



SECURITY EXCELLENCE  
THROUGH INNOVATION  
AND DIVERSITY 2019

10 OCTOBER 2019 | BIRMINGHAM



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## 1. WELCOME MESSAGE

The UK nuclear sector is an exciting environment with significant opportunities for professional excellence. There is development and opportunity across the sector with new reactors being built to augment the ageing operating fleet, decommissioning milestones being met, and a continuing commitment to maintain a safe and secure nuclear warhead stockpile, all backed up by an extensive supply chain in support

Massive leaps have been made in digital technologies which have driven social change and also enabled collaboration and efficiency on a scale that was unimaginable 20 years ago. On the other hand, these technologies and opportunities can bring risk when used with malicious intent to achieve system access, operations sabotage, or information theft.

International terrorism and the risk of cyberattacks have changed the task for all bodies responsible for security, be they States, law enforcement bodies, regulators and organisations with assets at risk. This is as true for the nuclear industry as it is for the rest of the critical national infrastructure. Against the evolving threat the nuclear industry has, over the decades, developed and improved its physical and cyber defences and continues to do so. But it doesn't end there; effective defences must be reinforced by an organisational culture that embraces nuclear security, and harnesses the knowledge and awareness of everyone in the extended nuclear community.

There is no space for complacency but equally there can be no blank cheques, and nuclear security needs to deliver both efficiently and effectively, clearly in support of the broader organisational mission. Attracting, retaining and diversifying the workforce are essential elements of providing the resources at all levels which underpin the safe and secure operations of our nuclear sites across the UK, and today's conference will examine some of these issues in detail.

Nuclear remains a key element of the Government's energy and defence strategy, and it has a vision for the nuclear sector that keeps safety and security firmly as its highest priorities. This event is intended to assist those with responsibility for nuclear security in its many forms, and those with roles in its planning and implementation.

We are delighted that AWE is the headline sponsor of our event this year, their representatives are here today, and will be very pleased to talk to you. The Nuclear Institute aspires to be a home to all Nuclear Professionals; I welcome you all to this event and hope that you are able to participate and contribute to a successful day.



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## 2. PROGRAMME

NUCLEAR INSTITUTE SECURITY CONFERENCE  
10<sup>TH</sup> OCTOBER 2019 AT THE HYATT REGENCY, BIRMINGHAM

Time	Topic	Chair
11:00-11:30	Registration, Tea/coffee	
11.30-11:40	Welcome, Housekeeping and Opening Address	Ali Dyer, URENCO
11:40-12:05	<b>Keynote Speaker:</b> Andrew Brodie, Chief Fire Officer/Chief Executive North Yorkshire Fire & Rescue Service	
12:05-12:45	<b>Drone technologies – Opportunities and threats</b> <ul style="list-style-type: none"> <li>Chris Raeburn, Sellafield Ltd - operational and cost benefits of UAVs</li> <li>Damien Trower, Gatwick Airport – managing impacts through malicious use of UAVs</li> </ul>	
12:45-13:15	<b>The Nuclear Innovation Programme - Secure By Design</b> Speaker: Adrian Prior, Senior Consultant, Frazer-Nash Consultancy Ltd	
13:15-14:00	<b>Lunch/Exhibition/Networking</b>	



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14:00-14:30	<b>Keynote Speaker:</b> Personal Journey – Ben Whittard, Director of Safety, Security and Environment, International Nuclear Services (INS)	
14:30-15:30	<b>Attract Retain</b> – Led by Max Wray AWE with panel participation from: <ul style="list-style-type: none"> <li>• Damien Trower (Gatwick Airport) and</li> <li>• Tom Parkhouse, ONR</li> </ul> This session will include Problem Statements, Discussion and Interactive Feedback <b>Tea and coffee will be served during this session</b>	
15:45-16:45	Integrate Innovate Diversify <b>Personal Journeys</b> Panel Session Session Chair: Jordan Crossley, nucleargraduates <i>with</i> <ul style="list-style-type: none"> <li>• Alison Dyer, URENCO</li> <li>• Kirstin Sands, nucleargraduates, <i>and</i></li> <li>• Stephen Wells, AWE</li> <li>• Jordan Crossley, NNL</li> </ul>	
16:45-17:25	<b>Keynote Speaker:</b> Tom Ilube, CEO, Crossword Cybersecurity	
17:25-17:30	<b>Closing Address</b>	Ali Dyer
17:30-19:00	Reception and networking sponsored by Frazer-Nash Consultancy Ltd	



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### 3. SPEAKERS

#### CONFERENCE SPEAKER

##### **Ali Dyer**

**Group Chief Information Security Officer (CISO)**

*URENCO*

Ali is responsible for all aspects of information and cyber security covering both information and operational technology across the business. Prior to joining URENCO in 2018 in her current role, Ali led the global cyber security programme for GlaxoSmithKline comprising 13 strategic delivery workstreams including security technology, governance, culture, third party management and operational technology security.

She started her career in production engineering with MetalBox and soon moved into an IT role deploying an ERP system across their European Manufacturing plants. She joined GSK in 2002 holding a variety of IT business partner leadership roles and also delivering a number of large complex IT change projects.

In 2008 Ali moved to Kuala Lumpur, to set up GSK's Malaysian Global IT Centre, then on to Singapore delivering the Far East strategy for the creation of a Core Business Services division within GSK. It was through leading the Project Management Office for Core Business Services on her return to the UK that resulted in her moving into Information Security in 2012.

Ali holds a BEng in Mechanical Engineering from Imperial College, London and an MSc in Information Security from Royal Holloway University.





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### KEYNOTE SPEAKERS

#### Andrew Brodie

**Chief Fire Officer/Chief Executive**

*North Yorkshire Fire & Rescue Service*

Andrew started his career as a firefighter in West Cumbria, often working in and around Sellafield. Now at the top of the ladder, as the Chief Fire and Rescue Officer for North Yorkshire, he has built his reputation for pioneering fire risk reduction and a modern, inclusive approach. His career path has taken him via the Cumbria Fire Service, London Fire Brigade and Leicestershire Fire Service, plus secondments into Central Government and the Audit Commission to his position today.

He has created multi-agency teams that share information and intelligence to identify and work with the most vulnerable people and business to reduce fire and accidents. He has a keen focus on Value for Money, and to maximise the productivity and effectiveness of the Fire Service not only as responders, but also as preventers, protectors and partners.

His passionate approach exemplifies how innovation and diversity are symbiotic. Breaking down silos, working in teams with a broad range of characters, perspectives, and backgrounds has delivered demonstrable high performance and is applicable to broader risk management, including in the nuclear sector.



#### Tom Ilube CBE

**CEO & Founder**

*Crossword*

Tom Ilube CBE is CEO and founder of London-based Crossword Cybersecurity plc, a non-executive director of the BBC and a member of RBS Technology Advisory Board. Previously he was Managing Director of Consumer Markets at Callcredit Information Group, founder/CEO of Garlik, a venture capital-backed identity protection company, sold to Experian and Chief Information Officer of Egg plc, the pioneering British internet bank. His career has included Goldman Sachs, PwC and the London Stock Exchange. Tom led Crossword in their successful admission to AIM, the growth market operated by the London Stock Exchange in December 2018.

Tom is Chair of the education charity, African Gifted Foundation and launched the African Science Academy, the first girl's science and technology school on the continent. He is a Fellow of St Anne's College, University of Oxford and a Member of Cass Business School's Global Advisory Board. Named as Britain's most influential Black person in 2017 he was appointed a Commander of the Order of the British Empire (CBE) in the 2018 Birthday Honours for services to Technology and Philanthropy.





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### **Ben Whittard**

#### **Director of Safety**

*Security & Environment International Nuclear Services*

Ben was appointed Director of Safety, Security & Environment (SSE) in May 2019 following three years as INS's Head of Security Resilience.

Ben joined INS in late 2013 from the UK's Office for Nuclear Regulation where he served as a Senior Inspector covering the nuclear transport sector and the Sellafield Nuclear Site. With an MSc in international Security, he is a Certified Chief Information Security Officer (CCISO) and member of the UK's Security Institute.

He is currently Chair of the World Nuclear Transport Institute's (WNTI), Transport Security Working Group and speaks regularly around the world on nuclear transport safety, security and resilience matters.



### ATTRACK AND RETAIN SESSION

#### **Max Wray**

#### **Head of Security Strategy**

*AWE*

Max Wray served as an infantry officer in the British Army for 17 years and deployed throughout the world on counter-terrorism, peacekeeping and major combat operations.

He has sought through his career to promote excellence in leadership and management, and is both a Chartered Manager and Fellow of the Chartered Management Institute.

Max has significant project management experience, having been involved in the development of capital projects, and is a keen advocate of using innovation and technology to develop optimal solutions to complex problems.

Having left the British Army to pursue a second career, Max has worked at AWE for 6 years.

#### **Tom Parkhouse**

#### **Superintending Inspector**

#### **Professional Lead for Civil Nuclear Cyber Security**

*Office for Nuclear Regulation*

Tom joined the Office for Nuclear Regulation in 2012 and is currently the Head of Civil Nuclear Cyber Security Regulation, having previously held a range of senior regulatory appointments.

A former member of the Royal Air Force Police he has a broad security and counter-intelligence experience including serving in Ministry of Defence appointments focussed on cyber issues.

From 2011 until 2013 he was a Senior Fellow of the Atlantic Council publishing subjects such as Cyber Security Cooperation.

As well as University degrees, Tom is a Chartered Security Professional and holds a number of protective and cyber security certifications.







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### DRONES SESSION

#### **Chris Raeburn**

##### **Security & Resilience Engineering**

*Sellafield Ltd*

Originally from North London, Chris joined Sellafield in 2014 having previously served all over the world as a Weapons Engineer in the Royal Navy.

In his current role Chris is the Engineering Authority for Emergency Response Capability at Sellafield, encompassing Sellafield Fire & Rescue Service, Emergency Duty Teams and Security & Resilience Unmanned Aerial Systems.

Under the Sellafield Emergency Response Programme (SERP), he oversaw all engineering aspects of the investment in the Emergency Response capability. In this role he has been responsible for developing the use of UAVs at Sellafield, both for S&R purposes and wider engineering / surveying.

Chris is also an Emergency Duty Team UAV pilot and is involved in the day to day running of UAV operations across the Sellafield site.

In his spare time he is a Royal Naval Reservist and STEM Ambassador.



### NUCLEAR INNOVATION PROGRAMME SESSIONS

#### **Adrian Prior**

##### **Senior Consultant**

*Frazer-Nash Consultancy*

Adrian is a Chartered Security Professional (CSyP) with over 30 years' experience, mainly in defence and the civil nuclear sector.

Currently employed with Frazer-Nash Consultancy, Adrian delivers security management projects for nuclear and other critical national infrastructure clients. He is currently the lead on a number of security related R&D topics, which form part of the Government's Nuclear Innovation Programme.

Previous appointments include supporting a complex decommissioning site as a Security Specialist, where he led on the development and management of their site security plan, and new counter-terrorism emergency response arrangements.

He has also worked as a military adviser to the Defence Science and Technology Laboratory and as Chief of Staff to the Defence CBRN Centre.

Educated at The Skinners' School, the University of Birmingham, Adrian holds a Masters in Security Management from the University of Portsmouth.

He is married with a grown up family and enjoys sailing, rugby (watching and supporting) and taming his vigorous garden!





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### PERSONAL JOURNEYS PANEL SESSION

#### Jordan Crossley

##### **Security & Resilience Nuclear Graduate+**

*National Nuclear Laboratory*

Sponsored by Sellafield Ltd, over the course of his graduate scheme, Jordan has undertaken secondments at Corporate Risk Associates (CRA), Low Level Waste Repository Ltd (LLWR) and National Nuclear Laboratory (NNL) in roles ranging from technical specialist to project manager.

This, alongside experience gained at Sellafield, has allowed for a broad range of understanding across the nuclear industry, both from a security perspective and beyond into engineering and research.

Currently a Graphite Analyst at NNL, Jordan will be returning to a permanent role in Security & Resilience programme management at Sellafield in the coming months.

Prior to joining nucleargraduates, Jordan obtained a Master's degree in Nuclear Engineering from the University of Birmingham.

#### Kirstin Sands

*Sellafield Ltd*

Having obtained a degree in Actuarial Science from Heriot-Watt University, Kirstin was looking for a new challenge and decided to pursue a career in nuclear security. As a nucleargraduate, Kirstin is sponsored by the Office for Nuclear Regulation (ONR) and spent 8 months working in the Cyber Security and Information Assurance (CS&IA) team at ONR. Kirstin has since moved onto her next placement at Sellafield Ltd where she is using skills that she learned from her applied mathematics degree in a practical setting to assess risk. She is currently based within the CS&IA team but is soon to move to the Cyber Security Operations team to develop her knowledge in the technical aspects of cyber security. Gaining experience within the nuclear regulator and a nuclear licensee has allowed Kirstin to experience two sides of the industry, thus gaining a wide exposure to procedures and cultures within nuclear security.





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### Steve Wells

#### Security

AWE

Steve joined AWE earlier this year as a Security Advisor working within the Operations team. Prior to this, he spent the previous 22 years in education with the last six years working as a Headteacher of a Primary School.

Steve started his career as a class teacher and soon moved to become a team leader, assistant head and then on to be deputy headteacher. Six years later, he took on the challenge of a failing school as Headteacher and, working alongside his Senior Leadership team, led the school to an Ofsted graded 'Good' with 'Outstanding' features. In addition, he also spent time working with other headteachers of schools who were on a similar journey, supporting them in leadership challenges and offering mentoring.

Ready for a new challenge, and with a long-standing interest in Security, when a job opportunity presented itself at AWE, he was delighted to find his application was successful.

Now eight months into a new career, he is enjoying learning a new craft along with using some of the skills developed during his time in education.





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### 4. SESSION SUMMARIES

#### DRONES - OPERATIONAL USE AND BENEFITS IN THE NUCLEAR SECTOR

Unmanned Aerial Vehicles at Sellafield

Chris Raeburn, from Sellafield Ltd's Security & Resilience Engineering team will provide an overview of the UAV programme at Sellafield, and how it evolved from an emergency response tool into a highly versatile capability that has helped reduce risk and save hundreds of thousands of pounds.

Examples of different jobs that have utilised UAVs include provision of situational awareness during security operations, carrying out engineering inspections and radiation mapping and surveying.

Chris will also briefly look at future uses of UAV technologies at Sellafield, and some of the developments currently being worked on.

Additionally, Chris will also have some static UAVs on display (not flying!) which delegates will be able to look at, touch and ask questions.

Chris will be joined by Damien Trower, Head of Security at Gatwick Airport to provide an overview of issues experienced recently by unauthorised use of drones at the airport.

#### SUMMARY OF THE NUCLEAR INNOVATION PROGRAMME

This presentation, provided by our Gold sponsor Fraser-Nash Consultancy and delivered by Adrian Prior, will provide a short overview of a number of key security related R&D projects, many of which are ongoing, which form part the Government's Nuclear Innovation Programme.

The focus will narrow to the central topic of 'Secure by Design', which seeks to provide technical guidance for those looking to apply this principle.

It will also examine the closely related topics of security performance measurement and cost benefit analysis, to support better decision making.



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### ATTRACT RETAIN PANEL SESSION

One of the biggest challenges today's employers face is attracting and retaining talent. Millennials are now well established in the workplace and Generation Z is close behind; these two generations are more tech-savvy and creative, and have very different workplace requirements from their predecessors.

The old strategies, such as offering more money, are less likely to succeed in attracting and retaining the very best talent, and a company that wants to thrive must invest in both the attraction and retention of its employees; this means that they must keep up with the changing demands and needs of their staff.

With threats continually evolving and requiring new means of mitigation, the nuclear industry needs to attract and retain the very best talent available. This session looks at the challenges faced by security departments and identifies some of the ways to ensure that nuclear security can remain properly resourced to deliver the right security for the future.

### PERSONAL JOURNEYS PANEL SESSION

Increasing and managing diversity and inclusion in the workplace – of thought, skills and approach – is one of the defining issues of our time. Hiring people with diverse backgrounds and at varied stages in their career can help to foster creativity and offer a range of perspectives and ideas.

In this interactive panel session, Alison Dyer of Urenco, Kirstin Sands of nucleargraduates and Stephen Wells of AWE will discuss their "Personal Journeys": the unique and diverse routes which each of them has taken into the nuclear security industry.

We will explore the similarities and differences between their journeys and reflect on the learning which can be taken from this for those companies seeking to attract a more diverse workforce.



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### 5. UPCOMING NUCLEAR INSTITUTE EVENTS

NI PRESENTS

### Implementing Digital Innovation in a Nuclear Environment

Thursday 28 November | Institute of Physics

With Thanks To:

**IOP** Institute of Physics

**ni**  
nuclear institute

### NUCLEAR INDUSTRY 2019 ANNUAL DINNER

5 DECEMBER | GROSVENOR HOUSE LONDON

To register for any events or webinars please go to [www.nuclearinst.com/events](http://www.nuclearinst.com/events)