



# YOUNG GENERATION NETWORK ANNUAL DAY SEMINAR

## 4 NOVEMBER 2021

### DYNAMIC EARTH, HOLYROOD ROAD, EDINBURGH, EH8 8AS

### THE NUCLEAR RENAISSANCE: A TRANSITION TO A SUSTAINABLE FUTURE

The YGN's Annual Day Seminar is the premier event for the nuclear sector's young professional community. 2021 is an important year for the nuclear industry with the UN Climate Change Conference, COP26, taking place in Glasgow. This full day event will showcase the industry's commitment to sustainability across the nuclear life cycle as well as exploring why Net Zero Needs Nuclear. The day Seminar will be followed in the evening by the YGN Annual Dinner.

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## KEY NOTE ADDRESS

### Dr Sarah Williamson, Sizewell C Civil Programme Director, Laing O'Rourke



Sarah is Laing O'Rourke Technical Director for nuclear and is currently seconded with NNB as Civil Programme Director for Sizewell C.

She has 25 years industry experience including the last 15 in the nuclear industry with the most recent 10 in nuclear new build, prior to her role with SZC she was technical director for Blyth JV delivering the main civil works contract on Hinkley Point C.

Sarah has broad experience her first degree is civil engineering, she has a PhD in the behaviour of reinforced concrete structures and for 5 years she lectured in structural engineering. She is a chartered structural engineer with a deep understanding of structural behaviour which she put to good effect working on decommissioning projects, predominantly in the high hazard areas at Sellafield.

Sarah first love though, and most recent experience, is construction, specifically Nuclear New Build, and tandem with this, driving change in the construction industry. She has a clear vision of the change needed in the industry and is passionate about being part of this. Her work is focused on both driving the cultural shift required to create diverse high-performing teams, generating genuine socio-economic benefit, plus introducing digitisation and technology to transform operational models and improve productivity in the construction industry. Sarah's impact has been recognised through her appointment as a Fellow of the Royal Academy of Engineering, she is also a Fellow of the Institution of Civil Engineers and Member of the Institution of Civil Engineers.

This breadth of experience, technical expertise in her specialist areas, academic rigour and massive enthusiasm for her work combine to give Sarah a unique and effective approach to her various missions.

### Tam Al Bishawi, Station Director, Torness



Tam is the Station Director of Torness Power Station and is responsible for providing around a quarter of Scotland's electricity in a safe, reliable and economic manner. He is a positive and enthusiastic senior leader in the nuclear industry, with over 10 years of experience in senior leadership positions.

Tam has a first class honours degree in Electronics and Communications Engineering as well as a MBA from Edinburgh University. He is also a fellow of the World Nuclear University following a qualification from Oxford University. Tam joined Torness in 2004 as a graduate trainee in our operations department where he worked as an Operations Engineer before moving into the Work Week Manager role then the Human Factors Lead. He then took on his first management role as Continuous Improvement Manager at Torness before being

promoted Work Management Manager at Sizewell B.

Tam returned to Torness in 2015 as Operations Manager where he focussed on developing a succession pipeline, drove the implementation of the operator fundamentals and delivered significant improvements of human performance standards. He was promoted into the Plant Manager position in 2019 and has delivered best ever operational and safety results at the station. Under Tam, for the first time in its 31-year history, the station went a full calendar year without a shutdown and generated over 10 TWh of carbon free energy electricity, which is enough to power 2.58 million homes. Tam was appointed as Station Director in 2020 with a focus on helping Britain achieve net zero by developing and empowering the team of circa 500 highly skilled professionals at Torness.

## Rachel Bennett, Human Factors and Operations Lead, Rolls-Royce SMR



Rachel Bennett is the Human Factors and Operations Lead for the Rolls-Royce SMR project. She graduated from Loughborough University with a degree in Psychology with Ergonomics, and joined the Human Factors Team at Rolls-Royce Submarines. Rachel worked in the Human Factors team for a number of years, before joining the Nuclear Safety team, managing deterministic and probabilistic safety teams, and Integrated Logistics Support. She joined RR SMR in January 2020, with responsibility for integrating Human Factors across the SMR power station and factories, and developing the SMR operating and outage philosophies and plans. In late 2020 Rachel graduated from her MSc in Nuclear Science and Technology (NTEC) with Manchester University and is the Membership Lead for the NI Midlands Branch. Outside of everything nuclear, Rachel starts (and sometimes finishes) DIY projects on her house, and runs

events within her village such as the bonfire event and music festival.

## Heather Cox, Systems Integration Engineer, Rolls-Royce SMR



Involved in the RR SMR project since 2016, Heather has participated in several areas of engineering from the initial concept evaluation stage through design development. She led one of the original key design decisions to adopt a soluble boron-free design, leaning on her technical speciality in Chemistry (MChem and PhD in Chemistry from the University of Leeds). After coordinating the engineering planning for the next major design phase, Heather is looking forward to returning to her technical roots in Materials and Chemistry.

## Eduardo Cuoc, Reactor Physicist, Moltex Energy



Eduardo is currently a Reactor Physicist at “Moltex Energy” supporting the design and licensing requirements of the SSR-U and SSR-W advanced modular reactor design. He is also committee member of “Friends of Nuclear Energy” and believes in the importance of scientific literacy with our ever-increasing dependence on technology. To realistically tackle climate change, he strongly believes that nuclear energy must play an important role as “The mitigation of climate change is our collective responsibility and endeavour.”

## Rich Deakin, FNucl, ISCF Challenge Director – Low Cost Nuclear



Rich Deakin was appointed as UKRI's Industrial Strategy Challenge Fund (ISCF) Low Cost Nuclear Challenge Director in April 2020. His “mission” is to enable the development of a UK Small Modular Reactor (UK SMR) programme and technology in-order to attract private finance to support the delivery of a fleet of SMR's. Rich is an experienced senior leader and a recognised change agent in the nuclear energy sector, having worked in manufacturing and engineering environments in the UK and USA. He has in excess of 35 years of experience of leading across international boundaries, complex stakeholder networks and delivery in industrial programmes in organisations such as British Nuclear Fuels, Rolls Royce, NuScale and the Department of Business Energy and Industrial Strategy. Rich has a record of formulation and delivery of policy, programs, strategies and organisational change to deliver results in both the public and private sector.

Rich has significant experience of leading change and developing supply chain capability at a Nuclear Licensed Site in the role of General Manager and “agent of the licensee” for a UK based site during a period of regeneration, change and growth. He routinely represents the nuclear sector at both UK and International events and is increasingly engaged in the support of bringing diversity to the sector and encouraging the development of those new to the sector.

Rich joined UKRI from a role of Policy Adviser, Nuclear Directorate at BEIS where he was developing enabling policies for small nuclear.

## Professor John Fyfe CBE, YGN Patron



Professor John Fyfe CBE has over 30 years of experience in energy policy, economic development and partnership working among businesses and communities. John pioneered the concept of corporate social responsibility in the private sector leading local community economic through his work in West Cumbria. Among his many roles he also advised UK Government on energy policy issues and the restructuring of the nuclear industry. He was awarded a CBE in 2010 in recognition of his pioneering work in partnership and community development in the UK and across the Commonwealth. John is a passionate advocate for the young generation, and had provided advice and encouragement to the YGN since its conception 25 years ago.

## Sukhbinder Singh, Senior Consultant, Frazer-Nash Consultancy



Sukhbinder Singh is a Chartered Physicist who has worked in the nuclear industry for over 10 years. Sukhbinder has worked across a number of Advanced Nuclear technologies from SMRs to AMRs and has deep understanding of the Advanced Nuclear markets both in the UK and Internationally and supports Frazer-Nash business activities in this field as well as previously supported the Nuclear Sector Deal on behalf of Industry focussing on working UK business both domestically and internationally. Sukhbinder is also the chair of the Nuclear Institute Midlands Branch.

## Steve Smith, Programme Manager Nuclear New Build, Cavendish Nuclear



Steve is the Cavendish Nuclear Programme Manager for Nuclear New Build, focused on business development and existing project support to both HPC and SZC. Part of the wider New Build and Advanced Nuclear Technologies business at Cavendish, Steve has insight into the potential role Hydrogen can play in nuclear new build within large scale nuclear and SMR and AMR technologies. He is a strong advocate for nuclear playing a key role in achieving the UKs Net Zero ambitions and believes that combined with Hydrogen and other new technologies, a significant positive impact on climate change can be made. He is a keen supporter of STEM, coaching young professionals, promoting engineering in the nuclear industry and mentoring a team of developing professionals. He was the winner of the 2021 YGN Speaking Completion, taking the opportunity to challenge himself whilst promoting the Nuclear for Net Zero message.

Steve has worked within the nuclear industry for over 10 years mainly within EDF and NNB projects with a background in Mechanical Engineering prior to diverging into Project and Business Management of large nuclear projects.

## **Davide Stronati, Director of Sustainability, Nuclear Decommissioning Authority (NDA)**



Davide is the Director of Sustainability at the Nuclear Decommissioning Authority in the United Kingdom.

He had been the Global Head of Sustainability and Climate Change of Mott MacDonald from November 2012 to November 2020. Before, he was seconded for five years in the @one Alliance at Anglian Water (UK) instrumental in leading their carbon strategy considered at the cutting edge of low carbon infrastructure asset management.

He is the Chair of the Committee on Engineering and the Environment at the World Federation of Engineering Organisations (Paris, France); Chair of the Sustainability Leadership Team at the Institution of Civil Engineers (London, United Kingdom).

Member of the Board and Advisory Group of the UN Global Compact network UK (London, UK); Member of the Standard Committee of SuRe, Standards for Sustainable and Resilient Infrastructure at the Global Infrastructure Basel (Basel, CH); Member of the MSc Management Business Advisory Board at Imperial College Business School, (London, UK).

He holds a Degree in Environmental Engineering, summa cum laude from the University of Trieste (Italy); an MPhil in Engineering for Sustainable Development from the Cambridge – MIT Institute (UK-US); he attended the High Potentials Leadership Programme at Harvard Business School in Boston (US).

## **Nick Walkden, Head of Executive Office, UK Atomic Energy Authority**



Nick has worked in fusion for over a decade, spending much of his time as an award winning research scientist leading teams in the UK and overseas. He was part of the UK team that developed a world-first exhaust system for fusion machines, now in action tackling a key challenge in the quest to make fusion a commercial energy source on UKAEA's new fusion experiment, MAST Upgrade. In recent years Nick has refocused on fusion strategy and policy, working with Government and others to help move fusion forwards in the UK.

## **Kate Wallace, Solvent Extraction Modeller, National Nuclear Laboratory**



Kate is a Solvent Extraction Modeller in the separation science and special nuclear materials team at National Nuclear Laboratory. She is currently working on NNLS hydrogen programme looking at economic modelling for different co-generation options. Kate joined the industry in 2017 after completing a physics degree at the University of Leeds. Her work includes process modelling under the AFCEP (Advanced Fuel cycle Programme) aqueous recycle theme, and PM for the Innovation and R&D group of the Nuclear 2050 Programme.

## 2021 NI YGN ANNUAL SEMINAR: THE NUCLEAR RENAISSANCE: A TRANSITION TO A SUSTAINABLE FUTURE

Time	Topic	Speaker
09:15 10:00	Registration and refreshments	
10:00 10:15	Welcome and opening remarks	<b>Hannah Paterson</b> , YGN Chair
10:15 10:45	Keynote address	<b>Sarah Williamson</b> , Sizewell C Civil Programme Director, Laing O'Rourke
10:45 11:15	New Zero	<b>Tam Al Bishawi</b> , Station Director, Torness
11:15 11:45	Nuclear Innovation for Net Zero	<b>Rob Whittleston</b> , Director of International Engagement, NNL
11:45 12:15	UK SMR Programme	<b>Heather Cox</b> , Systems Integration Engineer, Rolls-Royce SMR
12:15 13:15	Lunch & nucleargraduates SME product booths	
13:15 13:30	Net Zero Needs Nuclear - YGN Speaking Competition Winner	<b>Steve Smith</b> , Programme Manager Nuclear New Build, Cavendish Nuclear
13:30 14:30	Next Generation Nuclear Panel	Chair: <b>Richard Deakin</b> FNucl, ISCF Challenge Director – Low Cost Nuclear Panellists: <b>Sukhbinder Singh</b> , Senior Consultant, Frazer-Nash Consultancy <b>Rachel Bennett</b> , Human Factors and Operations Lead, Rolls-Royce SMR <b>Eduardo Cuoc</b> , Reactor Physicist, Moltex Energy <b>Kate Wallace</b> , Solvent Extraction Modeller, National Nuclear Laboratory
14:30 15:00	Coffee Break	
15:00 15:30	Sustainability in decommissioning	<b>Davide Stronati</b> , Director of Sustainability, Nuclear Decommissioning Authority (NDA)
15:30 16:00	The future is fusion	<b>Nick Walkden</b> , Head of Executive Office, UK Atomic Energy Authority
16:00 16:15	25 years of the YGN – Reflection	<b>Professor John Fyfe CBE</b> , YGN Patron
16:15 16:30	Closing remarks	<b>Saralyn Thomas</b> , Incoming YGN Chair 2022