



Women's Engineering Society

Virtual Annual Conference 2021

'Serving Society'

Tuesday 20 April and Wednesday 21 April 2021

Speaker Profiles

DAY 1: Tuesday 20 April

Keynote Speaker: Professor Catherine Noakes OBE, Professor of Environmental Engineering for Buildings, University of Leeds

Professor Cath Noakes is a chartered mechanical engineer, with a background in fluid dynamics. She leads research into ventilation, indoor air quality and infection control in the built environment. Her research group carry out experimental and modelling based studies, to explore the transport of airborne pathogens, the influence of indoor airflows and effectiveness of engineering approaches to controlling airborne disease transmission.

Cath was the Director of Research and Innovation in the School of Civil Engineering at the university of Leeds for the past 6 years, and she also led the Faculty of Engineering Athena Swan committee from 2014-2017, successfully gaining a Silver award for the whole of the engineering faculty in recognition of their efforts to support gender equality.

Cath is currently Deputy Director of Leeds Institute for Fluid Dynamics and Co-Director for the EPSRC Centre for Doctoral Training in Fluid Dynamics. Since April 2020 she has been involved in the COVID-19 response, leading the Environment and Modelling sub-group of the UK Scientific Advisory Group for Emergencies (SAGE) focusing on the science underpinning environmental transmission of COVID-19.

Claire Jones, EMEA Talent Acquisition Manager, Equinix

Claire Jones heads up the EMEA Operations Talent Acquisition team at Equinix, the world's digital infrastructure company. She is responsible for developing and executing talent acquisition strategy within Equinix's data centres, bringing on board over 500 people each year, and is passionate about building diverse teams in a traditionally male dominated sector. Most recently Claire has been responsible for launching a Career Transition Programme to support people in COVID-19 impacted sectors to move into the data centre industry.

Vera Blanke, Senior Manager, Datacenter Operations Support, Equinix

Vera Blanke joined Equinix in 2017 where she first was responsible for the Customer Success Management team and since May 2019 for the Datacenter Operations Support team. Prior to Equinix, she worked at several other companies in managerial roles, resulting in 10+ years of experience in the IT and Telecommunications industry.

In her current role as Senior Manager, Datacenter Operations Support at Equinix, Vera is, amongst other things, responsible for contract management, finance, data and asset management. Vera is very passionate about women in the IT industry, still an underrepresented group, and is therefore excited about being a part of the WES event.

Maisie Barnard, Engineering Apprentice, DP World

Maisie Barnard, 18, is a first-year engineering apprentice at DP World. Maisie always had an inherent curiosity and desire to understand how things work. But it wasn't until she realised that the A level study path she had started was not for her that she discovered DP World's apprenticeship programme. Now she is really excited for her future and learning how engineering and amazing technologies being developed today can help make life easier and more accessible for us all.

Paige Rusdale, Apprentice Maintenance Engineer, DP World

Paige Rusdale, 20, is an apprentice maintenance engineer at DP World. During the pandemic Paige had to join a permanent engineering team earlier than expected as a much-needed extra pair of hands. Learning to fix her motorbike was the start of her interest in engineering and now she's already graduated to fixing much, much bigger equipment.

Malcolm Keys, Director, BAI Communications UK

Malcolm Keys is responsible for growing BAI Communications' portfolio of telecommunications infrastructure networks and bringing the business' commercial and technical innovation and expertise to the United Kingdom. Prior to his relocation to London, Malcolm led the Critical Communications capability as CEO of Airwave Solutions Australia. During this period, his team was responsible for whole of government wireless communication services for emergency service organisations as well as power, gas and water utilities. Before joining BAI, Malcolm held various executive positions with leading telecommunications companies such as Crown Castle International and Optus Communications.

Kamini Edgley, Director of Engineering & Asset Management, Network Rail

Kamini became Director of Engineering for North-West and Central Region in September 2019, having previously acted as Chief Engineer for Network Rail. In her current role she looks after the West Coast Main line also known as the backbone of Britain and the highest yielding route nationally. Kamini is working very closely with HS2 as almost 50% of HS2 train mileage will be on her region. She also has a significant part of East West Rail currently being built on her region. Kamini is a highly experienced and motivated industry leader with a wide range of expertise in the rail industry spanning over 20 years. Kamini is passionate about STEM. She is an excellent role model for young engineers and a champion of Diversity and Inclusion. She enjoys creating an excellence culture and has a proven track record of delivering outstanding results.

Aleksandra Zefirova, Programme Manager, National Grid

I'm a young professional with experience in capital project delivery in energy and oil and gas sectors. Currently working for National Grid as a Programme Manager on a London Power Tunnels - £1bn major infrastructure project which is "re-wiring" London. To supplement my engineering background, I'm in the process of completing an executive MBA which has deepened my understanding of organisations and provided alternative viewpoints, which for me is an important aspect as I progress through my career. I also take part in London Enterprise Advisor Network helping young people to build the skills and experiences they need to lead successful futures.

Chris Gray, Vice President – Operations, Quality and Health, Safety & Environment, Crane Building Services & Utilities

Chris has a First Class Masters degree in Mechanical Engineering from Bristol University. He started his career on the GKN Graduate Scheme, reaching the position of Operations Manager before joining Crane Building Services & Utilities as a Value Stream Leader in 2012, supporting the complex integration of the Building Services and Gas Value streams transitioned from St Helens to Hitchin during 2014 / 2015. After having worked across all three value streams on site he took on the role of Site Leader in 2016, leading the site through 2 years of successive

growth whilst also reducing our Accident Frequency Rate. He was promoted to his current position in 2018. With his team, Chris manages the day-to-day running of the Hitchin factory covering receipt of raw materials, manufacture of finished product and shipping to customers. He also has responsibility for the Health, Safety and Environmental compliance of the UK facilities and the management of the Quality system, designed to ensure that all products meet and exceed legal and customer requirements. Finally, Chris is responsible for the drive to continuously improve the business through The Crane Business System, ensuring that each day is better than the one before.

Danielle Malone, Energy Manager, Amazon

Danielle Malone is a Certified Energy Manager at Amazon, based in London. She works in the Central Estates function of Reliability, Maintenance and Engineering in the EU. The primary objective of this role is to support the Amazon Climate Pledge, working to reduce the carbon emissions associated with our facilities across the globe. Transitioning buildings to be net zero carbon, powered by renewable energy, highly energy efficient technologies and improved operational processes with an additional focus on water and waste reduction strategies. After significant success leading the Energy team at M&S to achieve a 32% reduction in energy consumption over 6 years she relocated to the Middle East to work with Dubai Supreme Council of Energy to develop the energy strategy for Dubai Airports. In her spare time Danielle enjoys all that life has to offer whilst appreciating being in the moment.

Dr Helen Meese, Founder & CEO, The Care Machine Ltd

Helen is an Electro-Mechanical Power Engineer with over 20 years' experience in both academia and industry. She studied for her degree and PhD at Loughborough University. Her early career was in the defence industry where she worked for a number of companies including Babcock International and GE Naval. She joined the Institution of Mechanical Engineers in 2013 as a Policy Manager firstly as Head of Engineering in Society and then as Head of Healthcare Policy, managing all aspects of the Institution's medical technology and Healthcare output.

Helen founded The Care Machine Ltd in 2018 to provide innovative technology solutions, business management and training to medtech start-ups, SMEs and Researchers. She is passionate about ensuring that technology is at the forefront of healthcare provision. Helen had worked with several high-profile clients including the NHS, where she was responsible for recruiting over 1000 engineers to support the NHS Clinical Engineering services at Nightingale hospitals across the UK at the start of the Covid outbreak.

Helen is a chartered engineer and member of the Institution of Mechanical Engineers and Institute of Physics & Engineering in Medicine. She is the host of the IMechE's engineering podcast, Impulse to Innovation and well as being Vice-Chair of the IMechE's Biomedical Engineering Division and past Trustee. She is a member of the Royal Academy of Engineering's Healthcare Policy Topic Group and a Health Foundation Q-Community member.

Dr Karin Hing, Reader in Biomedical Materials, Queen Mary University of London

Dr Karin Hing is a Reader in Biomedical Materials within the School of Engineering and Materials at Queen Mary University of London. Her research is focused around the discovery and innovation of pioneering biomaterials and healthcare therapies through development of novel materials and processing technologies and investigation of the phenomena behind biocompatibility, and the stimulation of tissue regeneration.

This interest stems from her pioneering investigations as an EPSRC Advanced Research Fellow at the Interdisciplinary Research Centre in Biomedical Materials. During her fellowship, she invented a novel processing route for the manufacture of porous ceramics with multi-scale foam-like structures that reflected the complex structure of natural trabecular bone, in order to develop synthetic bone graft substitute materials with pore structures optimised to support rapid, reliable bone tissue regeneration.

Karin was the third woman to be awarded the Royal Academy of Engineering's Silver Medal (2011) and has since been awarded the Kroll Medal by the Institute of Materials, Minerals and Mining, and the Biocompatibles Prize by the UK Society for Biomaterials, both in 2013. In 2019 the outstanding engineering achievements of Helen and her colleagues were celebrated as one of the six Royal Mail stamps issued commemorating British Engineering.

Emma Crichton, Head of Engineering, Engineers Without Borders UK

Emma is a chartered civil engineer with six years' experience in the Water industry in Scotland. Emma has worked on a variety of projects and has consistently believed in the importance of collaboration, impactful partnerships and the role engineering has to play in bettering our society. As Head of Engineering at Engineers Without Borders UK she is responsible for driving forward their mission; leading their work to embed globally responsible engineering into curriculum and throughout day-to-day practice.

Nicole Jackson, Design & Programme Assurance Specialist Eastern Network GD1 and Eastern Network Project Controller and Reporting Specialist GD2, Cadent

I have always been good at maths and enjoyed the practical applications of science. I went to Loughborough University to study Systems Engineering. I have become a Chartered Engineer with the Institution of Gas Engineers and Managers (IGEM) and previously chaired the Pipeline Industries Guild Midlands Branch. I started with Cadent as a graduate in 2014 and have since fulfilled several technical and commercial roles. I now work on the mains replacement programme, doing project control and reporting in order to ensure we meet our regulatory and statutory obligations. In addition, I am an Emergency Standby Supervisor, managing emergency work outside of business hours in the East Midlands. I am passionate about engineering and feel it is a career path many women do not have visibility of growing up and I want to change that through my work with the Women's Engineering Society.

Thomas Baker, Researcher, Loughborough University, and Analyst, WRAP

Thomas graduated from Loughborough University, earning a Materials Engineering Master's. He is undergoing a PhD researching blends of compostable plastics with biopolymers.

Thomas has a keen interest in waste, circularity, and sustainability, especially for polymers, undertaking multiple internships during studies. He has worked for LKAB Minerals as a Polymer Technologist, Unilever Home Care R&D (Biosourcing & Biotechnology) analysing alternative carbon sources, and currently as an analyst at WRAP to help encourage sustainable resource use, waste minimisation, re-use, and recycling.

Outside of work he has been the Doctoral Researcher President of Loughborough University, and currently sits on the Equality and Diversity Committee for his research school, and the Democracy and Representation Committee of Loughborough Students' Union.

DAY 2: Wednesday 21 April

Keynote Speaker: Dr Hayaatun Sillem CBE, Chief Executive Officer, Royal Academy of Engineering

Hayaatun has extensive leadership experience in UK and international engineering, innovation, and diversity and inclusion activities. She is chair of the government's Innovation Expert Group and the St. Andrews Prize for the Environment; trustee of EngineeringUK and Foundation for Science & Technology; member of the Made Smarter Commission; director of Festival 2022 Ltd; and advisor to accelerateHER and Lloyd's Register Foundation. She has been named as one of the 'Inspiring 50 Women in Tech' and one of the most influential women in engineering and is a Fellow of the Institution of Engineering & Technology and Honorary Professor at UCL. Hayaatun was awarded a CBE for services to International Engineering in the 2020 New Year's Honours.

Elena Liquete, Head of Professional Development & Undergraduate Experience, The Dyson Institute of Engineering and Technology

I have spent most of my career in business education and have been fortunate to work in a variety of roles for some great schools (IESE Business School, Cranfield School of Management, Henley Business School and the School of Management of the University of Bath). I have particularly enjoyed the international remit of my roles, and the opportunity to run programmes in Europe, the USA, Africa and Asia. In 2019 I joined The Dyson Institute to head up three key areas: recruitment & admissions, student support and professional development. It's exciting to be part of such a young and innovative institution, helping to develop the engineering leaders of tomorrow!

Mivy James, Digital Transformation Director and Head of Consulting, BAE Systems Applied Intelligence

Mivy is digital transformation director and head of consulting at BAE Systems Applied Intelligence. She has 25 years' experience in the tech industry working in both government and finance sectors, having started as an analyst / programmer after graduating in Comp Sci. She works with UK government departments on their digital transformation strategies with a particular slant on security and enterprise architecture. She is an advocate for STEM careers and the founder of her organisation's gender balance network.

Alexandra Walker, Powertrain Quality Manager, Ford Motor Company

Alexandra Walker first joined Ford Motor Company as a Vacation Trainee whilst studying for a degree in Materials Engineering at Swansea University. Thirty-three years later she is still there working in Quality looking at how vehicles perform at High Time In Service. In the intervening years she has moved from South Wales to South Essex; married her college sweetheart; completed two further degrees; worked in Manufacturing, PD, Business Office and Launch; become Mum to two boys; served as a school Governor for 10 years; was on WES Council for 11 years. Alex is a passionate advocate of STEM Outreach; she mentors numerous younger colleagues and spent last Spring working as part of the Ford team delivering the ventilator boxes for the Ventilator Challenge UK consortium project. In no particular order Alex loves Ford Motor Company; chocolate; stationery: handbags; data and her boys.

Katja Berger, Ford Werke GmbH Germany

Katja Berger joined Ford in Germany in 2012. With a background in marketing analytics and psychology and some time spent in internships in marketing, sales and purchasing as well as a short career in the academic world, she started to work for the Global Purchasing Department. Things got interesting here as she had to understand how electronic modules work that she was purchasing from suppliers while having no engineering background. Luckily and with a lot of help from her engineering colleagues it worked out fine. Over the years she started missing working on quantitative (big data) problems as she used to do that in academia. By then this

type of work had been renamed to “Data Science” and Ford had founded a new department called “Global Data Insights, and Analytics”. She moved there in 2016 and started managing an international team of data scientists working on targeted Marketing initiatives. Parallel to this passion around data and marketing, she is a certified yoga instructor as well as business and life Coach. She globally coaches women within her department in finding their true purpose at work. Enabling these women to live a fulfilled (work) life is what truly fulfills her.

Michael Higgins, Simulation and Process Optimisation Leader, Ford Motor Company

Michael has worked at Ford since 2012. Originally from South Wales, Michael studied at Cardiff University where he gained a degree in Maths & Physics (BSc, 2011) leading to his research applying Discrete Event Simulation at the Ford Bridgend Engine Plant (MPhil Eng, 2014). Now living in the sunnier climates of South Essex, Michael balances delivering increased productivity in manufacturing facilities with his pioneering research. Recognised in The Manufacturer ‘Top 100’ as Young Pioneer and Inspiring Leader, Michael is currently developing methods to increase usability and widen the application of data-driven techniques in line with Industry 4.0. Many of the breakthroughs come in time away from work where Michael is a keen runner.

Vicky Paley, Engineer, and Founder, The Saturday Project

Vicky is a Chemical and Process Engineer by background and understands deeply the internal biases and pressures that women experience in the Engineering industry. She has worked with WES and her previous employers to help create inclusive work environments where women are supported and can thrive. Through these personal experiences and working closely with women in all stages of their careers and lives, Vicky wanted to do more to directly impact the lives of professional women. In 2019 she launched her coaching business, The Saturday Project, to empower women to understand and align with their values so that they can live a fun and fulfilling life. Vicky’s approach to coaching is holistic, taking into account all aspects of her client’s life. She helps her clients get clarity on what they really want in life and aims to pass on her experience and knowledge to her clients in a way that is constructive and useful for their growth and development both personally and professionally.

Dr Manisha Patel, Director & Coach, Kuzuko Group

Dr Manisha Patel began her career as an engineer in the Oil & Energy sector after gaining a first class Master’s degree and PhD in Chemical Engineering. She has worked as a technical engineering consultant, gained Chartership with the IChemE and serves as a Business Development Manager to help her employer improve brand positioning and also strategically help grow the international business.

As a Fellow of IChemE, Member of the Energy Institute and WES and board member of the Energy Industries Council (EIC), Manisha has developed a significant network across Engineering, Energy and business environments. She enjoys networking as she believes this creates perfect opportunities to learn from others.

To raise the bar of the people around her, Manisha has qualified and practices as an Executive Coach and Consultant at Kuzuko Group. She hopes to be able to further bridge the gap between technical and commercial disciplines and support professionals and businesses with development.

Simon Blake OBE, Chief Executive, Mental Health First Aid (MHFA) England

Simon Blake is CEO of the leading social enterprise Mental Health First Aid England which has a vision to improve the mental health of the nation. He is vice chair of Stonewall the UK’s leading LGBT charity and a member of the Sleep Charity’s Advisory Committee.

Simon was previously CEO at National Union of Students and Brook, the young people’s sexual health charity and held senior positions at the National Children’s Bureau. He was a commissioner on the pioneering Domestic Abuse Commission in the London Borough of Barking and Dagenham, a trustee of the Black Health Agency, Chair of Diversity Role Models and

has been a member of numerous bodies advising on all aspects of health and wellbeing including Teenage Pregnancy, Sexual Health and HIV and Personal, Social and Health Education. He was awarded an OBE for services to the voluntary sector and young people in 2011. Simon is a reluctant runner, enthusiastic horse rider, dog lover and environmentalist.

Lizzie Barr, Chair, WES Apprentice Board

Lizzie Barr is a fourth year Aerospace Engineering Degree apprentice with BAE Systems, and is currently the chair of the WES Apprentice Board. She has a keen interest in mental health awareness, especially in young people, and in her spare time volunteers as a Cadet Forces Adult Volunteer with the RAF Air Cadets. Through her apprenticeship, she has worked in many aspects of engineering, including working on secondment from her home site to support the PHASA-35 High Altitude Long Endurance solar air vehicle, and now works as a systems engineer in aircrew training and simulation.

Natalie Tang, Vice-Chair, WES University Groups Board

Natalie Tang is a Product Design Engineering finalist at Loughborough University. She is the current vice-chair for WES University Group Board and chair for WES Loughborough University. She is excited to share her tips particularly from her experience as an international student.

Women's Engineering Society (WES) conference and networking hosts

Dawn Childs, President, WES

Dawn Childs FREng is the UK Change Director for National Grid and is leading the transformation required to meet efficiency expectations whilst still delivering to net zero. Prior to this she was the Group Engineering Director for Merlin Entertainments Group with responsibility for engineering delivery, standards, practices and processes across the worldwide portfolio of more than 130 theme parks, resorts and attractions. This followed a tenure at Gatwick Airport as the Head of Engineering, responsible for all of the infrastructure and technical services at the airport. She joined Gatwick in 2012 after 23 years as an Engineering Officer in the RAF. In October 2018 she became the President of the Women's Engineering Society and is also a Trustee for World Skills UK.

Emma Nicholson, Board Member & Trustee, and Chair of the Equality, Diversity and Inclusion Specialist Interest Group, WES

Emma Nicholson B.A., MSc., FCIQB, FIEMA, FWES, FAPM, CEnv. is an Associate Fellow by the Women's Engineering Society (WES) and also a Board Trustee for WES. Emma became Chair of WES's Equality, Diversity and Inclusion Specialist Interest Group in early Spring 2021. She's a Chartered Construction Manager and Chartered Environmentalist. Emma has over 22 years' experience in the Built Environment and rail industry. She has contributed strategic advice and committee work to the Institutes of IEMA and the CIOB, and was previously Chair of The CIOB's London Branch Sustainability Strategy Group, and Regional Chair of IEMA's Yorkshire & Humber Steering Group. She's Founder of Women in Sustainable Construction and Property and Women in Sustainable Rail Linked-In Groups and organises numerous industry events on sustainability, diversity and inclusion matters. Emma is a member of the CIOB's Equality Diversity and Inclusion Advisory Panel and has been a STEM Ambassador since 2010.

Sally Sudworth, Climate Emergency Group Lead, WES

Sally Sudworth BSc CEng CEnv FICE FIAM FWES MCIWEM is a Fellow of WES and was Hon Sec for the last three years. Sally set up the WES Climate Emergency Group to respond to the global crisis. She was the lead judge for the eminent Karen Burt award for the last three years. Sally is global head of climate change & sustainability at Mott MacDonald. She has over 30 years' experience of working in design and construction in both the private industry and public sector, managing multi-million-pound programmes of work for flood risk, river and canal restoration and highway engineering.

Sally helps to sustain the industry talent pipeline, as a director at Engineers for Overseas Development (EFOD), which delivers life changing sustainable community projects in sub-Saharan Africa. This engineering charity provides challenging opportunities for our young construction professionals to gain valuable experience to help them with their training to become professionally qualified.

Susan Robson, Board Member & Trustee, WES

Susan Robson is a Principal Consultant in the Internal Consultancy team at National Grid. Building on seven years' experience as a management consultant with PwC, she works across the National Grid business to help drive the strategic initiatives that will play a key part in enabling the UK's transition to net zero carbon.

Susan has been instrumental in developing the Women in National Grid Employee Resource Group into a strong team of volunteers across the company who deliver initiatives that have had tangible outcomes in promoting gender equality, inclusion and diversity both internally and externally. With a focus on women in engineering, the team have developed a number of initiatives both to encourage more women and girls into engineering, and to support those already in engineering with their professional development.

Susan has also had a number of voluntary roles in the Education sector, including as a TeachFirst Futures mentor and as a governor on the board of a primary school.

In 2018 Susan was placed top of the Future Leaders list in the Financial Times and HERoes Champions of Women in Business. She served as an expert panellist on the BBC's The Apprentice 2019, and in 2020 she was named as one of the We Are the City Top 100 Women. Susan was co-opted to the WES Board in November 2020.

Elizabeth Donnelly, Chief Executive Officer, WES

After an early career in IT, Elizabeth graduated from the Open University, specialising in systems thinking. She was awarded Membership of the Royal Aeronautical Society as a result of her work with Rolls-Royce and went on to lead skills policy in the aerospace industry. Elizabeth was also responsible for the regional diversity strategy of the East Midlands Regional Development Agency during her time as a Board Member. She chaired the RAeS Education and Skills Committee and was Deputy Chair and founder member of its Women in Aviation and Aerospace Committee. Elizabeth also founded the RAeS Amy Johnson Named Lecture. Later, Elizabeth established her own consulting company, working with charities and universities on change management, and graduated with an MSc in Systems Thinking in 2017. In 2018 Elizabeth was appointed CEO of the Women's Engineering Society. In 2019 she became a Member of the International Council of Systems Engineers UK and in 2020 Elizabeth was invited to become a Fellow of the Royal Society of Arts, Manufactures and Commerce.

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