Institute
- 14:30 – 14:45**      **RADIOANALYSIS 13** Abstract 34  
**Flow electrolysis for fast separation and analysis of radionuclides**  
 Paul Dutheil  
 Department of Chemistry and Applied Biosciences, Zürich, Switzerland
- 14:45 – 15:00**      **RADIOANALYSIS 14** Abstract 35  
**Low-level analysis of Sr-90 and transuranium elements in Austrian aerosols**  
 Rainer Kadan  
 Austrian Agency for Health and Food Safety (AGES), Vienna, Austria

- 15:00 – 15:15**      **RADIOANALYSIS 15** Abstract 36  
**Separation and quantification method for Pd-107 in radioactive waste.**  
 Marina Faure  
 University Paris-Saclay, CEA, Service de Physico-Chimie, F-91191, Gif-sur-Yvette  
 Cedex, France
- 15:15 – 15:30**      **RADIOANALYSIS 16** Abstract 37  
**Unravelling ultra-trace lanthanide impurities in nuclear forensic  
 evidence.**  
 Michael Hofstetter  
 ETH Zürich, Department of Chemistry and Applied Biosciences, Switzerland
- 15:30 – 16:00**      **Tea and Coffee – CAMBRIDGE & DURHAM ROOMS**

## **SESSION 5: RADIOPHARMACEUTICAL CHEMISTRY**

**Chair: Professor Ulli Koester, Institut Laue-Langevin, Grenoble, France**

- 16:00 – 16:15**      **RADIOPHARMA 1** Abstract 38  
**Measurements of nuclear cross-section of production of theranostic  
 radionuclides at LASA laboratory in Italy: focus on terbium  
 quadruplet.**  
 Flavia Groppi  
 LASA Laboratory, Physics Department of University of Milano & INFN, Segrate  
 (MI), Italy
- 16:15 – 16:30**      **RADIOPHARMA 2** Abstract 39  
**Modifying Strontium Hexaferrite Nanoparticles for Potential  
 Theranostic Radiopharmaceuticals**  
 Gleb Aleshin  
 Lomonosov Moscow State University, 119991 Leninskie Gory, 1/3, Moscow,  
 Russian Federation
- 16:30 – 16:45**      **RADIOPHARMA 3** Abstract 40  
**Development stages of the terbium sisters for theranostics at Paul  
 Scherrer Institute.**  
 Pascal Grundler  
 Paul Scherrer Institute, Center for Radiopharmaceutical Sciences, Switzerland
- 16:45 – 17:00**      **RADIOPHARMA 4** Abstract 41  
**Green Synthesis and Evaluation of Pyrazolone Derivatives for Iodine-  
 131 Lung Imaging**  
 Moaz M. Abdou  
 Egyptian Petroleum Research Institute, Nasr City, 11727, Cairo, Egypt
- 19:00 - 21:00**      **Poster Exhibition (Session 2) with Wine and Hot-Cold Buffet  
 DURHAM ROOM EXHIBITION HALL**

**SESSION 6: RADIONUCLIDE PRODUCTION**

Chair: Dr Peter Ivanov, National Physical Laboratory, London, UK

- 09:00 – 09:30      **Invited Plenary Lecture:** Abstract 42
- Production of radionuclides for medical applications**
- Dr Ulli Köster**  
Institut Laue-Langevin, Grenoble, France
- 
- 09:30 – 09:45      **RN PROD 1** Abstract 43
- Production and Identification of tailored thorium ions for fundamental physics**  
Jonas Stricker  
Johannes Gutenberg-University Mainz, Mainz, Germany
- 
- 09:45 – 10:00      **RN PROD 2** Abstract 44
- Development of Au-199 separation protocol from Pt irradiated targets for theranostic applications**  
Marko Štok  
Jožef Stefan Institute, Jamova cesta 39, SI-1000 Ljubljana, Slovenia
- 
- 10:00 – 10:15      **RN PROD 3** Abstract 45
- Reverse-tandem scheme of generator for production of medical radionuclides.**  
Ayagoz Baimukhanova  
Laboratory of Nuclear Problems, Joint Institute for Nuclear Research, Dubna, Russian Federation
- 
- 10:15 – 10:30      **RN PROD 4** Abstract 46
- IMPACT-TATTOOS – novel radionuclide production in Switzerland: a design status report.**  
Robert Eichler  
Laboratory of Radiochemistry, Paul Scherrer Institute, Villigen PSI, Switzerland
- 
- 10:30– 10:45      **RN PROD 5** Abstract 47
- Molybdenum nanoparticles for the production of high specific activity <sup>99</sup>Mo by the recoil effect.**  
Pablo Serra Crespo  
European Commission, Joint Research Centre (JRC), Petten, Netherlands
- 
- 10:45– 11:00      **RN PROD 6** Abstract 48
- Separation of nuclear isomers: towards the design of <sup>44g</sup>Sc/<sup>44m</sup>Sc radionuclide generator.**  
Elena Kurakina  
Dzhelepov Laboratory of Nuclear Problems, Joint Institute for Nuclear Research, Dubna 141980, Russian Federation
- 
- 11:00 – 11:30      **Tea and Coffee –CAMBRIDGE & DURHAM ROOMS**

11:30 – 11:45	<p><b>RN PROD 7</b> <span style="float: right;">Abstract 49</span>  <b>Production of iodine-131 using a compact fusion reactor based on multi-state fusion</b>  Erin Holland  Astral Systems, Dorset Innovation Centre, Dorchester, Dorset, UK</p>
11:45 – 12:00	<p><b>RN PROD 8</b> <span style="float: right;">Abstract 50</span>  <b>Development of a rapid purification method for medical radionuclides</b>  Hibaaq Mohamud  National Physical Laboratory, Teddington, Middlesex, UK</p>
12:00 – 12:15	<p><b>RN PROD 9</b> <span style="float: right;">Abstract 51</span>  <b>Cyclotron production and radiochemical purification of Plutonium-236.</b>  Peter Ivanov  National Physical Laboratory, Teddington, Middlesex, UK</p>
12:15 – 12:30	<p><b>RN PROD 10</b> <span style="float: right;">Abstract 52</span>  <b>Harvesting [<sup>68</sup>Ga] GaCl<sub>3</sub> from solid and liquid targets: a versatile and high –yielding cassette-based process.</b>  Ruben Veronesi  Trasis SA, Research and Development Department, Ans, Belgium</p>
12:30 – 12:45	<p><b>RN PROD 11</b> <span style="float: right;">Abstract 53</span>  <b>Optimised cassette-based process for [<sup>18</sup>F] FMZ production: an outlook to generic ArylBpin radiolabelling in a GMP environment.</b>  Romaric Gerardy  TRASIS, Rue Gilles Magnée 904430 Ans, Belgium</p>
12:45 – 13:00	<p><b>RN PROD 12</b> <span style="float: right;">Abstract 54</span>  <b>Adjacent lanthanide separations for neutron capture cross-section measurements at the National Ignition Facility.</b>  Samantha Labb  Lawrence Livermore National Laboratory, Livermore, CA 94550, USA</p>
13:00 ONWARDS	<p><b>NRC10 CONFERENCE AFTERNOON RECESS</b></p>
Delegate Excursions*	<p><b>Excursion 1:</b>  <b>Arundel Castle and Gardens*</b>  <a href="https://www.arundelcastle.org/">https://www.arundelcastle.org/</a>  Departs Hilton Hotel 14:30  <b>Excursion 2:</b>  <b>Ridgeview Vineyard Tour*</b>  <a href="https://www.ridgeview.co.uk/visit/tours-and-tastings/">https://www.ridgeview.co.uk/visit/tours-and-tastings/</a>  Departs Hilton Hotel 14:30</p> <p style="text-align: center;">*Note – Tickets can be purchased on a first come first served basis at the NRC10 reception desk.</p>
Extracurricular Meetings	<p><b>Clarence Room:</b></p>
15:30 – 16:30	<p>Reference Materials Discussion – “What do we need?”– hosted by AWE and NPL</p>

**SESSION 7: ACTINIDE CHEMISTRY**

Chair: Dr Louise Natrajan, The University of Manchester, Manchester, UK

- 09:00 – 09:30**      **Invited Plenary Lecture:** Abstract 55
- Environmental Radioactivity at Chernobyl and Fukushima: the Public Communication Disasters**
- Professor Jim Smith,**  
**School of the Environment, Geography and Geosciences, University of Portsmouth, UK**
- 
- 09:30 – 09:45**      **ACTINIDE 1** Abstract 56
- Visualisation of reactive transport of plutonium in Opalinus Clay rock using synchrotron-based microimaging techniques.**
- Tobias Reich  
Johannes Gutenberg-Universität Mainz, Department of Chemistry, Nuclear Chemistry, 55099 Mainz, Germany
- 
- 09:45 – 10:00**      **ACTINIDE 2** Abstract 57
- Thermodynamic and kinetic effects of impurities in uranium alloys**
- Bradley C Childs  
Lawrence Livermore National Laboratory, Materials Science Division, USA
- 
- 10:00 – 10:15**      **ACTINIDE 3** Abstract 58
- Experimental Studies and Molecular Modeling of the Physico-chemical Properties of Pure Monoamides Extractants for Uranium and Plutonium Extraction.**
- Abderrazak Masmoudi  
CEA, DES, ISEC, DMRC, Univ Montpellier, Marcoule, France
- 
- 10:15 – 10:30**      **ACTINIDE 4** Abstract 59
- Solubility of An(III) in saline solutions in presence of organic compounds.**
- Roland Meier  
Karlsruhe Institute of Technology, Institute for Nuclear Waste Disposal, Karlsruhe, Germany
- 
- 10:30– 10:45**      **ACTINIDE 5** Abstract 60
- Reactivity of actinide mono-cations with NH<sub>3</sub> in gas phase: A study using ICP-MS and quantum chemistry.**
- Mathilde Goujet  
CEA, DES, ISEC, DMRC, Univ. Montpellier, Marcoule, France
- 
- 10:45 – 11:15**      **Tea and Coffee – CAMBRIDGE & DURHAM ROOMS**
- 
- 11:15 – 11:30**      **ACTINIDE 6** Abstract 61
- Heterobimetallic pyridyloxy complexes of tetravalent actinides and group 10 elements.**
- Dennis Grödler  
Helmholtz Zentrum Dresden-Rossendorf, Institute of Resource Ecology, Dresden, Germany

- 11:30 – 11:45**      **ACTINIDE 7** Abstract 62  
**Synthesis, characterisation, and solubility of M-Pu(VI)-OH solid phases.**  
David Fellhauer  
Karlsruhe Institute of Technology, Institute for Nuclear Waste Disposal, P.O. Box 3640, 76021 Karlsruhe, Germany
- 11:45 – 12:00**      **ACTINIDE 8** Abstract 63  
**Solubility study of U(VI) with aqueous silicates and citrate in (hyper)alkaline medium ionic strength solutions.**  
Sarah Duckworth  
Institute for Nuclear Waste Disposal (INE), Karlsruhe Institute of Technology, Karlsruhe Germany
- 12:00 – 12:15**      **ACTINIDE 9** Abstract 64  
**Understanding the fate of Tc(IV) and U(IV) upon air-exposure.**  
Liam Abrahamsen-Mills  
National Nuclear Laboratory, Chadwick House, Birchwood Park, Warrington, UK
- 12:15 – 12:30**      **ACTINIDE 10** Abstract 65  
**Influence of gluconate on plutonium uptake by hardened cement paste under low and high ionic strength.**  
Samer Amayri  
Johannes Gutenberg-Universität Mainz, Department of Chemistry, Nuclear Chemistry, Mainz, Germany
- 12:30 – 13:45**      **BUFFET LUNCH - CAMBRIDGE & DURHAM ROOMS**

## SESSION 7: ACTINIDE CHEMISTRY continued

Chair: Professor Katherine Morris, The University of Manchester, Manchester, UK

- 13:45 – 14:15**      **ACTINIDE 11** Abstract 66  
**Improving americium/curium separation factors in the AmSel process through symmetry lowering of the diglycolamide extractant.**  
Filip Kolesar  
KU Leuven, Department of Chemistry, Leuven, Belgium
- 14:15 – 14:30**      **ACTINIDE 12** Abstract 67  
**From monometallic to heterotrimetallic; a comparison on actinide complexes featuring An 8(+2)-fold coordination**  
Robert Gericke  
Helmholtz Zentrum Dresden-Rossendorf, Institute of Resource Ecology, Dresden, Germany
- 14:30 – 14:45**      **ACTINIDE 13** Abstract 68  
**Understanding neptunium behaviour in carbonate-containing solutions with alkaline metal and alkaline earth cations.**  
Tatiana Plakhova  
Lomonosov Moscow State University, Leninskie Gory 1, Moscow, Russia
- 14:45 – 15:00**      **ACTINIDE 14** Abstract 69  
**Series of isostructural bimetallic actinide complexes with the phthalimidinyl ligand.**  
Till Erik Sawallisch  
Institute of Resource Ecology, Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany

**15:00 – 15:15**     **ACTINIDE 15** Abstract 70  
**2,6-Bis(5-(tert-butyl)-1H-pyrazol-3-yl)pyridine. Effects of the peripheral aliphatic sidechain on the coordination of actinides (III) and lanthanides (III).**  
Jonas Stracke  
Karlsruhe Institute of Technology (KIT), Institute for Nuclear Waste Disposal (INE),  
Karlsruhe, Germany

**15:15 – 15:45**     **Tea and Coffee – CAMBRIDGE & DURHAM ROOMS**

## **SESSION 8: TRANSACTINIDE CHEMISTRY**

**Chair: Professor Tobias Reich, Johannes Gutenberg-Universität Mainz, Germany**

**15:45 – 16:00**     **TRANSACTINIDE 1** Abstract 71  
**Evaluation of the ion funnel-to-IVAC system for the rapid chemical characterisation of superheavy elements.**  
Georg Tiebel  
Laboratory of Radiochemistry, Paul Scherrer Institut, Villigen PSI, Switzerland

**16:00 – 16:15**     **TRANSACTINIDE 2** Abstract 72  
**Aqueous chemistry of Tl chlorides from the Nh chemistry perspective.**  
Pavel Bartl  
Department of Nuclear Chemistry, CTU in Prague–FNSPE Brehova 7, 115 19  
Praha 1, Czech Republic

**16:15 – 16:30**     **TRANSACTINIDE 3** Abstract 73  
**Exploring the bottom of the periodic table: The chemistry of (super) heavy elements.**  
Patrick Steinegger  
Paul Scherrer Institute, Laboratory of Radiochemistry, Nuclear Energy and Safety  
Division, Switzerland

**16:30 – 16:45**     **TRANSACTINIDE 4** Abstract 74  
**Isothermal gas chromatography experiments under non-optimal conditions: the case of adsorption enthalpies of Tl and TlOH on fused silica.**  
Rugard Dressler  
Paul-Scherrer-Institut, Villigen PSI, Switzerland

**19:00 - 23:00**     **NRC10 CONFERENCE DINNER**  
**GRANDE HOTEL**  
**(SMART CASUAL DRESS)**

**SESSION 9: NUCLEAR FUEL CYCLE**

Chair: Dr Carolyn Pearce, Pacific Northwest National Laboratory, USA

- 09:00 – 09:30      **Invited Plenary Lecture:** Abstract 75
- Environmental Radiochemistry Research in the UK: Challenges and Research Impacts.**
- Professor Katherine Morris, The University of Manchester, UK**
- 
- 09:30 – 09:45      **NFC 1** Abstract 76
- Removal of radioactive silver and iodine by amino adsorbents synthesized via simultaneous gamma-ray induced radiation grafting.**
- Xiaohan Pan  
School of Mechanical Engineering, Shanghai Jiao Tong University, China
- 
- 09:45 – 10:00      **NFC 2** Abstract 77
- Redox behaviour and distribution of nuclides in fluoride molten salt.**
- Qiang Dou  
Shanghai Institute of Applied Physics, Chinese Academy of Sciences, China
- 
- 10:00 – 10:15      **NFC 3** Abstract 78
- Radiological characterisation of magnox fuel element debris (FED) at Oldbury and Sizewell A to facilitate low-level waste (LLW) disposal.**
- Joshua Weatherill  
Nuclear Restoration Services Ltd, Hinton House, Birchwood Park Avenue, Risley, Warrington, Cheshire, UK
- 
- 10:15 – 10:30      **NFC 4** Abstract 79
- Progress towards the immobilization of the UK Plutonium inventory in Titanate ceramics.**
- Lewis Blackburn  
Immobilisation Science Laboratory, Department of Materials Science and Engineering, University of Sheffield, UK
- 
- 10:30– 10:45      **NFC 5** Abstract 80
- Effect of gamma radiation on alternative polymers for use in the nuclear industry.**
- Alex Stone  
National Nuclear Laboratory, Havelock Rd, Workington, UK
- 
- 10:45– 11:00      **NFC 6** Abstract 81
- Diffusive transport of radionuclides (Cl-36 and H-3) measured by LSC and AMS.**
- Sandra Baur  
Paul Scherrer Institute, Department of Radiation Safety and Security, Radioanalytics Group, Villigen PSI, Switzerland
- 
- 11:00 – 11:30      **Tea and Coffee – CAMBRIDGE & DURHAM ROOMS**

- 11:30 – 11:45**      **NFC 7**      Abstract 82  
**Underpinning confidence in irradiated graphite inventories in support of an integrated graphite management strategy.**  
Alan Fisher  
Nuclear Restoration Services Ltd, Hinton House, Birchwood Park Avenue, Risley, Warrington, Cheshire, WA3 6GR, UK
- 11:45 – 12:00**      **NFC 8**      Abstract 83  
**A microfluidic technique for studying dissolution mechanism of uranium from simulated nuclear fuel debris.**  
Tongyu Xu  
Department of Chemical Science and Engineering, Tokyo Institute of Technology, Japan
- 12:00 – 12:15**      **NFC 9**      Abstract 84  
**A more sustainable and cost-effective spent nuclear fuel reprocessing by hydrophobic eutectic solvents.**  
Elena Macerata  
Department of Energy, Politecnico di Milano, Milano, Italy
- 12:15 – 12:30**      **NFC 10**      Abstract 85  
**Developing surrogates to understand structure and reactivity of the UK's special nuclear material.**  
Cooper R. T. Smylie  
Joseph Black Building, School of Chemistry, University of Glasgow, University Avenue, Glasgow, UK
- 12:30 – 12:45**      **NFC 11**      Abstract 86  
**Studies on Aggregation and Dissolution of Cerium Oxide nanoparticles from nuclear fuel debris.**  
Yiwei Zhang  
Department of Chemical Engineering, University College London, Torrington Place, London, UK
- 12:45 – 13:00**      **NFC 12**      Abstract 87  
**Radionuclides' transport in cementitious materials.**  
Juuso Sammaljarvi  
Department of Chemistry, University of Helsinki, Finland
- 13:00 – 13:30**      **NRC10 - CONFERENCE CLOSING REMARKS:**  
**Professor Marko Štok** EuChemS – DNRC Chair  
**Dr Louise Natarajan** RSC – Radiochemistry Interest Group Chair
- 13:30**      **CONFERENCE END**

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