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2019 INTEGRATED WASTE
MANAGEMENT CONFERENCE

Tuesday 8th & Wednesday 9th October 2019
Rheged Discovery Centre, Penrith CA11 0DQ



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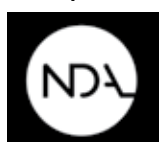
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2019 INTEGRATED WASTE MANAGEMENT CONFERENCE

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*this may be subject to change

Wifi

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1. WELCOME MESSAGES



A very warm welcome to you all as you join us here at the Rheged Centre in Cumbria, a wonderful facility located in a beautiful part of the UK, for the 2019 Integrated Waste Management Conference.

The importance of an integrated waste management strategy to ensure consistency

in approach, sharing and implementation of best practice and driving down costs has never been higher. We are delighted to be hosting this year's event in partnership with the Nuclear Decommissioning Authority, who are the lead organisation for facilitating and setting out the strategy to meet government's waste management policies, to ensure its successful delivery and to maximise the benefits of the Nuclear Sector Deal.

We are also delighted to welcome our industry sponsors, National Nuclear Laboratory, Cavendish Nuclear, Orano and Wood along with the many and varied supply chain companies who will be exhibiting their products during the Conference. Without their committed support it simply wouldn't be possible to stage such an event, and we are grateful to them all.

On a personal note, my term as President of the Nuclear Institute draws to a close at the end of December. During my term we have seen the disappointment of the setbacks at NuGen and Horizon, however we remain hopeful of further progress and developments in the future. To that end we remain absolutely committed at the Institute for championing recruitment for the future workforce across the sector, and also for the continued increase in diversity. Please ask us about membership of our Young Generation Network and Women In Nuclear branches – along with all our other membership categories of course!

I am absolutely delighted that my successor - the Institute's current Vice-President – is Gwen Parry-Jones OBE, who has a long and illustrious career which has taken her from her first nuclear job at the Wylfa power station on Anglesey across the world and back, and is now the recently appointed Chief Executive of Magnox Ltd.

Thank you all for your support and friendship. I'm certain that this will continue to be offered to Gwen as I wish her well as President of the Nuclear Institute and every success at the helm of Magnox.

I hope you find the conference both useful and enjoyable.

John Clarke, President, The Nuclear Institute

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2. WELCOME MESSAGES (CONTINUED)



It's great to be able to welcome you to this conference – this is a very important time for our industry where truly integrated waste management will make a difference by applying more proportionate risk-informed approaches; delivering better co-ordination across the industry and reducing costs over the full lifecycle.

Effective, optimised waste management is essential for the delivery of the NDA mission where radioactive waste must be appropriately managed until the point of disposal. Coming together at this conference will allow us to innovate and discover how we should work together in managing waste to enable the decommissioning and clean-up of our sites by ensuring that sustainable, effective and efficient solutions are available at the right time. The overarching NDA Integrated Waste Management Strategic Objective is to ensure that wastes are managed in a manner that protects people and the environment, now and in the future, and in ways that comply with government policies and provide value for money.

Our NDA Radioactive Waste Strategy, published last month, sets out our objectives and, through the formation of an integrated programme, we will identify and pursue opportunities to improve the waste management lifecycle. We hope that our strategy will inspire a shift in cultural thinking and provide a stake in the ground for real integration. The strategy supports the nuclear sector deal and the opportunity to work with non-NDA sites by seeking appropriate, cost-effective and timely solutions. I am delighted that the strategy was issued in good time for this conference as we all come together to work to support the national mission of Integrated Waste Management for the UK.

*Adrian Simper, Strategy and Technology Director,
Nuclear Decommissioning Authority*



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2. CONFERENCE PROGRAMME

OBJECTIVES:

- How we deliver the Nuclear Sector Deal through delivery performance optimisation
- Putting Waste Management at the top of the Agenda for change
- Opening the door to the supply chain & incentivising the market
- Innovations and Value – the need for decisions
- Securing the future through capability & skills enhancement and sector professionalism
- Bringing together Academia and Industry

ACADEMIC FORUM

EVENING SEMINAR 7TH OCTOBER 2019

Invited Academic Leads And Sponsors

Venue: The George Hotel, Penrith

18:30 NNL Sponsored Drink Reception & Buffet			
19.00-19.05	Welcome to IWM2019	Rebecca Ferris	EDF Energy
19:05-19.20	Why R&D is so important to the OneNDA mission	Melanie Brownridge	NDA
19:20-19:45	Research & Development Keynote & Introductions to Speakers	Gareth Headdock	NNL Science and Technology Director
19:45-22.30	3-minute Elevator Pitches x 8 & Poster Presentations, including Buffet and Networking	Presenters	

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MAIN CONFERENCE

DAY ONE 8TH OCTOBER 2019 (RHEGED CENTRE)

08:30 Delegate Registration & Exhibition

09:15 Commencement of Plenary Session

09:15 - 09:25	Welcome & Housekeeping	Alastair Laird	Nuclear Institute
09:25 - 09:50	Policy development unlocking the potential for Integrated Waste Management	Umran Nazir	BEIS
09:50 - 10:20	NDA leading the way on Integrated Waste Management	James McKinney & Corhyn Parr	NDA
10:20 - 10:40	An international perspective on Integrated Waste Management	Ian Gordon	IAEA
BREAK - Refreshments & Exhibition			

TRACK 1A

AUDITORIUM	UK Policy/Strategy Framework	Session Chair - Juliet Long, EA	
11:20 - 11:40	LLWR – 10 years 10 lessons learned	David Rossiter	LLWR
11:40 - 12:00	Drivers for change – how the industrial strategy and nuclear sector deal will improve UK radioactive waste arrangements	Shaun Kelso	NDA
12:00 - 12:20	Local Government: A regulator and partner in radioactive waste management	Phil Matthews	NuLeAF
12:20 - 12:40	Integrated waste management: a national infrastructure challenge	Juliet Long	Environment Agency
12:40 – 13:00	Panel Discussion / Q&A		

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TRACK 1B

LOWER THEATRE	International Radioactive Waste Disposal	SESSION CHAIR - Cherry Tweed, RWM	
11:20 - 11:40	A graded approach for the disposal of Radioactive Waste – IAEA activities	Gérard Bruno	IAEA
11:40 - 12:00	Applying a graded approach in France	Jean-Michel Hoorelbecke	ANDRA
12:00 - 12:20	Low and Intermediate Level Waste disposal in Sweden: from safety functions to detailed design and method of construction	Per Mårtensson	SKB
12:20 - 12:40	Constructing the world's first repository for spent fuel	Tiina Jalonen	Posiva
12:40 - 13:00	Panel Discussion/Q&A		
LUNCH & EXHIBITION from 13:00 - 14:00			

WORKSHOP ONE

14:00 - 14:55

SUPPORTING THE NUCLEAR SECTOR DEAL THROUGH INNOVATIVE INTEGRATED WASTE MANAGEMENT

NDA - Yvonne Morris / Shaun Kelso

WORKSHOP TWO

15:05 - 16:00

GAME CHANGER/Dragons Den Workshop

GRAND CHALLENGES – KATHERINE EILBECK/ANDREW COONEY

Smart (New) Stores and Store Monitoring / removing the Human from Harm's Way

Min Waste Volumes / Multi-use Decommissioning Capability / Aggregation and Analysis of Data

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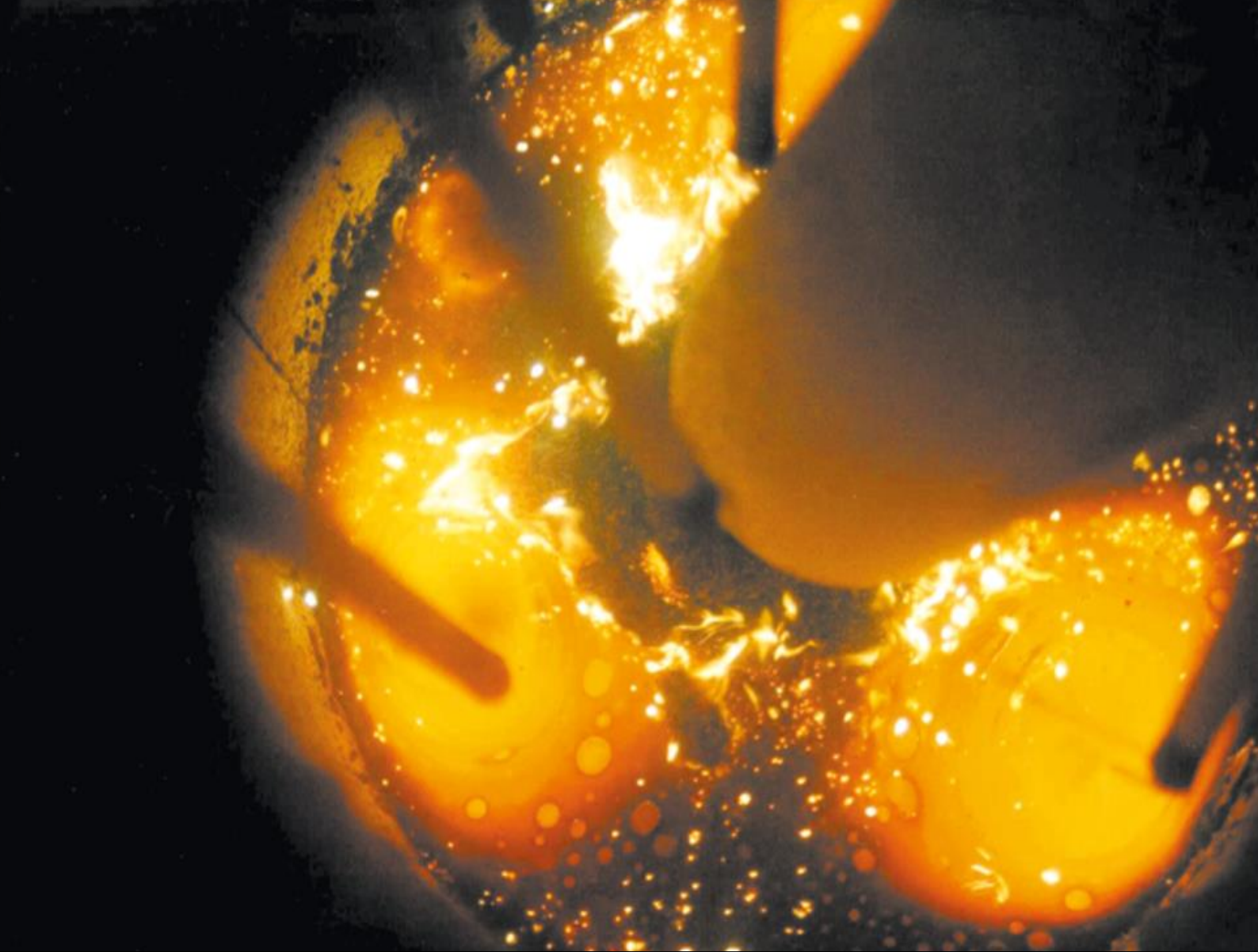
TRACK 2A

AUDITORIUM	Risk Informed Approach to IWM	SESSION CHAIR - Ed Matthews, Sellafield Ltd	
14:00 - 14:20	The Impact of Prudence and Caution on Safety of Radioactive Waste Treatment Processes	Robert Alford/ Laura Leay	NNL/University of Manchester
14:20 - 14:40	Decontamination: Can you afford the risk of doing it or the risk of not doing it?	Alex Jenkins	Sellafield Ltd
14:40 - 15:00	Characterisation to enable risk informed waste management	Sue Brown	Sellafield Ltd
15:00 - 15:20	Optimisation of waste management and final site end states – delivering the GRR	Angela Wakefield	Environment Agency
15:20 - 15:40	Transport – how conservative approaches are limiting waste management options	Sarah Bryson	RWM
15:40 - 16:00	Panel Discussion/Q&A		

TRACK 2B

LOWER THEATRE	UK Disposal Session	SESSION CHAIR - Shaun Robarts, RWM	
14:00 - 14:20	Good Practice with regard to reclassification of waste from ILW to LLW	Howard Falconer	LLWR Ltd
14:20 - 14:40	Dounreay Disposal Activities	Alan Mowat	DSRL
14:40 - 15:00	Diversion of wastes from SL to LLWR for disposal	Alistair Bell	Sellafield Ltd
15:00 - 15:20	The role of UK Geological Disposal	Samantha King	RWM
15:20 - 16:00	Panel Discussion/Q&A: International & UK – challenges and solutions		
7PM - CONFERENCE DINNER (RHEGED CENTRE)			

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Using our past to inform the future

At Orano we channel the value of over 45 years of experience in waste management for clients across the globe and at our own sites in France to inspire forward-looking waste management solutions.

As a nuclear operator, we have unique experience combined with innovative products and services to support everything from retrievals and characterisation, through to transport and storage.



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DINNER SCHEDULE & ACTIVITY PLAN

18:30	Buses leave from Penrith
18:45	Sponsored Drinks Reception – The Gallery, Rheged Centre
	Dinner – Blencathra Suite. Assemble from 19:20, serving commences 19:30 Poster Award After Dinner Speakers – Dr Rebecca Weston and the Sellafield Ltd Next Generation Executive
23:00	Buses Depart Rheged Centre to Penrith Hotels

MAIN CONFERENCE

DAY TWO 9TH OCTOBER 2019 (RHEGED CENTRE)

08:00 Delegate registration & exhibition

08:30 commencement of plenary session

08:30 - 08:40	Welcome back – Main Auditorium	Alastair Laird	Nuclear Institute
08:40 - 09:00	PLENARY - The Waste Management Challenge	Lee Peck	Sellafield Ltd
09:00 - 10:00	PLENARY - Panel Session Presentations <ul style="list-style-type: none"> • SL challenge (Ed Mathews) • DSRL challenge (Sam Usher) • LLWR challenge (Martin Walkingshaw) • MOD Waste challenges (Jim Cochrane) PLENARY – Panel Session Q&A	Lee Peck (Session Chair)	Sellafield Ltd
10:00 - 10:40	BREAK - Refreshments & Exhibition		

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TRACK 3A

AUDITORIUM	Waste Operations – delivering IWM	SESSION CHAIR – Martin Walkingshaw, LLWR Ltd	
10:40 - 11:00	PCM Decommissioning programme completion – a success story	Rob Yetts	LLWR Ltd
11:00 - 11:20	Dounreay rad-waste management	Alan Mowat	DSRL
11:20 - 11:40	Remediation on the Capenhurst Site – Lessons Learnt and Future Work	Allan Wilson	URENCO
12:20 - 12:00	Using alternative permissioning at Berkeley to progress hazard reduction	Alice Craven	Magnox Ltd

TRACK 3B

LOWER THEATRE	Academia/R&D	SESSION CHAIR – Rebecca Ferris, EDF Energy	
10:40 - 11:00	Technology translation for the nuclear sector	Kirsty Hewitson	NNL
11:00 - 11:20	TRANSCEND: Collaborative Research Programme in Transformative Science and Engineering for Nuclear Decommissioning	Samuel Murphy	Lancaster University
11:20 - 11:40	Horizon 2020: SHARE Project – Understanding Europe’s R&D decommissioning needs	Anthony Banford	NNL
12:20 - 12:00	Enabling Technology Adoption	Andy Cooney	Sellafield Ltd

WORKSHOP THREE

10:40 - 12:00

DELIVERING THE NUCLEAR SECTOR DEAL – A YGN/WIN PERSPECTIVE

Alys Gardner, Cavendish Nuclear YGN & Claire Gallery-Strong WIN Cumbria

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LUNCH & EXHIBITION from 12:00 - 13:00

WORKSHOP FOUR

13:00 - 14:00

SKILLS AND THE WASTE PROFESSION

Jacq Longrigg, NDA & Helen Simms, Radioactive Waste Management SIG

TRACK 4A

AUDITORIUM	Waste Operations - delivering IWM	SESSION CHAIR – Lee Peck, Sellafield Ltd	
13:00 - 13:20	Redundant Skip Management	Angela Sherwin	Sellafield Ltd
13:20 - 13:40	Applying pragmatism to enable waste operations – packaging IONSIV components at Magnox	Nick Watt	Magnox Ltd
13:40 – 14:00	The Sellafield Waste Product: An Autopsy of Value	David Connolly	Sellafield Ltd

TRACK 4B

LOWER THEATRE	Waste Challenges & Thought Leadership	SESSION CHAIR - Tim Chittenden, Nuclear Institute	
13:00 - 13:20	Submarine Dismantling Project	Nigel Parsons	MoD Babcock International
13:20 - 13:40	AWE Higher Activity Waste Programme	Geoff Druce	AWE
13:40 – 14:00	Fukushima Experience	Matt Mellor	CREATEC

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CLOSING PLENARY

		SESSION CHAIR - Alistair Laird, Nuclear Institute	
14.10 – 14.30	WNA – A Global Perspective	Doug Kerr	World Nuclear Association
14.30 – 15.20	Supply chain response – Discussion Panel Invited Speakers: <ul style="list-style-type: none"> • Antonio Guida - Wood Group • Darren Gunning - Cavendish Nuclear • John Storer - Orano 	10 min Presentations/ 20 min Panel Q&A NSD deal challenge & AM plenary response	
15.20 – 15.30	Closing Remarks – YGN/WiN	Nuclear Institute	
15:35	*** EVENT CLOSSES ***		

All speakers confirmed at the time of publishing this programme. Circumstances may occur that prevent as published participation and could lead to a speaker or topic alteration.

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INNOVATE

TO MAKE NUCLEAR
SAFER, FASTER, AT
LOWER COST

Cavendish Nuclear, a wholly-owned subsidiary of Babcock International Group, is the UK's leading nuclear services company with a growing international presence.

The breadth of our expertise means we are able to innovate to make nuclear safer, faster, at lower cost.

We deliver across all aspects of the nuclear energy life cycle, from design and build, through operations and maintenance, to decommissioning, waste management and remediation.

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Research & Development Strategy Waste Strategy Concept Design Safety Case & Peer Review
Detailed Design Programme & Project Management Assembly and Test Manufacture and
Procurement Construction Management Installation Commissioning Training Site Facilities
Site Management Radiological Services Plant Refurbishment and Optimisation Operations and
Maintenance Waste Characterisation Waste Disposal & Storage Post Operational Clean Out Plant &
Building Decommissioning Land Remediation Obsolescence Design for Manufacture Digital / VR
Calibration of Instrumentation Environmental Analysis Dosimetry Shielding Mechanical Handling



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4. SPEAKER PROFILES (ALPHABETICAL)



Jean-Michelle Hoorelbeke,

Deputy Director

**Directorate of environmental safety and industry strategy
Agence nationale pour la gestion des déchets radioactifs**

ANDRA

Jean-Michelle has 36 years of experience in the management of radioactive waste, first with the French Alternative Energies and Atomic Energy Commission (CEA) and with ANDRA since 1994.

Today he is the Deputy Director of Safety, Environment and Waste management Strategy. He has worked as Project Manager for the French geological disposal project from 1994 to 2006.

He is Involved in the definition of management routes for all types of French waste ranging from very low-level to high-level and reusable materials.



Geoff Druce

Head of Estate Liabilities

AWE

Geoff is responsible for delivering long-term strategies for the management of Higher Activity Waste, Decommissioning, Demolition, Land Quality and legacy materials and products. The role requires the development of relationships with internal and external suppliers, the Customer, Site Licence Holders and Government Departments to collaborate to find solutions to common problems.

Geoff has been with AWE since 1979 starting his career as an Apprentice. Since then he has obtained a wealth of knowledge in many areas across the business and has been a Senior Leader within various Departments since 2003. He has been accountable for building and leading large teams to deliver programmes of work in excess of £15m. He is a chartered member of the Society of Radiological Protection.

Geoff is an avid golfer and is an active member of Donnington Valley Golf Club, he also enjoys planning football and is a season ticket holder at Reading Football Club.



Umran Nazir

Deputy Director, Decommissioning

Department for Business, Energy and Industrial Strategy

Umran leads the nuclear decommissioning strategy for the UK which includes sponsorship of the Nuclear Decommissioning Authority and managing the risks associated with the UK civil nuclear legacy.

His role includes developing the arrangements for the decommissioning of the current UK nuclear fleet and being the Programme Director for the Geological Disposal Programme, a multi-billion, multi-generational programme to develop a deep underground facility to permanently dispose of the most hazardous of the UK's radioactive waste materials inventory.

Umran is also responsible for encouraging innovation and efficiencies to reduce the UK's lifetime liabilities for nuclear decommissioning.

Prior to joining BEIS, Umran was responsible for delivering the hybrid Bill for the Phase 1 of HS2, a mammoth piece of legislation and environmental assessment that provided the planning permission and other powers needed to build the London to Birmingham section of the route. Umran has also previously worked as a Private Secretary to Phillip Hammond and Lord Andrew Adonis during their tenures as Secretaries of State for Transport.

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Alys Gardner

Business Development Manager

Cavendish Nuclear

Alys looks after the Cavendish accounts with Sellafield Ltd and LLWR Ltd. Prior to joining Cavendish in February 2018, she worked for Abbott Risk Consulting as a senior safety consultant and has been based on a variety of civil nuclear and defence sites in the UK, providing safety case and assurance advice as well as compliance and auditing activities.

Alys graduated from the University of Manchester with a Masters in Physics with Business Management, and joined the Atkins graduate scheme where she spent 5 years working in radiation shielding and safety case.

Alys has been heavily involved as a volunteer for the Nuclear Institute's Young Generation Network (YGN) and chaired the organisation in 2016.

She remains a member of the YGN's strategic committee and also sits on the Nuclear Sector Deal's Legacy Cost Reduction Steering Group.



Darren Gunning

Strategy Manager

Cavendish Nuclear

Darren Gunning has worked for Cavendish Nuclear for over 10 years, with the last five years spent as a secondee into Magnox as part of the former Parent Body Organisation, the Cavendish Fluor Partnership.

During his secondment Darren managed the relicensing and integration of two Research Sites Restoration Limited into Magnox, was responsible for managing Magnox's regulatory obligations when the company downsized, oversaw the programme to remove 24/7 shift operations at eight of the 12 sites, introduced more proportionate licence condition arrangements and was the Waste Programme Manager at the Bradwell nuclear site during the demobilisation phase.

At Bradwell Darren was accountable for the final sorting, segregation, processing, packaging and transportation of all demobilisation wastes from site, resulting in 60 radioactive waste shipments, numerous hazardous waste consignments and the disposal of thousands of tonnes of conventional waste – all in the space of 6 months. Critical to this, was a truly integrated waste management approach.

Fresh from his recent experience at Bradwell, Darren will be presenting an overview of what integrated waste management looked like at the Bradwell "coal face", providing an insight into what he believes the key ingredients to success are.

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Matt Mellor

Chief Executive Officer

Createc

Matt Mellor (DPhil) received the MEng (1st) in Engineering and DPhil in Computer Vision from Oxford University in 2000 and 2004 respectively. After two years working in the Medical Vision Laboratory, Matt joined REACT Engineering where he founded a small research group developing novel radiation mapping technologies.

In 2010, Matt spun this group out as Createc, taking the role of CEO; since then Createc has grown continuously and is now a multi-sector technology specialist with a global client base, winning the Queens Award for Enterprise: International Trade 2018 and the Queens Award for Enterprise: Innovation 2019.

Matt remains technically involved in the many aspects of the business, frequently providing the technical insights which lead Createc's R&D projects to real-world success: he was the originator of the fundamental mathematical methods that underly Createc's radiation imaging projects, he developed several of the core components of Createc's multi-agent SLAM system and developed Createc's strategy for nuclear robotics.

He has also spent a huge amount of time at nuclear accident sites, particularly Fukushima where he was personally involved in implementing many of the most challenging robotics exploration operations.



Sam Usher

Director, Strategic Programmes Directorate

Dounreay Site Restoration Ltd

A Chemical Engineer by training, Sam has over 26 years' experience associated with the management of all categories of nuclear waste, covering operational, technical, policy, stakeholder and commercial roles.

He has worked in a number of Executive and non-Executive Director Positions in both private and public nuclear sectors, and joined Dounreay in 2017 as an AECOM secondee, after 9 years with Studsvik.



Alan Mowat

Waste Optimisation Manager

Dounreay Site Restoration Ltd

Having started his career as a Scientific Trainee with the UKAEA in 1985, Alan now has over 34 years' experience in the development of waste processes and strategies at Dounreay.

More recently his specific focus has been on the management of Higher Activity Wastes including production of Letter of Compliance Submissions. For the past 2 years, he has led the Waste Optimisation Team in improving predictive waste inventories, opening up new waste routes including those off-site and implementing a Waste Informed Decommissioning approach.



Juliet Long

Head of Legacy & Waste Issues, Radioactive Substances Regulation

Environment Agency

Juliet is a well-known and authoritative lead on matters of radioactive substances regulation across UK nuclear and non-nuclear industries.

A successful promoter of big-picture strategic thinking, underpinned by sound technical knowledge, she focuses on outcomes and opportunities to realise improvements. At IWM 2019 she will chair a Policy/Strategy session which includes an in-depth look at the nuclear sector deal, how this can be realised in the NDA's Radioactive Waste Strategy, and a highly interesting '10 Lessons Learned in 10 Years at the Low Level Waste Repository'

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Gérard BRUNO

Head, Radioactive Waste and Spent Fuel Management Unit Division of Radiation, Transport and Waste Safety

International Atomic Energy Agency (IAEA)

Gérard Bruno has been working in the field of disposal of radioactive waste for more than 20 years. After his PhD in Geology/Geochemistry, he joined the French Institute for Radiological Protection and Nuclear Safety, IRSN, which is the technical safety organization supporting the French Safety Authority, where he mainly worked on the safety of management of radioactive waste.

In 2006 he was seconded as a national expert in radioactive waste management in the European Commission.

Mr Bruno joined the IAEA in 2009 as Head of the Radioactive Waste and Spent Fuel Management Unit in the Department of Nuclear Safety and Security. The main activities of the unit are the development of safety standards for the management of predisposal and disposal of radioactive waste and spent fuel as well as its application to assist Member States. The unit also provides the Secretariat for the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (the Joint Convention), and the Waste Safety Standards Committee (WASSC). Mr Bruno has participated in several Integrated Regulatory Review Service (IRRS) missions and is one of the initiators of the Integrated Review Service for Radioactive Waste Management and Spent Fuel Management, Decommissioning and Environmental Remediation (ARTEMIS).



Ian Gordon

Section Head – Waste Technology Section

International Atomic Energy Agency (IAEA)

Ian Gordon leads Waste Technology Section at the IAEA (International Atomic Energy Agency).

This Section assists the 171 Member States of the IAEA in the management of radioactive waste resulting both from the nuclear fuel cycle and from nuclear applications in health, industry, science and agriculture. Before working at IAEA, Ian worked at Sellafield in various roles, including within SMP (Sellafield Mixed Oxide Fuel Plant) and E&EP (Effluent and Encapsulation Plants).

In his early career, Ian led design and project teams in mass-manufacturing industries.



Howard Falconer

Head of Customer Management

Low Level Waste Repository Ltd

Howard began his career as a technical apprentice in Analytical Services at BNFL (now Sellafield Ltd) in 2002, achieving an HNC in Applied Chemistry. He was presented with the HG Davey Young Person Award in recognition of his endeavours both within the organisation and externally.

Between 2004 and 2009 Howard worked in the THORP laboratories as an Analytical Chemist and provided specialist support to other plants on the Sellafield complex.

After joining LLW Repository Ltd as Programme Delivery Coordinator to support the delivery of the UK Strategy for the Management of Solid Low Level Radioactive Waste from the Nuclear Industry, he completed a degree in Nuclear Decommissioning gaining a 1st Class Honours and has proceeded to play a pivotal role in delivery of the UK's Low Level Waste Strategy working across all sectors of the nuclear industry providing key support and innovation to large scale decommissioning projects e.g. Berkeley Boilers, Chapelcross ducts, Bradwell care and maintenance, Fuel Element Debris - to name but a few.

Howard currently heads up the Customer Management team for LLWR continuing to provide support and consultancy services in support of the UK's decommissioning mission.

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David Rossiter

Head of Waste Management Services

LLWR Ltd

David is responsible for leading all aspects of external customer service delivery and management of the waste services supply chain. LLWR's waste services are a key enabler to deliver the Government's National LLW Strategy by providing routes to divert LLW away from disposal at the LLWR in line with the Waste Management Hierarchy, in order to extend the life of the LLW site by more than 100 years.

With a background in Environmental Science, David started his career in the chemical industry with Aker Kvaerner providing environmental and health and safety solutions to chemical manufacturing facilities on Teesside. David joined the nuclear industry in 2005 with Studsvik and was involved in a number of decommissioning projects, waste characterisation projects, and project management of the first international LLW metal recycling and incineration projects at Sellafield.

After being seconded from Studsvik into LLW Repository Ltd in 2008 as part of the Parent Body Organisation to manage the nation's primary LLW disposal site, David has held increasingly senior roles within the LLWR organisation to manage the national waste programme, business functions, organisational change, and long term company strategy.

David is a keen supporter of STEM initiatives in schools including LLWR's sponsorship of the First Lego League teaching school children about robotics, and has hosted a number of Nuclear Institute YGN visits and events at the LLWR site.



Rob Yetts

Head Of Site

LLWR Ltd

Rob has spent 38 years in the nuclear industry, including 31 at Sellafield, where he held a range of posts, including Project and Programme Management roles, rising to become Head of Separation Area.

He gained additional experience in a decommissioning role during a two year secondment to the Rocky Flats Plant, near Denver, Colorado, in the USA, and he joined LLWR as Decommissioning Programme Delivery Manager in April 2011.

Rob was appointed Head of Site in February 2018.



Martin Walkingshaw

Deputy Managing Director

LLWR Ltd

Martin established LLWR's Waste Management Services team, providing support to UK waste producers in their efforts to implement the waste management hierarchy and preserve capacity at the UK's national LLW repository. He is now accountable for the Commercial, Strategy and National Programme teams and was appointed to the LLWR Board in 2011.

Martin started his career in 1982 as a BNFL engineering apprentice. Over the next 25 years he held a variety of roles in Spent Fuel, Intermediate and High Level Waste Plants at Sellafield. Martin left Sellafield to join the team at LLWR in 2006, just before the organisation separated from British Nuclear Group Ltd to become a standalone site licence company.

He was appointed Deputy Managing Director of LLW Repository Ltd in November 2018

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Alice Craven

Principal Waste Consultant

Magnox Ltd

Alice has been working in radioactive waste management since 2002, with a continued focus on Intermediate Level Waste treatment and packaging. Initial consultancy roles provided exposure to a broad range of wastes, management practices and customers within and outside the UK nuclear industry.

Since joining Magnox Ltd as a waste consultant, Alice has been heavily involved in the development and permissioning of waste treatment and packaging plans utilising ductile cast iron containers, with an emphasis on the Letter of Compliance process and on the Bradwell and Berkeley sites. In recent years, her focus has shifted to the developing plans for design and deployment of 6m3 concrete box waste and transport packages by Magnox Ltd.



Nick Watt

Disposability Case Manager

Magnox Ltd

Nick has over 20 years of experience in nuclear decommissioning. Following completion of a PhD in land remediation (phytoremediation), he has worked in a number of technical roles including environmental impact assessment, optioneering, waste strategy development, compliance, and corrective actions programme management. He has also undertaken a number of team leadership roles.

Nick's current role sees him with the responsibility for a specialist team charged with obtaining Letters of Compliance for Magnox Ltd's higher activity waste.

Nick is a Chartered Biologist and Member of the Institute of Environmental Science.



Jim Cochrane

Submarine Delivery Agency

Ministry of Defence

Jim Cochrane has worked in the nuclear industry for three decades and has undertaken a full spectrum of roles across UK and international nuclear sites.

During his time with the Scottish Environment Protection Agency (SEPA), Jim was instrumental in drafting guidance for revocation of regulations for nuclear sites and carried out inspections of Rosyth Dockyard nuclear licenced site.

Jim joined MOD's Submarine Delivery Agency in 2017 as the programme manager for Submarine Dismantling and, over the past two years, has overseen significant progress in the Project's mission to achieve full dismantling of the first 'demonstrator' submarine by the mid-2020s.'



Nigel Parsons

Submarine Delivery Agency

Ministry of Defence

Nigel joined the Ministry of Defence at Devonport Naval Base in 1980. During his varied career, Nigel has undertaken roles of nuclear asset electrical Design Authority, project manager for Devonport nuclear infrastructure and, since 2005, he has managed the Laid-Up Submarine (LUSM) programme.

In this role, he has decommissioned nine nuclear submarines, taken part in submarine dismantling public consultations and developed the infrastructure at Rosyth to remove nuclear waste from decommissioned submarines. Nigel continues to decommission submarines at Devonport, as platforms reach their Non-Operational Date and is actively involved in planning the defuel programme and the UK technical solution to dispose of decommissioned nuclear submarines.

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Corhyn Parr

Director of UK Waste Operations

Nuclear Decommissioning Authority

Corhyn joined the NDA in April 2019 to take an integrated view of waste operations, identify opportunities across the group to effectively implement the NDA's strategies and to develop integrated ways of working. She will be co-presenting with James McKinney.



Jacq Longrigg

Head of Skills and Talent

Nuclear Decommissioning Authority

Jacq joined the organisation over two years ago and is tasked with ensuring the NDA group has the right people in place, with the right skills, at the right time.

She is responsible for delivering the NDA's six key elements which form part of its People Strategy - apprenticeships, skills gaps, subject matter experts, technical and professional skills, transferability and mobility, and STEM engagement.

These 'top six' feed into areas of national priority and emerging drivers such as apprenticeship demands and skills shortages.

Jacq leads on the NDA's role in national strategies such as the Nuclear Sector Deal and other UK policies, and ensures the organisation's collaboration with national bodies to deliver benefits across the nuclear industry.

In joining the NDA, Jacq brought with her extensive knowledge and experience from years working in the education sector.



James McKinney

Head of Integrated Waste Management

Nuclear Decommissioning Authority

James has over 20 years' experience in the nuclear industry and is the NDA's strategic lead for Integrated Waste Management. His key areas of interest are; radioactive waste storage and disposal, treatment & packaging, graphite management and decommissioning wastes. James will be discussing the NDA's IWM Strategic Theme – driving change.



Melanie Brownridge

Head of Technology

Nuclear Decommissioning Authority

Melanie has worked in the nuclear industry for 24 years. She was attracted into the nuclear industry by the diversity of technical challenges and began her career with BNFL, holding a variety of roles from operational plant support to programme management of legacy waste characterisation at Sellafield.

Melanie joined the Nuclear Decommissioning Authority (NDA) in 2005 and is currently Head of Technology. She is passionate about the role of technology and innovation in delivering nuclear decommissioning, and is also committed to attracting and developing new talent to the industry, valuing the ideas and challenge new people bring.

Melanie is a visiting Professor at University of Leeds and sits on the International Advisory Panel for the International Research Institute for Nuclear Decommissioning (IRID) in Japan.

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Robert Alford

Executive Assistant to Strategy and Technology Director

Nuclear Decommissioning Authority

Robert, having studied Chemistry specialising in Radiochemistry at Loughborough university, joined the National Nuclear Laboratory (NNL) on their graduate scheme in 2012.

Over the last 7 years Robert has undertaken a variety of roles within NNL including roles within the waste management directorate specialising in Magnox Sludge characterisation and retrieval.

Prior to his current role, he was Deputy Technical Lead for Fuel Post Irradiation Examination (PIE) and has also led a collaborative project to examine safety margins associated with geological waste disposal which he is presenting on at this conference. The project brought together representatives from NNL, Radioactive Waste Management Ltd (RWM), the University of Manchester and Sellafield Ltd, the findings of which you will find at this conference.

Robert is currently on secondment from NNL to the Nuclear Decommissioning Authority as Executive Assistant to Strategy and Technology Director. He is also heavily involved in the Nuclear Institute and chairs the Education, Attraction and Outreach committee of the Young Generation Network, and sits on the NI Cumbria Branch committee.



Shaun Kelso

Senior Policy Adviser

Nuclear Decommissioning Authority

Shaun joined BNFL in 1989 as a physics graduate from Imperial College London and has held senior EHSQ, operations, commissioning and technical positions across the Sellafield site.

This includes Magnox reprocessing, active commissioning of the Central Laboratory, MOx fuel manufacturing and Analytical Services - before becoming senior policy adviser for Sellafield Ltd, leading on post-Fukushima stress testing and introducing lean thinking into the site's nuclear operations.

Shaun is currently on secondment to the NDA, where he is leading NDA's support to the UK's industrial strategy and nuclear sector deal whilst undertaking doctoral research with WBS into strategy as a 'wicked problem'.



Yvonne Morris

Research Manager, Direct Research Portfolio (DRP)

Nuclear Decommissioning Authority

Yvonne manages the NDA's directly funded Integrated Waste Management and Site Decommissioning and Remediation Research and Development activities. She has over fifteen years' experience in the chemical and nuclear industries in a variety of research and technology roles.

Prior to working for the NDA Yvonne spent 8 years at NNL carrying out R&D to support Sellafield Ltd vitrification and liquid effluent treatment plants.

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Cherry Tweed Cherry

Chief Scientific Advisor

Radioactive Waste Management

Cherry has an MA in Natural Sciences, a PhD in Materials Science from Cambridge University and over 25 years' experience in geological disposal.

At IWM 2019 she will chair a session on International Disposal, which will include experiences shared by Gerárd Bruno, Head of the Radioactive Waste and Spent Fuel Management Unit at the IAEA and Jean-Michel Hoorelbecke, Deputy Director, Safety, Environment and Waste Management Strategy at the French National Radioactive Waste Agency (ANDRA). Also joining this session will be representatives from SKB (Sweden) and Posiva (Finland).



Dr Sam King

Head of Requirements and Programme

RWM

A Chartered Chemist by background, Sam has responsibility for leading and managing a team to define what the geological disposal system needs to do.

She has been a leader and technical expert in the nuclear industry for over 20 years and is a regular speaker at international events. Sam is one of RWM's lead champions of the ED&I agenda and has implemented an organisation-wide framework and series of action plans to enable people to reach their full potential and make RWM more inclusive.

A role model and mentor; she is passionate about her work and the people she works with. As a line manager she supports and develops people to achieve their potential and ambitions, both within RWM and the wider nuclear industry

Sam is married and the proud mother of 2 boys, working flexibly to support them.



Sarah Bryson

Transport Safety Manager

Radioactive Waste Management (RWM)

Sarah Bryson has been involved with the transport of radioactive materials for over 12 years. She is the current Transport Safety Manager at RWM and is responsible for assessing if waste can be transport to the GDF in the future.

She also works with other teams at RWM to ensure innovative transport solutions are available to waste producers.

Prior to working at RWM Sarah worked at Croft Associates licensing transport packages for transport of radioactive materials. Sarah has licensed new IP to Type B package designs in the UK, Europe and the United States.

She is currently a director of the Radioactive Materials Transport User Committee (RAMTUC) and has been an active member of the WNTI Backend transport users group.

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Shaun Robarts

Waste Management Director

RWM

Shaun was appointed to his role at RWM in April 2018.

He has worked in the Nuclear industry since 1994 when he started his career in radiation protection and has been involved in supporting the Geological Disposal Programme since 2014, most recently as the Head of the RWM Higher Activity Waste Programme.

Prior to joining RWM in 2016 he worked in technical, project and programme roles in defence, healthcare and then consultancy where he supported electricity generation, decommissioning, and New Nuclear Build clients



Anthony Banford

Chief Technologist

National Nuclear Laboratory

Anthony is the Chief Technologist for Waste Management and Decommissioning (WM&D) at the National Nuclear Laboratory and is a member of the Laboratory Leadership Team.

He is responsible for technical strategy, technical capability, research and development programmes. He has delivered significant projects throughout the nuclear plant lifecycle for UK and international customers.

Currently focussed on R&D supporting radioactive waste management and decommissioning, he leads the Centre for Innovative Nuclear Decommissioning (CINDe), bringing academia, NNL and industry together to focus and drive innovation.

As an advocate for collaboration, he chairs the international Nugenia Association WM&D area and has established both cross sector and international collaborative partnerships.

Anthony is a Royal Academy of Engineering Visiting Professor in 'Next Generation Nuclear Chemical Engineering' and is a Chartered Engineer, Chartered Scientist and a Fellow of the Institution of Chemical Engineers.



Gareth Headdock

Science and Technology Director

National Nuclear Laboratory

Gareth leads the Core Science Programme, University engagement and Skills strategy at NNL, and has over 20 years' experience in R&D management in a number of industry sectors including pharma, medical and petrochemicals.

Prior to joining NNL, he was research director at Johnson Matthey where he worked for 12 years in a number of businesses including Chemical Catalysts, Medical Components and Noble Metals. He has had a number of international posts including work in the US and East Africa.

Gareth is head of the NNL Fellowship, Chairs the Science and Technology Board and is a Partner Director on the governing body of The Henry Royce Institute.

Gareth joined NNL at the start of 2018 and has redefined the Science and Technology Strategy emphasising the need for cross sector collaboration, new ways of interacting with academia and promoting innovation across the organisation.

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Kirsty Hewitson

Vice President Innovation

National Nuclear Laboratory

Kirsty is responsible for identifying, translating and commercialising early stage opportunities from both internal and external sources.

Prior to NNL, Kirsty was VP Life Sciences at Ploughshare Innovations, which converts defence and security innovations, from across the Ministry of Defence, into civilian applications.

Before Ploughshare, she was Director of Life Sciences at Helsinki Innovation Services with responsibility for all innovation matters across the life sciences at the University of Helsinki. Previously she worked within the field of pre-clinical drug discovery including a spin-out company from the University of Oxford. Kirsty holds a MChem and a PhD in bio-organic chemistry, both from the University of Oxford.



Alastair Laird FNucl

Conference Chair

Alastair is the President of the European Nuclear Society and a Board member of the Nuclear Institute. He graduated from the University of Strathclyde in Glasgow with a degree in Nuclear Physics, and has over 30 years of experience in the nuclear sector, having worked on five nuclear licensed nuclear sites in various capacities, looking after waste and decommissioning projects and programmes for Sellafield, Magnox and the Nuclear Decommissioning Authority.



Helen Simms

Consultancy Capability Director

Costain

In her Nuclear Institute role as Chair of the Radioactive Waste Special Interest Group and her career in radioactive waste, she has been involved in development of government policy.

Helen has used her knowledge to ensure that facilities are developed in which radiological waste can be disposed in compliance with government policy.

Helen played an active role in responding to government consultation and workshops with the EA, SEPA and NDA, and was responsible for the development, permitting and operation of 7 facilities for the treatment and disposal of radioactive waste.



Tim Chittenden CEng FNucl

Nuclear Institute

Tim Chittenden joined the Royal Navy in 1971 whilst reading Engineering Science at Cambridge. He specialised in Marine and Nuclear Engineering and joined the nuclear submarine service where he served as a Marine Engineering officer afloat and ashore.

After 34 years during which he gained promotion to Rear Admiral he retired from the Royal Navy to take up appointments initially as Programme Director and then as Safety and Assurance Director at BAE Systems' nuclear shipyard at Barrow-in-Furness; he retired for a second time in 2011 but retains associate status with the company.

He was appointed as a non-executive director of Sellafield Ltd in 2008 and as Vice President of the NI in 2012, succeeding to the Presidency in 2013. He is now largely retired but retains an active interest in nuclear power and associated technologies.

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Philip Matthews

Executive Director

NuLeAF (Nuclear Legacy Advisory Forum)

NuLeAF seeks to build capacity within local government to engage effectively with nuclear legacy management and works to represent the views of member local authorities to national bodies.

Philip will outline the important role played by local government as planning authorities where existing and future waste storage facilities need to be sited, whether interim or permanent, and the planning policy considerations that need to be taken into consideration at every stage of the planning process.



John Storer C Eng FICHEM E

Managing Director

Orano Projects Limited

John, a Chemical Engineer by training, has worked his entire career in the nuclear industry. During his 28 year career at the former British Nuclear Fuels Ltd (BNFL) Sellafield site he held a number of senior appointments across a wide range of the site's operational plants, including irradiated fuel reprocessing, fuel manufacture, and waste management.

During this time John undertook an international assignment to Idaho USA as Deputy General Manager on the Advanced Mixed Waste Treatment Plant (AMWTP) before returning to Sellafield as Director Production Operations.

Since leaving the Sellafield site in 2009 John has worked overseas for 8 years, firstly as the Enrichment Technology Company (ETC) Project Manager in New Mexico USA, working on the Urenco USA uranium enrichment plant project, and for the last 5 years in Corporate and site management roles at ETC's Almelo site in the Netherlands.

John is now Managing Director of Orano's technical delivery business in the UK, Orano Projects Limited.



Tiina Jalonen

Posiva OY

Tiina Jalonen, MSc in Process Engineering, has worked at Posiva Oy since 2001. In 2013, she was appointed as the Director of Posiva's Development Department.

Tiina has been widely engaged in the final disposal programme. Her responsibilities include requirement management, configuration management and development of the disposal concept, the rock suitability criteria, monitoring of Olkiluoto, Olkiluoto site investigations and the safety case for the Operation License Application.

She is a member of Posiva's Steering Group and the Chair of the Joint Steering Group for the SKB-Posiva co-operation, a member of the Executive Group for Implementation of Geological Disposal in Europe (IGD-TP) and the representative of Waste Management Organisations of Finland in the EURAD programme.

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Alex Jenkins

Decontamination Expert & Innovations Assessment For Security & Resilience

Sellafield Ltd

Alex has conducted nuclear decontamination across a range of plants and radiological challenges over the past 18 years. He is a fully trained and qualified water jetting specialist and has delivered bulk chemical and aggressive chemical decontamination.

His project pedigree shows him to be accomplished at delivery by keeping things simple; using novel and innovative thinking; and applying a mantra of Access, Characterisation, Technology and Wastes as trigger points for creating solutions. This is embodied in a series of simple to follow decontamination principles encouraging consideration of the constraints before technology selection.

A degree qualified Chemist, Chartered Chemist, Chartered Scientist and a Fellow of the Royal Society of Chemistry in the UK, Alex also works with UK Government bodies, such as AWE, DSTL and DEFRA to keep look at cross industry decontamination topics, notably the development of tools and techniques to support the future, primarily at Sellafield.



Alistair Bell

Alpha Specialist Support Team Member

Sellafield Ltd

Alistair is a chartered physicist currently providing technical support to the measurement, treatment and storage of Plutonium Contaminated Material at Sellafield.

During his 15 years at Sellafield he has worked across the site in plant safety support, radiation protection instrumentation and the Approved Dosimetry Service



Andrew Cooney

Technical Manager, Strategy and Technical

Sellafield Ltd

Andrew is a nuclear professional with 30 years of experience in the industry especially related to remediation of high hazard facilities.

He holds a degree in physics, is a member of the Institute of Physics and has a strong technical background which includes experience in technical departments, health and safety, working with academia and environmental management, safety case and strategy roles.

Over the last few years Andrew has developed a role leading external innovation programmes at Sellafield; both with Innovate UK and the Sellafield Ltd innovation programme 'Game Changers' delivered in partnership with the National Nuclear Laboratory and a commercialisation specialist.

His role leading 'Integrated Research Teams' links R&D together with innovation to provide a coordinated approach to deliver impact. He has two research themes; Asset Management and Protecting People.

In his spare time he is an avid cyclist, a school governor and trustee and until recently Chair of Art Centre.

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Claire Gallery-Strong

Head of Enterprise Portfolio Development

Sellafield Ltd

Claire Gallery-Strong has developed her career working across a variety of sectors including pharm, environmental and nuclear. Today, she is responsible for an enterprise role at Sellafield, the most complex nuclear decommissioning site in the world.

Graduating from NUI Galway, Ireland, she moved to the UK to develop in the field of environmental chemistry. Following an interest in analytical chemistry, she studied an MSc at Kings College London in Forensic Science specialising in chromatography prior to moving into pharma and onwards into the nuclear sector.

Over a variety of roles directing engineering project and programmes, she has brought a scientific understanding to solve problems and deliver change.

In her volunteering capacity she established the regenerated Young Generation Network and built a sustainability plan to enable a thriving network. Along with holding roles in the Nuclear Institute and founding the UK Women in Nuclear, she has maintained an interest in seeing gender balance addressed.

She has established the Cumbria regional Women in Nuclear network as a leader in the field of gender diversity, recently recognised through a Northern Power Women award. Her branch has brought International Women's Day celebrations to Cumbria marking the need to action the industry balance. She has recently been recognised for her contribution to the field of chemistry through an appointment as Trustee for the Royal Society of Chemistry.



Ed Matthews

Head of Technical & New Capability – Remediation

Sellafield Ltd

Ed joined Sellafield in 2002 and is a Chartered Engineer and Member of the IOM3. He has previously worked in support of the Sellafield MOX Plant and the four LP&S and all their attendant support facilities.

In his current role his team is responsible for a range of services to enable the remediation of the Sellafield site through decommissioning and waste management: development of new capabilities; technical support to waste treatment plants and waste routings; facilities characterisation; management processes; specific assessments and studies relating to individual facilities. He is Enterprise Leader for Remediation and this includes responsibility for NSLC 32, 33 & 35.

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David Connolly

Head of Beta/Gamma Remediation

Sellafield Ltd

David is responsible for creating the environment to deliver optimum value to UK PLC in the remediation of the Sellafield site. His accountabilities include decommissioning & demolition projects (conventional & Beta/Gamma), processing/storage/disposal of waste (exempt, VLLW, LLW, ILW), and care & maintenance of redundant facilities.

David started his career in the aeronautical industry developing aircraft test facilities and software, before moving into research and consultancy for renewables and oil & gas technologies. Following his time as Operations Director of the Zeta Group, providing production enhancement consultancy and equipment to a number of industries, David moved to Aberdeen to join Wood, where he worked for over 10 years delivering brownfield projects and portfolios around the globe, and as the Vice President of Wood's study division.

David has nearly 20 years of experience leading projects in 14 countries for the nuclear, aerospace, renewables and oil & gas industries. He was awarded a Masters in Engineering from Kingston University London and an MBA from the University of Liverpool.

David is a Fellow of the Institute of Leadership & Management, a Chartered Mechanical Engineer, and a Registered Project Professional. He currently sits on the OECD Nuclear Energy Agency's CPD Management Board.

He aims to leverage his expertise in collaborative partnerships, innovation and transformative change to contribute to the success of Sellafield's future mission.



Lee Peck

Head of Site Strategy

Sellafield Ltd

Lee is a fellow of the Royal Society of Chemistry with over 23 years' experience in the nuclear industry spanning a range of roles, including strategic planning and development, scientific research, and programme management, including the development of business cases to secure sanction for major projects from HM Government.

His knowledge of nuclear research and development includes advanced spent fuel reprocessing, safe and secure storage of plutonium, nuclear waste treatment and decommissioning.

Lee currently co-chairs the Sellafield Strategy and Technology review board, which has oversight of a £100M portfolio of technical work including endorsing key site decisions.

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Katherine Eilbeck

Head of Research and Development

Sellafield Ltd

Katherine has worked for Sellafield Ltd for over 20 years in various strategic and technical delivery roles. Over the years she has provided technical oversight to the placing of new multi-million pound commercial contracts for technical services, delivered technical programmes of work and driven multi-million pound cost savings into the business. Katherine currently manages the Sellafield central R&D team which manages a number of ground-breaking technical projects which will improve the way we decommission radioactively contaminated facilities and manage hazardous waste.

Many of the projects within the R&D portfolio use Robotics and Artificial Intelligence (RAI) to achieve significant acceleration of our clean-up programme and improve the working environment of our workforce. As part of her current role she sits on the steering groups of the 2 nuclear EPSRC funded Hubs undertaking R&D on Robotics and Artificial Intelligence in Extreme and Challenging (Hazardous) Environments.

Through her many years of working and delivering technical projects at Sellafield Katherine has developed a comprehensive and clear understanding of what makes a successful R&D project which can deliver value to the nuclear decommissioning industry. She also has a good understanding of the challenges that are faced by Nuclear Industry that could be solved through the application of RAI.



Sue Brown

Technical Lead, Characterisation – Remediation

Sellafield Ltd

Sue is a chartered chemist and member of the Royal Society of Chemistry.

Her 25 years' experience of working in the nuclear industry has been directly in support of the Sellafield Site and has included the provision of technical support to Calder Hall power station, Magnox and THORP reprocessing and analytical chemistry development.

Currently, Sue heads up the Facility Characterisation Team within the Remediation Value Stream, which is focussed on the characterisation of facilities, materials and wastes in order to help optimise the solid waste management element of the decommissioning and demolition mission.

The complexity of this challenge has enabled proficiency in the characterisation of a comprehensive range of waste matrices covering the entire solid waste management spectrum.

Sue is an advocate of the application of a systematic planning approach to all characterisation tasks in order to provide suitable data to inform decision making and demonstrate compliance with the Regulatory framework.



Per Mårtensson

Research Coordinator, LLW and ILW

SKB

Per was awarded a PhD in Inorganic Chemistry by the University of Uppsala 1999.

Prior to joining SKB, Per was a research engineer developing wear-resistant coatings for cemented carbides with Sandvik Coromant from 1999, joining SKB, the Swedish Nuclear Fuel and Waste Management Company in 2009, where he is currently employed as Research Coordinator for Low and Intermediate Level Waste.

His main responsibilities are around conducting material research of cement-based materials and development of design, materials and methods of construction of engineered barriers for LLW/ILW.

Per lives in Nacka just outside Stockholm with his family and enjoys outdoor sports such as orienteering, trail running, skiing and skating.



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Dr Samuel T Murphy
Lancaster University

Dr Samuel Murphy is a Lecturer in Nuclear Materials at Lancaster University.

His research uses state-of-the-art atomistic simulation techniques to understand defect processes in materials in nuclear environments.

He is a co-investigator on EPSRC's two large programmes, TRANSCEND and ATLANTIC and holds other research grants in both fission and fusion research.

He has published over 35 papers in the peer reviewed literature and has a h-index of 21.



Allan Wilson
Waste Services Manager & RPA

Urenco Nuclear Stewardship

Allan started his career as a trainee RPA and worked at a number of sites before moving up to Dounreay as a Senior Health Physicist and RPA.

A few years later he changed focus from Radiation Protection to Radioactive Waste becoming the Waste Characterisation Manager for the site, and worked on ILW re-categorisation and site closure projects. He also established the DQO and DQA processes for Dounreay during this time.

Allan then spent two years in the Oil and Gas industry as a RWA and RPA, providing advice to companies across the world. Since 2014 Allan has been Waste Manager at Urenco Nuclear Stewardship, initially responsible for the UNS decommissioning works and more recently for all operations on the Capenhurst site undertaken by UUK, UNS and UCP.

Allan retains his RPA appointment and is a member of the Society for Radiological Protection's Nuclear Sector Committee.



Doug Kerr
Member of Waste Management and Decommissioning Working Group

World Nuclear Association

Doug is an experienced nuclear consultant with 34 years' working in waste management and decommissioning. This experience is derived from working on a range of different roles for government and commercial clients in both the UK and internationally.

His career has included the operational management of solid radwaste facilities and the delivery of decommissioning projects requiring the management and processing of generated wastes to conform with local and national acceptance criteria.

The extensive experience gained to date has provided the foundations to support his current role as a radioactive waste management and decommissioning consultant.

In addition, Doug is the Wood Technical Discipline Mentor for Waste Management and Decommissioning supporting the company to develop its capability in this area. Recently Doug has co-authored a World Nuclear Association publication, 'Methodology to Manage Material and Waste from Nuclear Decommissioning'.



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Antonio Guida

Operations Director

Wood

Antonio is Wood's Director for Radioactive Waste Management and Disposal. He is responsible for eight teams of radioactive waste consultants, corrosion scientists, chemists, experimentalists, radiation materials scientists, radwaste disposal specialists, mathematical modellers, and safety case engineers.

He is a radioactive waste management technical specialist and throughout his career with Wood, Babcock and UKAEA, has led various waste management projects, programmes and frameworks for UK and international customers.

He has been supporting the Central England Branch of the Nuclear Institute for almost a decade covering various roles within the branch committee.

Antonio has a PhD in Positron Imaging, is a Chartered Engineer and has an MBA. Other previous experience includes formal workshop facilitation and international business development.



BRINGING TOGETHER ACADEMIA, R&D AND INDUSTRY TO DELIVER INTEGRATED WASTE MANAGEMENT SOLUTIONS.

UNPARALLELED NUCLEAR UNDERSTANDING

With the UK nuclear sector at a turning point, National Nuclear Laboratory (NNL) is poised to help the industry transform and realise its potential.

Our unparalleled understanding of the science, challenges and opportunities makes us a unique authority and partner. We provide experts, technologies, and access to cutting-edge facilities to organisations around the world.

Our pioneering approach, harnessing potential technologies and translating them into industry-ready solutions, allows us to drive technological progress in the UK and internationally.

We work on projects as small as drilling a hole to analyse underground wastes with our integrated microdrilling technology, and as large as developing state-of-the-art power systems, based on radioactive materials, for spacecraft.

OUR PEOPLE ARE OUR DIFFERENCE

In an industry as complex as nuclear, there really is no substitute for expertise. Our people have a combined 10,000 years of experience and it's their talent which drives our organisation.

But it's not just about the already experienced people on our team. We are nurturing the experts of the future, through a diverse range of opportunities suiting people just starting their careers as apprentices through to post-doctoral development programmes.

We use our expertise to advise not only our commercial customers, but also to provide independent advice to Government through NIRO, a part of NNL which is separated by an ethical barrier from our commercial operations.

UNIQUE FACILITIES

As custodians of some of the most advanced laboratories, active handling facilities, and nuclear technology research facilities in the world, our ability to bridge the gap between idea and application is second to none.

We have invested in a suite of essential facilities to enable innovation to be safely tested and scaled before being adopted into the nuclear industry.

Combined with our unrivalled expertise and pool of internationally-renowned experts, this enables us to deliver a first-class service to the nuclear industry and to Government.





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4. CLOSING PLENARY

The Conference Sponsors - Cavendish Nuclear, Orano UK Ltd and Wood Group, will participate in a debate on UK nuclear supply chain capability and innovation, which is an opportunity for the supply chain companies to respond to the earlier plenary session challenge on how to deliver aspects of the Nuclear Sector Deal (NSD) – such as a 20% UK baseline cost reduction through waste management optimisation at NDA sites.

This is a unique opportunity for conference participants and supply chain companies alike –to explore what Integrated Waste Management really means “at the coal face” and how strategy can be more effectively implemented. With many years of UK and global experience across a broad range of sectors, these three companies are perhaps uniquely placed to draw on their learning and stimulate this debate on behalf of the sector.

These companies are also a source of significant technologies and can provide future UK export potential against the NSD targets.

Orano

Orano’s activities encompass mining, conversion, enrichment, used fuel recycling, nuclear logistics, dismantling and engineering.

With over 45 years’ experience in waste management and recycling of used nuclear fuels both for clients and at its own nuclear sites, Orano has a proven track record in the efficient and safe management of waste from nuclear facilities around the globe. Its teams have hands-on experience of everything from retrievals, characterisation and treatment; through to waste transport and storage. Combining the value of its international experience with the expertise of its local UK teams, Orano works across the entire waste lifecycle and offers a unique capability to optimise the integrated waste management process.



Cavendish

Cavendish Nuclear, a wholly-owned subsidiary of Babcock International Group, is the UK’s leading nuclear services company with a growing international presence.

With access to 5,000 nuclear suitably qualified experienced personnel, the breadth of our expertise means we innovate to make nuclear safer, faster, at lower cost.

We deliver across all aspects of the nuclear energy life-cycle; from design, manufacture and construction, through operations and maintenance, to decommissioning, waste management and remediation.

Our specialist multi-disciplinary teams of chemists, physicists, engineers, environmental scientists and health & safety professionals, develop strategic and technically sound solutions for our customers and develop cutting-edge technologies to characterise waste.



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Wood Nuclear



Wood is a global leader in the delivery of project, engineering and technical services to energy and industrial markets. We operate in more than 60 countries, employing around 60,000 people, with revenues of over \$11 billion. We provide performance-driven solutions throughout the asset life cycle, from concept to decommissioning across a broad range of industrial markets, including the upstream, midstream and downstream oil & gas, power & process, environment and infrastructure, clean energy, mining, nuclear, and general industrial sectors.

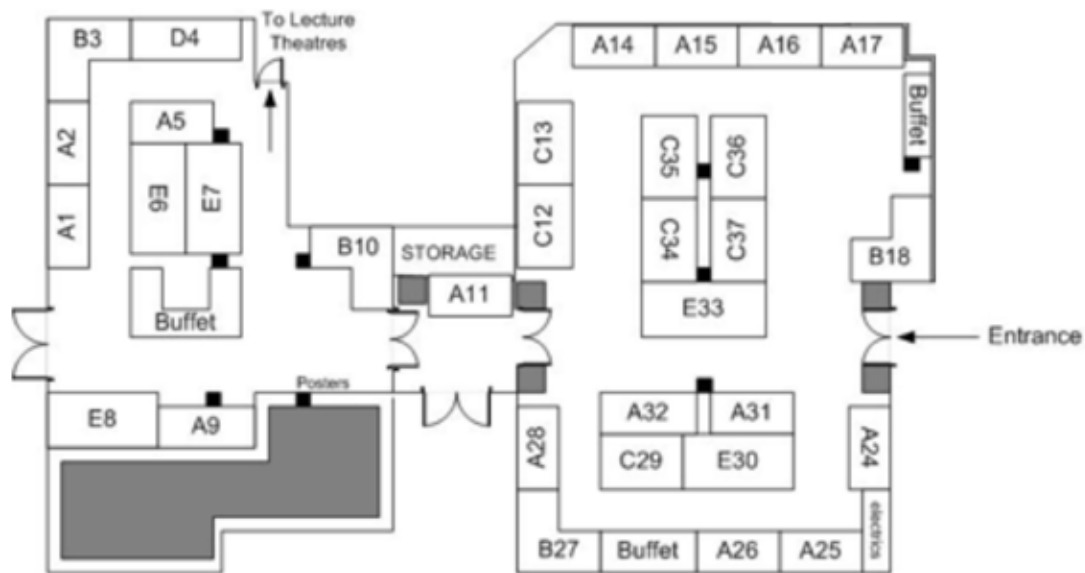
In nuclear Wood plays a critical role in major projects across the globe. We are a trusted partner to the industry, operating across 4 continents with over 60 years of unrivalled experience. Our solutions span the entire nuclear lifecycle of civil and defence nuclear markets at tiers 1, 2 and 3. They are underpinned by a powerful combination of research and development, expert knowledge of nuclear regulatory and licensing frameworks and project and programme management.

This session will be followed-up by a Nuclear Institute combined YGN/WiN summary of the IWM2019 conference proceedings. The IWM 2019 conference will then close.



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5. Exhibition Layout



Stand	Exhibitor	Stand	Exhibitor	Stand	Exhibitor
1	Perma-Fix Environmental Services UK Ltd	12	Orano	28	Eckert + Zeigler Environmental Services Ltd
2	Sellafield Ltd	13	WIKA Instruments Ltd	29	Urenco Nuclear Stewardship
3	Eadon Consulting/ARC Energy (Game Changers)	14	ACB	30	Bendalls Engineering
4	Nuvia Ltd	15	Studsvik Ltd	31	NSG Environmental
5	Nuclear Sector Deal	16	Mirion Technologies (Canberra) Ltd	32	Veolia Environmental Services
6	Advanced Measurement Technology - ORTEC	17	Augean Plc	33	Nuclear Decommissioning Authority
7	National Nuclear Laboratory	18	Cyclife	34	Veolia Nuclear Solutions (UK) Ltd
8	Smartlift Bulk Packaging Ltd	24	Pycko Scientific Ltd	35	Costain Ltd
9	Sellafield/Game Changers	25	Wood	36	Cavendish Nuclear
10	GNS Gesellschaft für Nuklear-Service mbH	26	Nu-Tech Events	37	Pactec EPS Ltd
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Shaping the future of nuclear decommissioning



Wood's engineering and technical excellence, combined with innovation and research, enables us to solve the world's most complex nuclear decommissioning and waste management problems.

We cover every step from waste characterisation, through retrieval, minimisation and treatment to transportation and safe final disposal.

Wood's experts play a key role in the UK's management of radioactive waste. Our involvement covers strategy and engagement, inventory and compliance, and all aspects of waste handling from retrievals to packaging. We supported an optimisation programme – to apply the waste hierarchy, make best use of assets and develop new management and disposal routes – which resulted in the diversion of 95% of low-level waste from higher cost storage

facilities to incineration, metals treatment and landfill.

SIAL, a new generation, cost-effective geopolymer technology developed by Wood, has been used to solidify approximately 1,500 tonnes of waste, including sludge, resin and borates from light water reactors in Slovakia and the Czech Republic.

Incorporating up to about four times as much waste as cement without losing any compressive strength, SIAL received the seal of approval from the World Association of Nuclear Operators and the International Atomic Energy Authority.

In the UK, Wood is retrieving, processing and disposing of radioactive wet waste from the decommissioning of Dungeness A nuclear power station. Retrieval and conditioning systems designed by Wood will enable the waste to be processed for disposal as low-level waste at much lower cost.

In Japan, Wood is providing programme and technical support for the \$3.5bn programme to decommission the Monju experimental nuclear reactor. We are sharing the learning from work at the Dounreay Prototype Fast Reactor in Scotland, UK, where Wood played a major role in devising the method used to remove and treat nearly 1,500 tonnes of liquid sodium coolant.

Our heritage as architect engineer and original equipment manufacturer for the UK advanced gas-cooled reactor fleet means we have unrivalled technical expertise on waste management for graphite gas reactors.

And with 12,000m² of labs, test rigs and workshops and more than 700 technical experts, we develop, manufacture and deploy engineering solutions to the most difficult waste management problems.

To find out more:
nick.higginson@woodplc.com



INFORMATION PACK

6. EXHIBITOR PROFILES

ACB

Management, recycling and disposal of radioactive materials and sealed sources from the nuclear estate.

Website: www.acb.co.uk



GNS Gesellschaft für Nuklear-Service mbH

Shielded transport and storage casks for ILW, waste treatment facilities and services.

Website: www.gns.de



Advanced Measurement Technology – ORTEC

ORTEC is an industry leader in the design and manufacture of ionizing radiation detectors, nuclear instrumentation, analysis software and integrated systems, primarily for materials analysis for radioisotope content.

Website: www.ortec-online.com



James Fisher Nuclear Ltd

Providing remote handling equipment and turnkey decommissioning solutions to the international nuclear sector with an enviable track record of successful delivery and innovation

Website: www.james-fisher.co.uk



Augean Plc

Augean's facilities at East Northants, near Peterborough and Port Clarence in Teesside ensure that we're well established as the leading provider of Hazardous and Non-Hazardous Low-Level Radioactive Waste (LLW) and Naturally Occurring Radioactive Material (NORM) disposal to landfill in the UK

Website: www.augeanplc.com



Mirion Technologies (Canberra) Ltd

Air monitoring products.

Website: www.mirion.com



Bendalls Engineering

Bendalls design, manufacture, assemble and test complex fabrications. Items such as transportation containers for radioactive waste.

Website: www.bendalls.co.uk



Costain Ltd

Costain deliver broad range of innovative engineering solutions across the assets life-cycle, through the delivery of integrated consultancy; asset optimisation; technology and complex delivery services.

Website: www.costain.com



NSG Environmental

We pride ourselves on delivering simple solutions to the nuclear industry's most complex challenges.

Website: www.nsgltd.com



Nuclear Institute

The Nuclear Institute is the professional body and learned society for the nuclear industry. Representing over 2,500 professionals at all levels across the industry, from new build and operations to decommissioning, the Nuclear Institute sets the standards for nuclear professionalism.

Website: www.nuclearinst.com



Cyclife

Cyclife the specialist Decommissioning and Waste Management business of EDF Group. Cyclife provides waste treatment services via three nuclear licensed facilities, UK, France & Sweden

Website: www.cyclife-edf.com



Nuclear Sector Deal

The Nuclear Sector Deal has five workstreams: Legacy Cost Reduction, New Build Cost Reduction, Winning UK business, Innovation and R&D, Future Workforce. Each is focused on addressing the various targets set out in the deal and require a whole sector approach for success.

Website: www.niauk.org/industry-issues/nuclear-sector-deal/



Eckert & Ziegler Environmental Services Ltd

Eckert & Ziegler's experienced and expert team are industry leaders in the delivery of safe, compliant and cost-effective recycling and disposal of radioactive materials.

Website: www.ezag.com





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Nuvia Ltd



Nuvia is a leading international engineering, project management and services provider to the highly regulated nuclear, defence, oil and gas and science and research industries. Our expertise has been developed over many years and is backed up by a highly trained committed workforce and a wide range of specialist resources.

Website: www.nuvia.co.uk

Nu-Tech Events



Promoting Technology Transfer and Innovation through exhibitions and events since 1993. We now serve the UK's nuclear, defence, aerospace, maritime, petrochemical and science & technology sectors.

Website: www.events4industry.com

PacTec EPS Ltd



PacTec EPS engineer, design & manufacture certified IP1/IP2 packaging safe containment solutions for transportation, storage & disposal of VLLW, LLW and exempt wastes.

Website: www.pacteceps.co.uk

Perma-Fix Environmental Services UK Ltd



Nuclear Decommissioning and Waste Management Services, Technologies and Expertise.

Website: www.perma-fix.com

Pycko Scientific Ltd



Pycko Scientific are UK agents for major worldwide manufacturers of Specialist radiological monitoring equipment including gamma Spectrometers, combined contamination and radiation monitors, Dosimeters and Simulators

Website: www.pycko.co.uk

Sellafield Ltd



From cleaning-up the country's highest nuclear risks and hazards to safeguarding nuclear fuel, materials and waste, our mission is nationally important. Our purpose is to keep Sellafield safe and secure, cleaning-up the site to a defined end state.

Website: www.gov.uk/sellafieldLtd

Sellafield/Gamechangers



Game Changers is an innovation programme designed to identify and develop trail-blazing technologies that could provide significant advances in the decommissioning of the Sellafield site.

Website: www.gamechangers.technology

Smartlift Bulk Packaging Ltd



Smartlift are a trusted supplier of a wide range of soft sided packaging and U.N. certified bulk bags to the waste management and decommissioning industries.

Website: www.smartliftbulkpackaging.co.uk

Studsvik Ltd



Waste Management Consultancy & Technology in Radioactive & Norm Waste Management

Website: www.studsvik.com

Urenco Nuclear Stewardship



Urenco Nuclear Stewardship provides responsible stewardship of nuclear materials through waste management and decommissioning as a tenant on the Capenhurst Nuclear Licenced Site.

Website: www.urencocom/globaloperations/urenco-nuclear-stewardship

Veolia Environmental Services



Veolia provides effective treatment services for radioactive wastes utilising our High Temperature Incinerator at Ellesmere Port, supporting the diversion of waste from the LLW Repository.

Website: www.veolia.co.uk

Veolia Nuclear Solutions (UK) Ltd



Exhibiting a vision to offer the broadest physical, chemical and radiological thermal treatment acceptance criteria to UK waste practitioners.

Website: www.nuclearsolutions.veolia.com

WIKA Instruments Ltd



WIKA Instruments is the UK subsidiary of the world's leading manufacturer of pressure, temperature, level, flow and related calibration instruments. WIKA offers you a large selection of field instrumentation which specifically meets your requirements

Website: www.wika.co.uk



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Game Changers

Game Changers is an innovation programme designed to identify and develop technologies capable of delivering significant advances in the decommissioning of Sellafield. The following companies and their technologies will be represented at the IWM Conference:



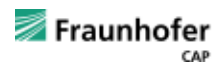
Capsa Solutions

An innovative intermediate level waste container that has been developed to meet the challenges of broad front nuclear decommissioning with emphasis on safety, simplicity and cost efficiency. The design has been developed considering the entire lifecycle of a container from manufacture, filling and use through to final disposal, optimising it for each stage. The design is simple to manufacture and can be readily adapted to suit specific client requirements whilst maximising storage efficiency. The design enables remote operation and handling during decommissioning with features that enhance containment, reduce opportunities for contamination and provide a simple and reliable closure system that is easy to operate remotely.



Fraunhofer CAP

Fraunhofer CAP (Centre for Applied Photonics) is a not for profit research and technology organisation offering industry professional research services in applied photonics.



Fraunhofer CAP has developed a stand-off detection system for Hydrogen monitoring in nuclear waste storage facilities. The location and concentration of hydrogen can be mapped using a laser and sensitive time of flight detectors. Fraunhofer CAP can also offer capability in stand-off identification of a wide variety of substances using photonic techniques such as Raman, absorption spectroscopy and LIBS.

CRYOROC

At Cryoroc, we have been making freeze cast ceramics for many years, using our expertise to produce products including: Lightweight glass-ceramic armored shielding for the US Air Force Hercules C130 Aircraft; Ceramic mould used to make the bumper for the Bugatti Veyron and Turbine blades. Recently, we have been developing a freeze casting process to encapsulate nuclear waste.



IS-Instruments Ltd

IS-Instruments offers spectrometers from the deep UV through to the IR. Our range includes the world's highest throughput spectrometer, making deployable stand-off Raman spectroscopy a reality, ideal for nuclear.



For nuclear waste characterisation, making observations at 3-4 metres using a probe and umbilical cord concept is important. The technology can be reused for a range of applications namely orphan chemicals, in-pipe characterisation and monitoring of storage areas.

isi are pushing the boundaries with exciting developments for fluorescence mitigation, gas phase Raman spectroscopy and comprehensive data analytics which use machine learning. These enable new markets and solutions to evolve.

enablingMNT UK Ltd.

operates within the wider enablingMNT group that includes offices in Holland and Germany. The UK division specialises sensor technology, business development and training. Project management, marketing and events are handled by the German and Dutch offices.



EnablingMNT UK in collaboration with Lancaster University have designed a new electrode based sensor array for corrosion monitoring of containers that store waste nuclear material. The concept features an adaptive architecture that that promises to deliver a self-repair feature, essential in future smart high reliability sensing solutions.



INFORMATION PACK

LKAB Minerals

LKAB Minerals is an international industrial minerals group with a leading position in a number of product applications and employing 400 people worldwide.



LKAB's high density fibre reinforced concrete, was developed for the manufacture of nuclear ILW decommissioning containers. Produced with LKAB's MagnaDense aggregate, ballast and steel fibres, both standard and ultra-high compressive strength mixes based on the technology are achievable.

N-Sponge - National Nuclear Laboratories (NNL)

N-Sponge is a super hydrophobic sponge that has been developed to recover oils and solvents from operating and decommissioning environments and for the separation of free phase organics from mixed nuclear wastes. The N-Sponge material is chemically and radiologically stable and can be formed in a range of shapes and sizes (such as swabs, pads or boons) to meet deployment requirements. Work has shown that solvent and hydraulic oils can be rapidly and effectively removed from water, acid and alkali solutions leading to effective separation of organic wastes.

Rawwater Engineering Company Ltd



Rawwater is developing Molten Metal Manipulation (M3) - a range application techniques of novel bismuth alloys - to provide on-site cast metal seals, meeting the needs of the high risk industrial sectors of oil & gas, defense and nuclear. The alloys can be deployed in air or underwater, offering secure, strong seals and encapsulants to repair water and hydrocarbon leaks and cracks in metal storage tanks, pipework and civil structures. We have also developed a portable encapsulation technique that seals active leaks [see photograph]. An additional benefit for the nuclear sector is that the alloys possess radioactive shielding capability, allowing recovery in radioactive environments.

REACH

REACH is a stable and repeatable deployment platform onto which different sensors or intervention tools can be mounted to carry out tasks within process cells or harsh environments with limited access. It consists of a modular toolkit of simple elements that can be deployed through a 6" access port. Different elements can be assembled to enable different tasks to be performed, depending on each application. It is also possible to launch elements from multiple locations within a single cell and for them to "self-assemble" within the cell to form more complex structures or machines. Each modular element is designed to be man-handleable, enabling it to be easily transported to the required location, assembled by hand and then launched.

University of Strathclyde



The Strathclyde Hyperspectral Imaging Centre carries out industrially relevant research with projects worth over £6 million in the Food and Drink, Pharmaceutical, Agritech, Nuclear and Defence. Hyperspectral Imaging (HSI) is the ultimate non destructive testing modality. Simply by imaging the surface of a material, HSI (combined with appropriate signal processing) is able to measure characteristics related to the chemical composition of the material. This may determine for example its moisture content, its calorific content, if it contains certain harmful substances or whether it is decayed or corrupted. This decision can be made in real time at the point of imaging. HSI is most valuable where it replaces wet lab analysis and where the material being imaged has a spatial variation.

University of Leicester



Originally designed for medical imaging, the Hybrid Gamma Camera (HGC) combines an optical and a gamma camera in a portable (hand held) system. The camera head is small enough to fit through a standard port in a glove box. The HGC is able to scan an area, and provide the operator with an image showing the location, size, shape and relative activity of gamma emitting materials. Due to the design of the camera, this can be done in real time without the need for post-processing – this means the camera can operate in video mode, constantly updating the images as the camera is moved. We believe that, with appropriate adaptations, the HGC could have real benefit in POCO activities, as it will allow the operators to see exactly what regions need further cleaning.

UPCOMING EVENTS



The poster features a dark blue background with a collage of images in triangular shapes, including a glowing blue particle, a man in a tuxedo, a glowing red particle, and a night view of a building. The text is white and teal.

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NUCLEAR INDUSTRY 2019
ANNUAL DINNER

5 DECEMBER | GROSVENOR HOUSE LONDON



The poster features a dark blue background with abstract geometric shapes and binary code. The text is white and teal.

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**SECURITY EXCELLENCE
THROUGH INNOVATION AND DIVERSITY
2019**

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CONSULTANCY**

NI PRESENTS

Implementing Digital Innovation in a Nuclear Environment

Thursday 28 November | Institute of Physics

With Thanks To:

IOP Institute of Physics

The Nuclear Institute looks forward to seeing you again at IWM 2021