

innovate

Issue 11 October 2017

SCITEC17

NNL's Showpiece Conference



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welcome

Welcome to the latest edition of Innovate, NNL's customer and stakeholder magazine. It's been an eventful few months for us and as we also look ahead, Innovate is a great way to let you know what we've been involved with and where we've been contributing and delivering.

In NNL we have a rich heritage and along with the rest of the nuclear industry we're looking forward to a successful future. We're positioning our business for growth in line with the resurgence in all sectors of the industry. To reflect our ambitions to become a world leading national laboratory we've re-designed our vision, purpose and values. Find out more on Page 16.

In November, our Executive Director Fiona Rayment will collect her OBE, awarded in the Queen's Birthday Honours list, at Buckingham Palace. We're tremendously proud of her recognition. Read more on Page 6 about Fiona, her award and also her high profile appointment as Chair of the Nuclear Skills Strategy Group (NSSG).

I would also like to mention NNL's showpiece Science and Technology Conference - SCITEC17 - which took place in early May.

The event focused on how science and innovation can power future economic growth. We're featuring SCITEC17 in a bumper double page spread in this edition of Innovate.

I hope you enjoy Innovate 11 and catching up with the latest from NNL. It's really important to us that we know if Innovate is hitting the mark for you our readers.

Please let us have your feedback via our new Innovate survey. It is designed to be very quick and should only take you around five minutes to complete. Find out more on Page 19.

Paul Howarth
Chief Executive Officer

Event Sparks success for NNL young professionals

In June, Manchester played host to the European Nuclear Young Generation Forum (ENYGF), bringing together more than 500 early career nuclear professionals from around the world.

The event hosted the finals of Spark!2017, a paper-writing competition which encourages innovation from young nuclear professionals.

NNL's Abigail Scanlon and Joshua Scott finished fourth out of more than 50 entries, and were also awarded the "Spirit of

Spark!" prize for best interdisciplinary team for their paper "Diary of a Nuclear Sceptic".

Jess Taylor, a nuclear graduate seconded into NNL from the Office for Nuclear Regulation (ONR), was in the team which won third prize. Jess's team also won the AZOAR Environmental Prize for the paper which had the biggest consideration for the environment.



Abigail Scanlon and Joshua Scott

SCITEC17

Shaping the Future



Innovation, international perspectives and the chance to influence the government's developing Industrial Strategy were all on the menu at SCITEC17.

Held under the wings of the iconic British Airways Concorde G-BOAC at Manchester Airport, SCITEC17 focused on how science and innovation can drive real economic growth.

Around 350 delegates from all over the UK, Europe and the rest of the world joined us in June at our flagship conference. It brought together established and emerging expertise to stimulate collaboration and creativity, helping shape the role of science and business in supporting the UK government's new Industrial Strategy and the emerging nuclear sector.

Unrivalled expertise on show

The event was led and hosted by NNL Chief Scientist Andrew Sherry. Distinguished panellists and speakers from Japan, America, France and Canada helped make SCITEC17 truly international. The UK contributed high level representation from academia and the industry namely Sellafield Ltd, EDF Energy and Rolls Royce with trade body the Nuclear Industry Association also prominent.

What the delegates said:

"Excellent way to communicate NNL's expertise in an innovative and interactive way"

"Thought provoking, useful and delivered in a different way"

"TEK Talks were extremely informative and pitched at the right level to get messages across in an interesting way"

Themed zones provided areas for delegates to explore between the plenary sessions. A Demonstration Zone featured technology in action. The Exhibition Zone was jam-packed with NNL's university collaborators demonstrating capability, equipment

and know-how. Video and touchscreen zones provided opportunities to learn more about NNL's innovation science themes and how the UK's Industrial Strategy challenges are being addressed.

TEK Talks gave ten speakers around ten minutes of opportunity to explain their perspective or idea for the future of the industry. You can view the TEK Talk videos here www.nnl.co.uk/science-technology/scitec-2017

Industry's critical role reinforced

Former MP and current CEO of the Nuclear Industry Association Tom Greatrex delivered the keynote speech, reviewing the current UK and global political situation then looking ahead to the future of the industry.

Tom stressed the tremendous importance of science and innovation and its role in powering the nuclear sector. He said: "The government's developing Industrial Strategy includes a major focus on science and innovation and makes it clear that nuclear is a key sector.

"SCITEC 17 is a great example of us putting the necessary ingredients together to stimulate innovation. The aim must be to return the UK to its position as a 'top table' nuclear nation."

International perspectives

Andrew Sherry hosted a truly international panel discussion during which the experts shared some of their first-hand experiences and discussed a range of issues with the audience.

Andrew was joined by Tom Greatrex and:

- Stéphane Sarrade, Deputy Director of Innovation and Nuclear Support at France's Nuclear Energy Division of CEA
- Masaaki Hanaoka, Executive General Manager of Tokyo Electric Power Company (TEPCO) based in London
- Sarah Lennon, Director at the Office of Bilateral, Multilateral and Commercial Co-operation, part of the US Department of Energy Office of Nuclear Energy
- Kathy McCarthy, Vice-President of Research and Development at Canadian Nuclear Laboratories

What the delegates said:

"Honest and thought provoking debate provided by NNL and its collaborators"

"Having the international panel from influential organisations highlighted collaboration and the importance of research being done by NNL"

"Panel discussions and TEK Talks were very interesting"



Bigger and better in 2018

Plans are already underway for SCITEC18 with feedback from this year's event making a key contribution to preparations. Watch out for more news via the NNL website.

SCITEC 17 Feedback Summary:

96% of delegates responding agreed or strongly agreed that attending the conference enabled them to network with colleagues from across the science and technology sector

95% agreed or strongly agreed the event allowed them to hear and see stimulating debates and demonstrations of exciting technologies

96% agreed or strongly agreed the event was innovative and thought provoking

82.5% agreed or strongly agreed that attending the conference enabled them to hear from world class speakers

Fiona Rayment OBE



The award makes Fiona an Officer of the Most Excellent Order of the British Empire. It has been made in recognition of her services to nuclear research and innovation.

Fiona ran NNL's Fuel Cycle Solutions business for a number of years before transitioning more recently to become the Executive Director of the Nuclear Innovation and Research Office (NIRO). When the honours announcement was made, Fiona declared herself thrilled with the award and said:

"I am absolutely speechless to be awarded an OBE. This is such an honour and I am so very proud."

"I am fortunate to work in an industry that has given me such pleasure and with so many great people who are leading innovations in energy R&D. I see this honour as a reflection of the tremendous support which has always been given to me, both by my family and by the wonderful people I have had the pleasure to work with throughout my career."

NNL CEO Paul Howarth added: "It is hard to think of anyone who deserves to be recognised in this way more than Fiona. I am absolutely delighted to see her awarded an OBE and I congratulate her on behalf of all of her colleagues at NNL."

Fiona has over twenty five years nuclear industry experience, working primarily in technology, operations and strategic planning roles across a number of different nuclear sites both in the UK and internationally. In addition to her NIRO role, she also chairs the Nuclear Skills Strategy Group (NSSG) and is a member of the Fusion Advisory Board, the Office for Nuclear Regulation's Advisory Board and the Nuclear Institute's Board of Trustees. She chairs the Nuclear Institute's Events Committee and has very recently been appointed to the Board of Directors of the American Nuclear Society.

Fiona is both a chartered engineer and chemist with a BSc and PhD in Chemistry from the University of Strathclyde. She is a Fellow of the Royal Society of Chemistry and the Nuclear Institute and she has an MBA from Manchester Business School.

Many congratulations to Fiona from everyone in NNL.

Hot on Skills

NNL has a national role in maintaining and developing critical skills and strategies to attract the most talented people into the industry. Fiona's appointment as Chair of the Nuclear Skills Strategy Group means she will have the influence to drive major developments in the sector.

The NSSG is a key feature of a new UK wide partnership approach on skills with membership including the government and nuclear employers. Fiona has already led the launch of the NSSG's new Nuclear Skills Strategic Plan.

Fiona said:

"For the first time in decades, the UK is set to build a new fleet of power stations, as part of its continued transition to a low-carbon economy. This means that we will need increased numbers of highly skilled people to build and operate the new fleet, as well as a skilled workforce to continue to run the existing stations, decommission the older ones, safely process nuclear waste and maintain the nuclear defence programme."

"By working in collaboration with government, skills bodies, supporting organisations and employers, the NSSG is confident that the actions as set out will address the underlying issues and allow the sector to gear up for the future, supported by the necessary infrastructure, processes and systems to meet its skills challenge."

The NSSG is expected to become the UK's lead strategic skills forum representing both the civil and defence nuclear sectors. In addition to the Nuclear Skills Strategic Plan, the NSSG will address skills infrastructure and the training needed to secure the supply of qualified and competent people for the industry.

In November, Executive Director NIRO, NNL Fiona Rayment travels to Buckingham Palace to receive her OBE, awarded in this year's Queen's Birthday Honours list.

NNL wins new R&D contracts



Richard Harrington

The government has awarded two new contracts worth £7m to NNL, covering R&D on Advanced Nuclear Fuel and Nuclear Fuel Recycle and Waste Management. The work started in June of 2017.

Energy Minister Richard Harrington said:

"I'm very pleased that the National Nuclear Laboratory has won our contracts for research on advanced fuel and recycling."

"Partnering with leading UK organisations in the nuclear industry

will have a big part to play in helping deliver on our department's big initiatives, including the Clean Growth Plan and the Industrial Strategy."

NNL expertise helps nuclear industry in Japan

Colleagues from NNL have recently helped provide both strategic insight and practical help to the nuclear industry in Japan, particularly in decommissioning.

NNL has long had strong relationships with the nuclear industry in Japan, but they have never been more important than since the accident at Fukushima Daiichi in 2011.

With nuclear energy under review in Japan since the accident and clean up still ongoing, Keith Franklin MBE, former NNL Business Manager, has been seconded as First Secretary (Nuclear) at the UK Embassy since 2011.

Keith has provided nuclear related expertise,

in decommissioning via his role in the Embassy and has worked to raise the profile of wider UK expertise. He has created a link between not just NNL, but with the whole UK nuclear industry.

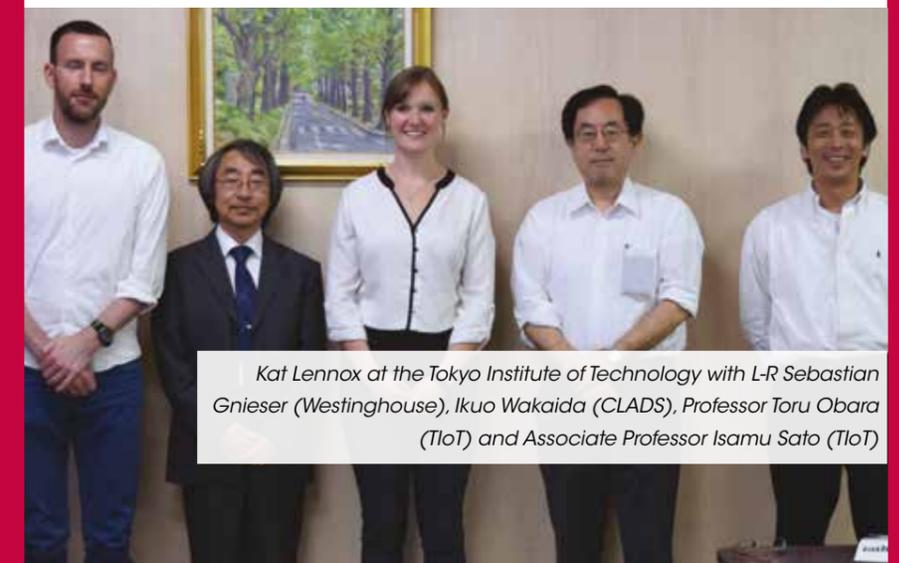
NNL's External Relations Director Adrian Bull provided stakeholder communications and engagement expertise around the fifth anniversary of the disaster in 2016 linking in to the work of the UK's Nuclear Industry Council.

And earlier this year, Strategic Business Development Manager Kat Lennox spent five weeks in Tokai, Ibaraki, exploring potential collaborations for NNL and the Japanese Collaborative Laboratories for Advanced Decommissioning Science

(CLADS) in decommissioning science-based R&D.

Set up by the Japan Atomic Energy Agency (JAEA), CLADS is a research hub for the ongoing decommissioning work being carried out at Fukushima Daiichi. Kat also helped with recruiting the next generation of experts by giving lectures at five universities and colleges in the region.

We intend to continue to build links with CLADS and to develop collaborative R&D opportunities to develop the decommissioning challenges faced by both the UK and Japan.



Kat Lennox at the Tokyo Institute of Technology with L-R Sebastian Grieser (Westinghouse), Ikuo Wakaida (CLADS), Professor Toru Obara (TlOT) and Associate Professor Isamu Sato (TlOT)

Reuben's in the pink

We are delighted to share that NNL's Reuben Holmes co-authored the paper which was awarded the most recent prestigious Pinkerton Prize.

The paper, 'Magnox Reprocessing TDN Reactors: Utilising 3D Printing to Re-Design and Test Fluidising Air Nozzles', also featured contributions from Brandon Gallagher (Sellafield Ltd) and Massimiliano Materazzi (University College London).

The Pinkerton Prize is awarded annually to the authors of the best paper to feature in their 'Nuclear Future' magazine during the previous 12 months. Reuben and his collaborators presumed they had been invited to the Nuclear Institute and Nuclear Industry

Association joint dinner because their article had been published in Nuclear Future.

Reuben said:

"The announcement came completely by surprise and it was a welcome opportunity to reflect on the paper we had written together, as well as recognise the abundant support we had received from those who made this project possible."

Reuben follows an illustrious NNL tradition, with Mike Angus and Chief Scientist Andrew Sherry being previous winners of the Pinkerton Prize.



NNL facility supports contamination research

University of Manchester PhD student Tim Kerry has been working closely with NNL as part of a cutting edge collaborative project.

NNL's Focused Ion Beam (FIB) facility at our Central Laboratory has been used to further research into how stainless steel surfaces can become contaminated.

Tim Kerry used the FIB to analyse contaminated stainless steel coupons. New nuclear build and decommissioning programmes across the world have highlighted the requirement for greater understanding of contaminated materials so that more informed decontamination technologies can be developed for the sector.

Tim's PhD covers contamination of stainless steels in reprocessing conditions and he was keen to simulate the 'real-life' contaminated materials found on nuclear sites by immersing stainless steel coupons in solutions containing radionuclides for long periods of time. By gaining access to the FIB, Tim was able to record high-resolution cross-sectional images of his contaminated coupons.

Tim's work at the FIB was supervised by Clint Sharrad, Lecturer in Nuclear Decommissioning Engineering at the University of Manchester and NNL's Tom Carey from the Effluents and Environmental Chemistry team, Business Manager Olivia Thompson and Chief Technologist Anthony Banford.

Tim Kerry (second left) with NNL's Tom Carey, Adam Qaisar and Ellen Cosh

Student awarded Arkwright scholarship

A new student is benefitting from a scholarship to support her through A Levels and encourage a career in engineering, computing or technical design.

Charlotte Harrison from Skipton in North Yorkshire was awarded her scholarship at the latest awards ceremony taking place at the headquarters of the Institution of Engineering and Technology (IET).

Created in 1991 by a group of head teachers, the Arkwright Scholarship Trust is a registered charity which encourages 15 and 16 year olds to consider Science, Technology, Engineering and Mathematics (STEM) as a career.

NNL with NuGen and the Nuclear Decommissioning Authority (NDA) have provided financial support for 16 students

this year. Scholarships are awarded after a rigorous selection process including an assessed application that includes a teacher's reference, a two-hour problem-solving aptitude exam and a university-based interview. An annual financial award is made to each selected scholar and to their school.

Charlotte proved herself a very talented student and gained 11 A*/A grades in her GCSE exams last summer. She has expressed a strong interest in pursuing a career in the nuclear industry after university and plans to study an engineering discipline. She has also attended the Smallpiece Trust course on Advanced Nuclear Engineering held over the summer. The courses are partly run and supported by NNL.



Adrian Bull, NNL External Relations Director and Arkwright Scholar Charlotte Harrison

Paul's walking in the AIRTO



NNL CEO Paul Howarth has been appointed the new Chairman of the Association for Innovation, Research and Technology Organisations (AIRTO).

AIRTO is the foremost membership body for organisations operating in the UK's innovation, research and technology sector. AIRTO has over 60 members including nuclear luminaries the Nuclear Advanced Manufacturing Research Centre and the UK Atomic Energy Authority. Paul has served on the AIRTO Board since 2014.

Commenting on his appointment he said:

"AIRTO has a unique opportunity to build on the government's recognition of the importance of innovation in its recent Industrial Strategy.

"The UK has a thriving and vibrant innovation services and support sector which AIRTO represents extremely effectively. Innovation touches every single sector of society in one way or another.

"AIRTO can reach out to champion and provide a voice for innovation across the economy. I'm looking forward to working with colleagues on the Board and throughout the AIRTO membership to make that happen."



Rob mystic and soulful in Vienna

Held annually over five days in Vienna, the IAEA General Conference is a hugely significant event in the nuclear calendar. The conference features a global scientific forum centred on nuclear technology.

This year, NNL's Head of Global Insight Rob Whittleston attended as part of the UK delegation, featuring as a prominent speaker during the UK side event themed as 'Building capacity and capability to de-risk nuclear programmes, the UK experience.'

Rob's involvement was co-ordinated by the Department for International Trade and his presentation covered UK civil nuclear R&D, its overall capabilities and expertise.

He focused on how R&D is funded, the facilities available, people as a valued resource, current capability and investing in the future. Rob also covered NNL's key role at the heart of R&D supporting the expansion of the UK's international nuclear footprint as a top tier nuclear nation.



VIP Sellafield tour for students

Three students from the Centre for Innovative Nuclear Decommissioning (CINDe) were given a VIP tour of Sellafield in June 2017.



The visit gave the students access to the Thermal Oxide Reprocessing Plant (THORP), Fuel Handling Plant (FHP) and the Sellafield Ion Exchange Plant (SIXEP), along with a walking tour of the Sellafield separation area with a particular focus on legacy ponds and silos. Antonio Di Buono, Stella Tournier and Konrad Gornicki are all based at NNL facilities while conducting their PhD research.

Andrew Shimmin, NNL's Technical Manager for the CINDe programme said: "The main driver behind the CINDe programme is to increase NNL's interaction with academia and strengthen understanding of the current and future challenges we face.

"Not many students will get to visit the Sellafield site let alone some of the areas and plants we were able to get access

to. It was a really great opportunity for the students to gain a sense of the size, scale and complexity of the site and some of the areas which their projects will have applications for."

The CINDe programme will recruit around five students per year over the next five years.

New agreement for NNL and Sellafield dictates future partnership working

The future of the organisations is "inextricably linked" as the relationship is formalised in a new collaboration agreement.

Sellafield and NNL have strengthened their relationship by signing a new collaboration agreement. Both organisations are government-owned and already collaborate on many shared issues. The new agreement recognises it is in the UK's interest for both to work together to accelerate hazard reduction and clean-up activities on the Sellafield site.

The agreement defines the principles by which the two organisations will continue to focus on developing new technologies centring on cost-effective research and solutions sourced from the existing supply chain, national laboratories and academic sector.

NNL CEO Paul Howarth said:

"Sellafield Ltd has always accounted for the largest portion of our work and around half of our workforce - and our biggest nuclear laboratories - are based on the Sellafield site.

"Within NNL we have a good deal of science, technology and innovation which can help to reduce the cost and timescales of the clean-up mission whilst improving safety. It therefore makes perfect sense for

us to reinforce a more collaborative working arrangement.

"I'm delighted that this agreement builds on the excellent links which already exist between us and I'm confident that we will see even more success ahead for both organisations - and for the UK's nuclear sector as a whole - over the coming years."

Joining Paul at the signing was Rebecca Weston, Technical Director for Sellafield Ltd. Rebecca said: "To be successful, the futures of Sellafield and NNL are inextricably linked. The history, knowledge and experience shared by the respective technical teams, as well as the physical integration of facilities on the Sellafield site reinforce these links.

"It is therefore important to recognise this in the formal relationship between the organisations. There are challenging times ahead to work out how to meet the needs of all our stakeholders and this won't be possible unless we work together collaboratively."

A new contract aligned to the principles will replace the current framework agreement between NNL and Sellafield.



L-R NNL Chairman Sir Andrew Mathews, Paul Howarth, Sellafield Ltd Chairman Tony Fountain and Rebecca Weston

New senior appointments for NNL

We have strengthened our senior team with high calibre appointments to the Business Executive and Board

David Beacham

David joins us as Chief Customer Officer, a brand new role with responsibility for full end-to-end delivery of NNL's operations. This ensures that value for customers is right at the heart of NNL.

The appointment is to the NNL Business Executive and Board of Directors and reflects a new focus on achieving a customer-focused way of working.

David joins from Jacobs Engineering and is a Chartered Engineer and Fellow of the Institution of Civil Engineers with more than 25 years' experience on a wide range of complex engineering and construction projects.

His nuclear experience includes working on major projects at Hinkley Point C, Sizewell C, Wylfa, Sellafield, Drigg, Devonport and Barrow. He also has extensive international experience ranging from Cuba to India and Taiwan to Romania.

David can also point to an early career in music having played drums in a sixth form band playing 1980s covers of songs from luminaries such as The Smiths, Iggy Pop and Joy Division. More recently, keen cyclist David spent a week riding up some of the big climbs of the La Vuelta a España, one of professional cycling's three grand tours.

Rob Sneddon

As Business Programme Management Officer, Rob is responsible for leading NNL through business transformation. He is accountable for shaping a strategic

approach to transformation, building capability to deliver and leading on NNL's change journey.

Rob has spent most of his career in aerospace and defence, including 30 years with BAE Systems and its predecessor companies. He progressed from a technical apprenticeship to Vice President at BAE Saudi Arabia where he led engineering, programme and supply chain management and business transformation.

Rob has operated at a senior executive and business board level for the past 15 years and has specialised in business transformation and change.

Having worked for three years as a consultant in the nuclear, defence and public sectors, Rob joined NNL from the Co-op Group.

Like David Beacham, Rob is a very keen cyclist and completed a 500 mile ride from York to Paris a few years ago as a remembrance tribute to his friend's grandfather, a pilot shot down over Paris during the Second World War. Rob has not allowed type 1 diabetes to hold him back and has also competed in four 100 mile cycling sportives. His other sporting claim to fame was playing football to a reasonable level and he had a trial with Rochdale football club as a 15 year old. Family also keeps Rob busy and he has four children aged between one and 22 years old. In fact his youngest son is uncle to his grandson who was born this year.

Claire Flint

We're delighted to welcome Claire Flint as a non-executive director to the Board of NNL.

Claire previously served as an associate non-executive director on NNL's Board from 2014-16 so she is very familiar with the business.

In her career, Claire was most recently Group Human Resources and Brand Director for Oxford Instruments plc, a leading international nanotechnology tools provider, serving on their management board for more than ten years. Prior to that she held a number of international HR roles working for Diageo, Bass Brewing and NatWest Bank. From 2012-16, she sat on the Institute of Physics Campaign Board raising funds to promote the advancement of physics as an engine for education and economic growth.

The new executive and board appointments represent a boost to the exceptional blend of expertise, ability and experience already present in NNL's senior teams. Rob, David and Claire will make valuable contributions as NNL continues to develop and become even more influential as a national laboratory for the UK.



David Beacham



Rob Sneddon



Claire Flint

Victoria Wright

Bolstering our communications team is new VP Marketing, Communications and PR Victoria Wright. With a track record of delivering communications in changing environments, Victoria is a welcome addition to our communications function at a time of exciting change.

Victoria's experience spans multiple industries, from telecoms to retail. Previously Victoria developed and led the communications and employee engagement strategy for Capita's largest client, Telefonica (owner of the O2 brand), covering 6,000 employees across three continents. She also has extensive experience in change consultancy, working for brands such as Amnesty International, the Financial Conduct Authority and several universities.

Victoria is also a qualified aerobics teacher specialising in stepping and aqua aerobics, which is obviously great news for her new colleagues.



Victoria Wright

Rob Whittleston

Joining us as Head of Global Insight, Rob Whittleston has had a career in research and policy. He has held senior roles at the Department for Transport and Hitachi Europe's European Nuclear Research Centre. With Hitachi he acted as interface with the European Union enabling access to skills and R&D in support of their nuclear new build strategy and the Fukushima decommissioning programme in Japan.

Rob then spent three years conducting research for the NDA covering national and international research projects that link to geological disposal. Rob holds a first class degree in earth system science and a PhD in Geochemistry.

Interestingly, he is also a semi-professional ice hockey player although he admits to being at the veteran stage of his sporting career.



Rob Whittleston

Tom Yates

Joining NNL as Head of Strategy, Tom Yates arrives following a three and a half year stint at UK Government Investments working on the governance of various businesses in the Department for Business, Enterprise and Industrial Strategy (BEIS) portfolio. This group includes NNL and the NDA.

Prior to UK Government Investments, Tom held a string of jobs based in Whitehall going back to 2005. He was involved in energy policy but it was a spell reporting into Treasury which saw him make the first of many visits to the Sellafield site. His Treasury work covered the period of the last Labour Government's final Budget, the Coalition's emergency Budget and the 2010 Spending Review. Prior to the civil service Tom was a strategy/management consultant.

Tom tells us that he has made four solo albums as a singer-songwriter, but commercial success has been elusive so far.



Tom Yates

Colleagues scale new heights for charity



In June two NNL colleagues scaled ten peaks in ten hours in the Lake District National Park, covering more than 16 miles on foot with the added challenge of ascending a total of 6,700ft.

Sheila Rae and Lindsay Edmiston completed the challenge to raise funds for the Multiple Sclerosis (MS) Society after Sheila was diagnosed with the condition last year. They have raised an impressive £3,000 against their original £800 target.

The route included Causey Pike, Sail, Crag Hill, Wandope, Whiteless Pike, High Snockrigg, Robinson, Dale Head, High Spy and Maiden Moor. In an attempt to ignore the enormity of the challenge Sheila and Lindsay decided on the team name Gaun for a Daunder, which (loosely translated) means going for a leisurely stroll!

Regular training meant they were gaining fabulous fitness and raising much needed cash to fund research to find a cure for MS. Sheila and Lindsay walked the route along

with six others, all raising money for the same cause.

MS is currently without a cure and affects around 100,000 people in the UK - that's around 1 in 600. It's a chronic, life-long, neurological condition with the symptoms varying from person to person.

Fundraising from the 10 in10 goes to support people with MS in the north Lakes area and to fund specific research programmes, most recently into repairing damage caused to nerves by MS.

To find out more about 10 in 10 visit www.10in10.org.uk

Natalie's skills awards triumph

Congratulations to Natalie White from the NNL Human Resources team who was named Foundation Degree/Higher National Diploma (FD/HND) Student of the Year at the UK Nuclear Skills Awards in Manchester in March this year.

Natalie's line manager and Talent Business Partner Lynn Appleton said "Natalie's work ethic and achievements are an inspiration for young people both within HR and the wider business and she encourages others to look for opportunities to develop their skills."

Natalie was among a strong group of NNL contenders which also included, James Rothwell, Dan Whittaker and Mithila Manage.

James was a Maintenance Apprentice of the Year finalist and Dan was a finalist in the Post Graduate Student of the Year category while Mithila was a finalist in the Science Technology, Engineering and Mathematics (STEM) Ambassador of the Year category.

The awards, a close collaboration between the National Skills Academy Nuclear and Cogent, are aimed at people starting out in their careers in the nuclear sector.



Vienetta to Vitrification



We're proud of the expertise of NNL's people. Here's an insight into another member of the NNL team, his career and areas of specialism. From Vienetta to Vitrification, Paul Collings' career has sent him to many corners of the globe.

In a truly international career spanning numerous continents, a stint as special assistant to BNFL's Technology Director, Dame Sue Ion, four years working on the famous NNL Vitrification Test Rig at Sellafield, and several roles organising some of the nuclear industry's largest events, NNL's Programme Manager Paul Collings, is

celebrating 20 years in the nuclear industry.

Paul remembers choosing the nuclear industry after doing a PhD, which he chose to undertake as jobs were sparse after he graduated in the early 1990s. Even work experience at the Unilever facility, which invented Cornetto and Vienetta, wasn't enough to tempt him away.

"After finishing my PhD I looked around at my options," he said. "I thought the nuclear industry would offer me some great opportunities to get involved in research."

And Paul already had family connections in the industry, "My uncle worked at Heysham power station and I understood the contribution the industry was making,"

So in 1997 he joined BNFL's Research and Technology (R&T) department at Sellafield. He was one of the last post-graduates to take part in the BNFL Research Associates Scheme.

A broad career

Gaining broad experience at Sellafield has been key to helping Paul develop the expertise that NNL is pleased to make use of today. A secondment at the Thermal Oxide Reprocessing Plant (THORP) at Sellafield developed his knowledge. Paul worked in the Chemical Services Technical Support team, a key area underpinning much of the operation. This role was a big contributing factor to him gaining his chartered status to the IChemE.

Second time lucky

During his two decades with NNL, Paul has held a variety of roles across the business including deputy team manager in Effluents, Laboratory Manager and Head of Facilities Management, which saw him drive a greater customer and business focus in facilities.

"During my time with NNL we planned the expansion of the Workington Laboratory and developed our move from the traditional facility at Harwell to more modern accommodation at Culham."

Prior to working on SCITEC 17 and his current role as Programme Manager,

Paul was heavily involved in technology commercialisation for NNL.

"That was a really enjoyable period for me," he said. "We took the good ideas generated by the talented and creative people we have in NNL and critically examined potential for bringing the best ideas to the market."

"We were very keen to make our technology more tailored and accessible. We also developed our patent portfolio, product naming, branding and trade-marking."

Early in his career Paul was also involved in a project to examine the NOX abatement system in the Waste Vitrification Plant (WVP). "Our challenge was to satisfy the requirements of the key regulator – the Environment Agency," he said. "I'm very proud of the team we put together from both NNL and the customer and the ultimate success of the project."

As special assistant to Dame Sue Ion, BNFL's Technology Director, between 2003 and 2004, Paul travelled the world. "Working with Dame Sue certainly broadened my knowledge of the industry and made me realise just how big BNFL was," he said.

"I travelled to the USA and around Europe and we had one particularly enjoyable and challenging trip to Japan. We supported a British trade and investment tour which meant travelling around Japan to places like Tokyo, Kyoto and the facilities at Rokkasho Mura."

Paul's career has also taken in a year seconded to the NDA managing the long-term strategic research that informs future policy. While with the NDA he was involved in organising the annual Decommissioning Supply Chain event, creating the impressive Innovation Zone. Paul brought this expertise to bear with NNL as part of the team organising this year's SCITEC conference.

Looking ahead to his new role as Programme Manager, Paul is focused on winning work and managing projects in waste and residues processing, a key delivery area for NNL's customers. We're so pleased he wasn't tempted away by a life of free ice cream.

New vision and values for NNL

This is a critical time for the future of the nuclear industry, with the shifting sands of public opinion and government policy always presenting new challenges.

At NNL we want to be ready to contribute to the resurgence in all sectors of our industry. The next decade will see tremendous expansion as new build gathers momentum and the industry moves ahead in other areas including waste management and decommissioning.

Our ambition is to become a world-leading national laboratory. To help us achieve that goal, we have a new vision supported by a redesigned purpose and values that better reflect what is important to us as a business.

New vision - world-leading nuclear expertise and innovative solutions

We want to be known for our world leading science and innovation, moving from the UK stage to a global one. We want to work closely with partners and stakeholders, combining commercial delivery with leading edge science to deliver innovation and economic impact across the world.

New purpose - to serve the national interest and create value for our customers by pushing the boundaries of science, technology and innovation

We're focusing on our purpose each and every day to drive us closer to our world-leading vision. We don't just want to respond to the world's challenges, we want to anticipate them too.

Our new SCITEC values reflect the foundations of the business.

- Safety in everything we do
- Customer - delivering value, sharing success
- Integrity - doing the right things right
- Taking responsibility - solving the problem, owning the solution
- Enthusiasm - enjoying what we do, inspiring others
- Collaboration - being inclusive, unleashing potential

NNL has a role in leading and helping to shape industry thinking. It's why we matter and it's a great privilege for everyone at NNL to be able to do this.

Safety
in everything we do

Customer
delivering value, sharing success

Integrity
doing the right things right

Taking responsibility
solving the problem, owning the solution

Enthusiasm
enjoying what we do, inspiring others

Collaboration
being inclusive, unleashing potential



Let's Talk Nuclear Dialogue Study

NNL has collaborated with partners Sellafield Ltd and the Welsh Government to manage a successful public dialogue study.

With the UK embarking on a new nuclear reactor build programme and also delivering ongoing decommissioning and waste management services, broad acceptance of the industry from the public will be a key to future success.

An exciting initiative carried out earlier this year saw NNL collaborating with partners Sellafield Ltd and the Welsh Government to manage a public dialogue study. The results of the study are an ideal means of testing the principles featured in the government's Concordat on Public Engagement, which was first published in 2015.

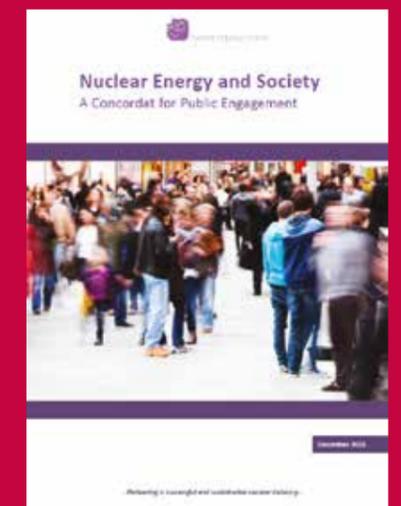
During the dialogue study, NNL and its partners ran two independently facilitated public participation workshops in Wrexham in Wales and Barrow-in-Furness in Cumbria with follow-up meetings six weeks later. The sessions featured a broad demographic of

the public with people having a range of views, experiences and perspectives. Valuable insights and feedback from the public has been co-ordinated and is being used to update the Concordat. Key industry stakeholders have expressed interest in being briefed on the work.

In a further exciting development, news of the UK's work on public dialogue spread quickly to the international stage. NNL was invited to present at events in China to share UK and international experiences in developing effective public engagement and consultation. The project was funded by the Foreign and Commonwealth Office (FCO) through the government's prosperity fund.

NNL conducted seminars in Beijing and Shenzhen covering the Concordat, the collaborative public dialogue study and

also a European Commission funded project to assess the applicability of the UK Concordat in Europe.



Industry events – come and see us

NNL is maintaining a strong profile at key industry events over the winter months in 2017/18. Why not come and visit us on our exhibition stand and chat to our people at the following:

7th NDA Estate Supply Chain Event

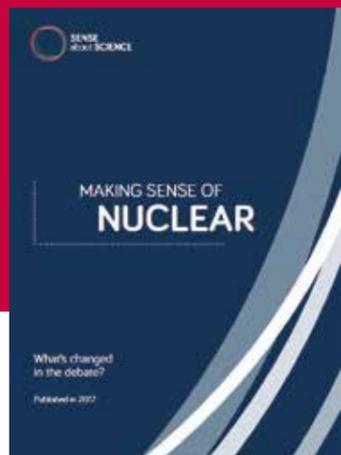
Billed as the biggest networking event in Europe for nuclear decommissioning, the NDA Estate Supply Chain Event takes place on 2nd November in Manchester. NDA's showcase attracts around 1,600 delegates and provides opportunities for the nuclear supply chain to network with NNL and up to 300 other exhibiting companies. NNL will again be part of the celebrated Innovation Zone, the dedicated space for exhibitors with innovative technical products on display.

Nuclear 2017

The nuclear industry's leading annual conference takes place on Thursday 7th December at London's iconic County Hall. In its 17th year, the event brings together speakers, delegates and exhibitors from across all parts of the industry to discuss key developments and look ahead to what the future has in store. NNL will field a strong team at the event, which will cover decommissioning, nuclear new build, Brexit and much more.

Women in Nuclear (WiN) UK Conference 2018

NNL will attend the Women in Nuclear (WiN) Conference being held in London on 31st January 2018. In NNL we are keen supporters of WiN, which is part of the famed Nuclear Institute. WiN UK's key objective is to strengthen the contribution of women working in the nuclear industry, achieve a better gender balance and improve engagement with women in the wider public.



New report busts nuclear myths

"We fully appreciate the need to have as much up-to-date information as possible available to underpin a fact-based discussion on the subject and we're delighted to have participated in the production of this report."

A new report - "Making Sense of Nuclear" - has been welcomed by NNL.

The report aims to provide a science based, factual assessment of the themes that are contributing to increasing support for nuclear energy from leading figures in the environmental movement and others.

Published by Sense About Science, the independent campaigning charity that challenges the misrepresentation of science and evidence in public life, the report reflects on what factors have caused prominent public environmentalists such as journalists, politicians and film directors to change their mind about nuclear.

"Making Sense of Nuclear" has been put together with input from a number of high profile scientific contributors including NNL, the Institute of Physics, The University of Manchester's Dalton Nuclear Institute and Energy For Humanity.

Commenting on the publication of the report, NNL's External Relations Director Adrian Bull said:

"The report recognises that the nuclear industry has been somewhat closed in the past, but has improved dramatically over recent years."

Tell us what you
Think

Innovate magazine has been running over a number of years and this is the eleventh issue. More recently, we've refreshed the look and content style. We hope it's hitting the mark for you our readers and providing you with quality information about NNL.

We recognise that there is always room for improvement and, as a valued reader, we would love to hear your views about how we can make Innovate better.

We've designed a quick and simple survey that should only take you around five minutes to complete. Your responses will be very welcome and completely anonymous. The survey closes on 1st November 2017. Please click www.surveymonkey.co.uk/t/NNLInnovateMagazine to view.

Thank-you in advance for your support - if you have any questions, please contact the Editor Peter O'Brien at peter.o'brien@nnl.co.uk



innovate

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