



# INVENTORS AND INNOVATORS

## The Top 50 Women in Engineering 2022





# FOREWORD

## Elizabeth Donnelly MSc FRSA MRAeS MINCOSE

Engineers are by nature innovators. The definition of innovation is the introduction of new things, ideas or ways of doing something and this has been crucial to cope with the demands that the past two years have thrown at the world. Therefore in 2022 WES chose to celebrate our female innovators who are making a difference, often unseen, in all our lives.

The women represented in this year's awards are trailblazers in the world of Engineering from building suspension bridges and overseeing multimillion-pound technology projects to setting up the Girls with Drills campaign, a movement that supports and promotes women in the engineering industry. The winners have all taken a problem and found a solution through engineering.

Research from EngineeringUK (March 2022) shows that 16.5% of engineers are female, compared to 10.5% in 2010. Yet it's clear that to bring about true innovation there needs to be a workforce that genuinely reflects the diverse nature of engineering and the people it benefits. We hope that by showcasing some of the truly outstanding women already in the field this will inspire the next generation of potential innovators.

# JUDGES

## Dr Bola Olabisi Head Judge

### Founder & CEO of the Global Women Inventors & Innovators Network

Dr Bola Olabisi is the Founder & CEO of the Global Women Inventors & Innovators Network (GlobalWIIN) - a successful global network that has since grown to become the most dynamic gathering of ingenious minded women with great intellectual property and unparalleled capacity to empower, unite and inspire. Her experience focusses on providing capacity building opportunities for women who have created, invented or brought about the innovation of novel products & unique services. Dr Olabisi's experience primarily lies in the bid to increase the amount of knowledge transfer in areas such as product development, manufacturing, enterprise, innovation, technology, engineering, science, and many other traditionally male dominated sectors.

Dr Bola Olabisi wears several hats as she is a social entrepreneur, author, innovator, coach, champion for an inclusive society that allows for creativity, invention and innovation. She is a past Judge of the Royal Academy of Engineering's Innovation Prize. She is also an immediate past member of the Advisory Board to the European Business School, Regents University, London and served on the European Commission Network of Women in Decision Making in the Economy as a member of the Advisory Group. She is also a past Governor on the Board of the University of East London.





With over 24 years since the conception of GlobalWIIN, she led a team of experts and expanded the concept to regional networks covering Africa, Europe, Asia, Latin & North America, Middle East and most recently the Caribbean.

In 2006, she partnered with London Metropolitan University with the support of nine European Commission MEPs to build opportunities for creative, inventive and innovative women and young people under the age of 30. Her work has raised aspirations, improved self-confidence, self-esteem, and broadened horizons.



## Dawn Childs **FREng**

### President, Women's Engineering Society

Dawn Childs is the CEO of Pure Data Centres (Operations) responsible for setting up and running a global portfolio of hyper scale data centres. Before stepping into her current role, she led a multi-billion transformation programme for National Grid as their UK Change Director across both the gas and electricity transmission businesses. Prior to this she held senior engineering appointments as: the Group Engineering Director for Merlin Entertainments with responsibility for engineering delivery, standards, practices and processes across the worldwide portfolio of theme parks, resorts and attractions; and the Head of Engineering at Gatwick Airport, responsible for all of the infrastructure and technical services at the airport. She joined Gatwick after 23 years as an Engineering Officer in the Royal Air Force, which meant not only the transition from military to civilian business, but also the transition from aeronautical engineering to infrastructure and services support.

In 1997 she was awarded the RAF Barrie Smart Memorial Award and consequently gained her pilots licence and in 2013 she won a CBI and RealBusiness First Women Award in the Tourism and Leisure Category for being the first female Head of Engineering at a major International Airport. In 2014 she was made an Honorary Doctor of Science by Staffordshire University and then by Kingston University in 2022. She was also recognised as one of the Barclays Women of Achievement for 2014. In 2015 she was awarded the Alistair Graham-Bryce Award by the Institute of Mechanical Engineers for her significant contribution to the encouragement of young people towards a career in engineering. She was honoured with a Fellowship of the Royal Academy of Engineering in October 2020 and received an iMasons 100 data centre industry award in 2021.

In October 2018 she became the President of the Women's Engineering Society and is also a Trustee for World Skills UK. A keen equestrienne, she was the Chairman of RAF Equitation for many years and competed Inter-Services in Show Jumping and Eventing.



## Carl Hayward

### Business Excellence Manager, Costa Express

Carl Hayward is the Business Excellence Manager for Costa Express. He has recently returned from Australia, where he lived with his family for 7 years driving continuous improvement projects across the roads maintenance industry. Now residing in Worcester with his wife, son and greyhound, he is a passionate rugby league supporter and has just become the sole International Fundraising Volunteer for a small Indonesian conservation charity.



## Dr. Giorgia Longobardi

### CEO of Cambridge GaN Devices Ltd.

Dr. Giorgia Longobardi, CEO of CGD, is an experienced engineer with international practice working on GaN power devices design and characterisation. As the inventor of high impact patents in the field of GaN power devices, Giorgia made the unique blend of academic and business know-how one of her biggest strengths.

During her PhD in power devices at Cambridge University, Giorgia worked on international projects with top semiconductor companies, through which, she learned about different cultures operating in this field and gained experience managing and budgeting multi-partner projects. Before that, Giorgia led the GaN power devices team at the engineering department at Cambridge University.

As a result of her outstanding work, she received the RAEng Engineers Trust Young Engineer of the Year from the Royal Academy of Engineering in 2019; a distinguished award given to engineers in full-time higher education, research, or industrial employment who have demonstrated excellence in their early career stages.

Curious and knowledgeable, Giorgia leads an experienced team of passionate people working with enthusiasm and continuous drive to do things better. She never forgets why she founded CGD: to change how energy is used and protect the environment with efficient power electronics.

She is a member of the energy management committee at PSMA (Power Sources Manufacturers Association) and Strategic Advisory Board at the Henry Royce Institute for Materials.

Giorgia regularly supports initiatives in favour of the environment within and outside her working hours. She is an active and keen promoter of women in engineering and entrepreneurship, for which she gave several talks at high schools and universities around the world.



## Mara Makoni

### Consultant, PA Consulting

Mara is currently a Consultant at PA Consulting working within their Complex Systems group. She has international experience (USA, Kenya, Zambia, Zimbabwe, South Africa) and over 10 years of professional experience in operational monitoring and due diligence advisory across sustainable development, renewable energy and transport. She is a qualified Systems Engineer who has managed and implemented complex projects in energy and transport, from feasibility to completion. Mara serves on the AFBE-UK executive board and is the Corporate Partnerships Lead for the organization.



## Dr Mark McBride-Wright **CEng MIChemE**

### **Founder & Managing Director, EqualEngineers**

Mark McBride-Wright is a chartered chemical engineer specialising in health and safety. He holds a PhD and Masters in Chemical Engineering from Imperial College London and is a recognised leader for diversity and inclusion within the engineering industry. Mark set up EqualEngineers in 2017 to deliver events, recruitment, training, and consulting services to support the engineering industry in creating inclusive cultures. Mark has established a successful events portfolio comprising careers fairs, the Equality in Engineering Conference and the Engineering Talent Awards. Mark is also the chair and co-founder of InterEngineering, an organisation which connects, informs, and empowers LGBT+ engineers and supporters. Under Mark's leadership, the organisation has become the leading organisation addressing LGBTQ+ inclusion in the engineering sector engaging prominent engineering institutes and employers.



## Libby Meyrick

### **Chief Executive, Institution of Engineering Designers**

Libby Meyrick has worked at the IED since 1997. She joined as Membership Manager, worked for a number of years as Education and Training Manager and became CEO in 2001. Libby has particular interests in environmental issues and how designers can be a positive influence on solving the big issues such as climate change and water and food security.



## Susan Robson

### **Principal Consultant, National Grid**

Susan Robson is a Principal Consultant at the 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. Alongside this and in a voluntary capacity, Susan has significantly contributed to the promotion of gender equity, inclusion and diversity in the company through building, professionalising and chairing the gender diversity employee resource group.

Susan has listed first in the Financial Times and HERoes Champions of Women in Business and shortlisted for The Sunday Times Non-Executive Director list. She served as an expert panellist on the BBC's The Apprentice and was named as one of the We Are the City Top 5 Women in Energy & Utilities.

Susan became a member of the Board of Directors of the Women's Engineering Society in November 2020.



## Emily Spearman

### Head of PMO (Portfolio Management Office) in QHSE, Orsted

Emily Spearman is Head of PMO (Portfolio Management Office) in QHSE for Orsted – the most sustainable energy company in the world. She leads a team overseeing the global portfolio of QHSE projects across offshore wind, onshore wind, solar, bioenergy and energy storage. Part of the QHSE Senior Leadership, Emily plays a major part in setting the organisation's strategic QHSE direction. A far cry from her first role as an engineer working on offshore oil rigs in the North Sea.

Alongside her busy career, and a mum of two young children, Emily dedicates her time to making positive changes for others by modernising ways of working to be more inclusive and by being an active supporter of women at all stages of their educational or career journey. She does this through her role as Trustee of the Energy Institute (since 2015) and Chair of Professional Affairs Committee (since 2018) where, under her Chairship, the numbers of women and BAME members is increasing significantly. Emily is an active mentor supporting engineers seeking Chartership. She is a public speaker where she champions the amazing opportunities in engineering to students of all ages and has been invited to speak at high-level roundtables (Green Jobs Taskforce) with BEIS. Always striving for improvement in diversity and inclusion, Emily has founded a STEM Champions Network and STEM Returners programme at Orsted.

Emily, a Chartered Energy Engineer and Fellow with the Energy Institute, won the Women's Engineering Society Karen Burt award for 'most outstanding newly chartered engineer' in 2008. In 2020 she was highly commended in the WES Top 50 Women in Engineering: Sustainability and in 2021 was a finalist for Engineer of the Year with EqualEngineers.



## Lauren Toure

### Diversity & Inclusion (D&I) Manager, Ball Corporation

Lauren Toure commenced her role in the EMEA Region on the 20th July as Diversity & Inclusion (D&I) Manager at Ball. She brings with her over 15 years' experience within the diversity and social inclusion sector.

Lauren has provided expert diversity and inclusion strategic advice, systems and policy guidance and contemporary training delivery to companies across the STEM, retail, legal, finance, sports, government and charity sectors.

As a disabled woman, Lauren has had a life-long commitment to social inclusion and accessibility for everyone. Working in HR and specifically diversity and inclusion has allowed her to work with amazing people in working towards this goal.



# Inventors and Innovators: The top 50 women in engineering – the full list for 2022

Founded by the Women's Engineering Society in 2016, the WE50 awards are a UK event linked to International Women in Engineering Day (INWED) – the celebration of women in engineering that takes place on 23 June each year. Choosing a different theme each year to celebrate the diversity of women engineers, the 2022 Top 50 Women in Engineering celebrates Inventors and Innovators: women engineers who have created or improved a product or process and supported other women in engineering to do the same. This year's awards are held in association with The Guardian newspaper and Ball Corporation.



## Hannah Abend

### Chief Operating Officer, Wood Thilsted

Hannah Abend has worked in renewable energy and sustainability since 2002 and has degrees in physics and geophysics. She began her working life at a tidal energy start-up before moving into the offshore wind sector. Her key invention is her Transport and Installation (T&I) software which is now standard practice in the industry to model wind and wave conditions for offshore wind farms.



## Dr Tosin Adedipe-Elusakin

### Technical Project Manager, Cranfield University

Dr Tosin Adedipe-Elusakin is currently managing the £8m HyPER project, funded by the Department for Business, Energy and Industrial Strategy to test innovative hydrogen production technology with the aim of reducing greenhouse gas emissions. Tosin is the institute liaison for the London young professionals network of the Institution of Engineering and Technology, and was also vice president of education at the Toastmasters Society at Cranfield.



## Ruth Amos

### Inventor, Stairsteady/Co-Founder, Kids Invent Stuff

Ruth Amos started inventing when she was 16 while studying for her GCSEs in resistant materials. Her teacher challenged her to design something to help his own father use the stairs safely. She invented the StairSteady, and in 2006 won the Young Engineer for Britain award for her design. Ruth co-founded the Girls With Drills campaign and ran the They Made It podcast for women engineers.





## Mercedes Ascaso Til

### Principal Engineer, DLT Engineering Ltd (Formerly Dorman Long Technology)

Mercedes Ascaso Til was the chief engineer for the design of the deck lifting gantries of two recently built suspension bridges – the Nizhou bridge, part of Second Humen bridge in China, and the 1915 Çanakkale bridge spanning the Dardanelles strait in Turkey. Currently the longest in the world, it opened on 18 March (the 1915 refers to a first world war battle fought in the strait).



## Eleanor Ball

### Co-Founder and Director, Graphic Structures

Eleanor Ball founded Graphic Structures, a design led engineering practice with gender balanced ownership, at the age of 30 and hopes to inspire other female engineers to progress to leadership roles. Her company now employs 12 engineers and works predominantly with public sector clients. Eleanor is a STEMNET volunteer and a member of Women in Social Housing.



## Hani Baluch

### Solutions Delivery Manager, BP

Hani Baluch works in bp's newly formed regions, cities and solutions team after switching from petroleum engineering. She now works to identify and deliver integrated energy solutions to help decarbonise countries, cities and corporations. She has played a pivotal role in developing solutions for low carbon technologies, such as geothermal and carbon capture and storage.



## Nausheen Basha

### Project Manager and Researcher, Imperial College London

Nausheen Basha completed her PhD in computational fluid dynamics modelling of compressors alongside her full-time job. She was awarded the Ted Perry award for student research for practical impact in the compressor industry, and her work has been published in peer-reviewed journal, Applied Thermal Engineering.



## Divya Bhanderi

### Senior Engineer, Arup

Divya Bhanderi led the creation of the National Highways travel demand management programme to maximise road capacity without building new infrastructures. Her work informed National Highway's net zero plan, shaped strategy and is currently being considered for inclusion in the Design Manual for Roads and Bridges as a mandatory standard.





## Dr Qianyu Chen

### Research Fellow, University of Birmingham

Dr Qianyu Chen leads a world-class research team which helps to develop innovative ideas for supporting sustainable transport systems. Her collaborations with teams from HS2 Ltd on developing simulation models for high-speed rails should help to improve safety and the efficient running of trains. Qianyu devotes one evening a week to deliver free courses at Code First Girls Community which focuses on supporting girls, particularly from underrepresented ethnicities, to develop coding skills.



## Jessica Coldrey

### Digital Skills Mentor, Creative Technologist, Birmingham Open Media

Jessica Coldrey is an artist and humanitarian engineer shaping more creative, inclusive, and sustainable cities. She has presented her interdisciplinary research at the Australian National Transport Research Centre and the Society of Plastics Engineers, featured by Highway Engineering Magazine.



## Evelyn Cropper

### Technical Manager Stirling Dynamics

Evelyn has worked in aerospace engineering for 44 years and is an industry recognised expert on aircraft loads and aeroelastics, which are fundamental for the safety of aircrafts. She is also studying for a masters in mathematics in her spare time. Evelyn is a chartered engineer and a fellow of the Royal Aeronautical Society.



## Philippa Davies

### Engineering Director, Reaction Engines

Philippa Davies has led the creation of the company's first environmental strategy and has overall responsibility for the leadership of all engineers in the business. She was featured in The New Statesman in January 2022 with a personal profile and her thoughts on the new space economy. She is an advocate and role model for women in engineering, including encouraging women into the space sector through a National Space Centre initiative on YouTube.



## Beth Dickens

### Director, Quoceant Ltd

Beth Dickens has 20 years experience working at the forefront of marine renewables and has dedicated her career to the development and promotion of clean energy solutions. She co-founded Quoceant, working to build the company into a successful engineering consultancy with a seven-figure turnover and clients throughout the wave, tidal and offshore wind industries.



## Dr Ama Frimpong

### Head of Product Development, 52 North Health

Ama Frimpong leads the development of NeutroCheck, a low-cost, portable device that helps identify cancer patients at risk of neutropenic sepsis, a life-threatening medical emergency occurring in immunosuppressed chemotherapy patients. With Ama's leadership, NeutroCheck has been taken from an idea to a patented concept which is currently undergoing testing in partnership with Macmillan Cancer Support.



## Jennifer Glover

### Graduate Acoustic Consultant, AECOM

During Jennifer Glover's PhD, she researched and developed a jet engine noise control solution which used innovative metamaterial design to reduce low frequency engine noise at take-off and landing. She has transferred those skills to industry, working in AECOM's highways and rail acoustics teams making national infrastructure projects, such as HS2 and the M54-M6 link, acoustically sustainable.



## Bethany Hall

### Technical Assistant (Electrical Engineer Aerospace), Rolls-Royce/Aerospace Technology Institute

Bethany Hall has worked in sustainable aircraft development since being awarded the IET Power Academy Scholarship with Rolls-Royce in 2015. Over the past 12 months, Bethany has worked on the UK government-funded FlyZero project, which is investigating the potential for liquid hydrogen to fuel zero-emission commercial aviation. The tool equips engineers to think about environmental and social impacts of their designs across the product lifecycle.



## Dr Yiheng Hu

### PhD Researcher, University of Huddersfield

Dr Yiheng Hu is currently researching BESS (battery energy storage systems) for renewables integration to support sustainability and combat climate change. She has also been involved in mentoring programmes for the Global Women's Network for the Energy Transition, aiming to advance the role of women and promote best practices within the sustainable energy sector.



## Rowena Innocent

### Senior Vice President of Engineering at Ultraleap

Rowena Innocent's career spans three decades in high-tech product development and manufacturing. In March 2021, she started her current role, which included setting up the Spectris Foundation – a charity supporting STEM education. She has also become honorary professor for technology, innovation and equality at the University of Bristol.



## Tina Irvine

### Engineer, Arup

Tina Irvine led the formation of Arup's climate emergency response committee in Yorkshire with other female colleagues. She has been instrumental in creating a template for carbon reporting for all infrastructure projects within Arup. This tool enables engineers to quantify the total carbon cost of different design solutions, driving more sustainable, evidence-based solutions.



## Prof Ornella Iuorio

### Associate Professor, University of Leeds

Dr Ornella Iuorio has shaped a new multi and trans-disciplinary research strand in architectural engineering at the University of Leeds, established a research group in sustainable buildings, and is currently director of the Cities, Infrastructure and Energy research group. Ornella has been school lead for equality, diversity and inclusion since 2017.



## Prof Caroline Jay

### Head of Research, School of Engineering, University of Manchester

Caroline Jay has worked across a number of engineering projects – from collaborating with Scientific Advisory Group for Emergencies (Sage) to integrate a public voice into Covid-19 modelling, to studying the impact of pollution on health at the Alan Turing Institute. She works to create a culture of belonging and nurture the potential she sees in women from minority ethnic backgrounds.



## Alice Kan

### Pharmaceutical Director, Kan Do Ventures

Alice Kan was headhunted by Wockhardt UK to direct the development of the manufacturing process and facility to produce 100m doses of the Oxford/AstraZeneca Covid-19 vaccine. Alice developed the end-to-end manufacturing process for the vaccine at an unprecedented pace, planning and modelling production quality, capacity and cost against client scope and expectations to deliver 16m doses a month.



## Prof Eiman Kanjo

### Head of Smart Sensing Lab, Nottingham Trent University

Under the leadership of Prof Eiman Kanjo, her team has won the 2021 vice-chancellor's Outstanding Researcher Team Award. In addition, she has been part of a growing effort to remove the obstacles faced by Arab female students and co-founded a nonprofit organisation, Arab Women in Computing. She is also a panellist for Athena SWAN – an initiative that aims to improve the numbers of women in Stem – and board member of the Lifeboat Foundation.



## Natalie Kerres

### CEO and Founder, SCALED

Natalie Kerres developed SCALED, a material innovation providing flexible and protective wearables, for her thesis. The patented algorithm 3D-prints a material that consists of interlocking scales, inspired by reptile skins. Natalie was also part of the Imperial Enterprise Lab WE Innovate programme in 2021, a pre-accelerator for women in engineering innovation startups.



## Palvisha Khan

### EMEA Strategy and Transformation Lead, Reliance Worldwide Corporation

Palvisha Khan is the youngest, South Asian female in a lead process development role in her organisation and has designed an EMEA Environment and Sustainability blueprint, focusing on sustainable packaging and decarbonisation. She has transitioned to suitably sourced materials and reduced the packaging and CO2 footprint by a third. Palvisha is on route to attain a 20% cost saving for the company.



## Dr Alalea Kia

### Research Fellow, Imperial College London

Dr Alalea Kia is developing a new type of concrete – known as Kiacrete – that is resistant to clogging and absorbs stormwater, with the aim of mitigating some of the impact that climate change will have on urban environments, such as flooding. She has also secured two prestigious research fellowships to apply her innovation to new use cases, addressing wider societal challenges.



## Lucie Killen

### Structural Engineer, Price & Myers

Lucie Killen was part of a team of five engineers, who in partnership with Bridges to Prosperity, built a new suspension bridge in Runyani, Rwanda in 2020. This enabled more children to enrol in school and access essential services, including healthcare and employment. Lucie is also part of the team that has developed a new tool called PANDA (Parametric and Numeric Design Assessment), which has the potential to reduce embodied carbon in construction by as much as 40%.



## Guneet Kaur Kohli

### Engineer, Arup

Guneet Kaur Kohli uses her passion for sustainability, creativity and technical skills to develop digital products. Over the past four years, Guneet has been at the forefront of creating Kliima – a climate data tool, which helps projects, such as HS2 and National Grid, quantitatively understand climate change. As a junior engineer, she influenced global senior leadership to invest in the creation of Kliima, where she now leads the technical development.





## Marisa Kurimbokus

### Mechanical Engineering Team Leader, Aeristech

Marisa Kurimbokus started her career at Jaguar Land Rover, developing the company's CO2 reduction strategy, before moving on to Triumph Motorcycles. She now leads the automotive division at Aeristech, focusing on sustainability through design for electric air compressor technology. She was awarded the title of IMechE Young Engineer of the Year in 2020 for her STEM work. She speaks regularly at schools and higher education institutions about opportunities in engineering.



## Sarah Lu

### PhD Researcher, University of Southampton

Sarah Lu is a PhD researcher and a Rolls-Royce scholar, and is currently developing a lab-on-a-chip sensor to detect difficult-to-measure radionuclides. Due to a severe respiratory condition, Sarah was discouraged from pursuing a career in engineering. But instead of giving up, she became a leader in her field, mentoring for Arkwright Engineering scholarships and the Social Mobility Foundation to support the next generation of engineers.



## Noor Mansur

### Senior Electronics Engineer, Dyson

Noor Mansur's engineering career began at the University of York, where she completed a MEng degree in electronic engineering, specialising in avionics. She now designs electronics hardware for robot and cordless vacuum cleaners, creating products for the global market.



## Serena Margadonna

### Head of The School of Engineering and Applied Sciences, Swansea University

Serena Margadonna has worked in a number of different leadership roles before joining Swansea University in 2015. Her current role focuses on developing materials and processes for the sustainable manufacturing and recycling of secondary batteries. In collaboration with Enserv Power – a global battery technology developer – she is enabling the commercialisation of next-generation zero-excess anode-free sodium-ion batteries.



## Gabriela Medero

### Professor in Geotechnical and Geoenvironmental Engineering, Heriot-Watt University

Gabriela Medero set out to address the damage the construction industry has on precious natural materials. Bringing together a multidisciplinary team, she's invented the K-Briq – the world's first brick made from 90% construction and demolition waste – which produces a tenth of the CO2 emissions of a traditional brick.



## Aline Miller

### Professor and Associate Dean, University of Manchester

Aline Miller is the founding director of Manchester Biogel, a company derived from her academic lab in 2013. In 2018, she took on the chief executive role, and became associate dean for innovation and business engagement in science and engineering in 2021. She has published more than 100 refereed papers, authored five patents and won more than £8m from research councils, the European Union, charities and industry to support her research group.



## Sophie V Morse

### Research Fellow, Imperial College London

After completing her PhD in biomedical engineering, Sophie Morse was awarded a four-year fellowship to start a research group. She is currently working on improving a non-invasive technology that allows drugs into the brain using focused ultrasound and microbubbles. By engineering new ultrasound sequences, Sophie has overcome the challenge of delivering drugs across the blood-brain barrier.



## Dr Youmna Mouhamad

### Royal Academy of Engineering Fellow 2020, Myana Naturals

Black women with textured hair are frequently encouraged to straighten it to appear more “professional”, Youmna Mouhamad says. Countering this push for conformity, she created the Nyfasi Deluxe detangling comb. The comb allows the simultaneous detangling and conditioning of hair in a pain-free manner, empowering black women to be their true selves.



## Priti Parikh

### Head of UCL's Engineering for International Development Centre

Priti Parikh worked on infrastructure projects in Asia, sub-Saharan Africa and the UK prior to becoming an academic. She founded an MSc programme in engineering for international development at University College London to address skills gaps, which attracted students from more than 30 countries. Her research portfolio focuses on water, sanitation, energy infrastructure and its impact on the United Nations Sustainable Development Goals and climate change.



## Krystina Pearson-Rampearee

### Senior Flight Systems Engineer, BAE Systems

Krystina Pearson-Rampearee has been working in the future combat air system team on the Tempest project, using engineering principles to develop and integrate new technologies on to a next generation fast jet. She is also the co-coordinator for the Women's Engineering Society Merseyside cluster and recently became an Institution of Engineering and Technology education officer, to support opportunities for young people to learn about engineering.



## Rachel Pether

### Director of Water Utilities, Binnies

In 2018, Rachel became the first female all reservoirs panel engineer, the highest level of technical expert in UK reservoir safety. She is passionate about sustainability, and at COP26 led a round table discussion on nature-based solutions for the water industry. Rachel also recently led a team to create and launch Binnies' iDMS, intelligent dam monitoring system.



## Dr Agnieszka Rutkowska

### Lead Electrochemist, Depixus

As the electrochemistry lead at Depixus, Dr Agnieszka Rutkowska co-directs the electrochemical development of a new class of electronic sensors that signal epigenetic changes in DNA and RNA. As a member of the Polish Women's Network UK and of the International Council of Polish Women, she supports Polish women living in the UK in their careers in STEM and beyond.



## Prof Lidija Šiller

### Professor of Nanoscale Science, School of Engineering, Newcastle University

Prof Lidija Šiller's successes include co-invention, scale up, technology transfer and licensing. With a chair in nanoscale science, she has recently developed two important innovations and business partnerships to combat the impact of climate change. Her work in carbon capture led to the design of Bergen's first plant for continuous mineralisation of CO<sub>2</sub> flue gas.



## Radhika Srinivasan

### CEO and Founder, EcoTextura

Radhika Srinivasan started redesigning patient gowns after struggling to wear one during a hospital visit in 2015. During her research, she learned how harmful the existing, plastic-based disposable PPE is to the environment. She set out to change this and find sustainable solutions; making the world's first compostable patient gown. EcoTextura now supplies eco-friendly PPE to the NHS and Radhika is coordinating efforts to send medical supplies and PPE products to Ukraine.



## Swati

### Director, Anant Biomedical Limited

Swati founded Anant Biomedical in 2021 and provides a range of healthcare related solutions to hospitals and healthcare industries. The company specialises in medical device services and also acts as an academy trainer, providing support in medical device management. While working as a biomedical engineer at a medical devices R&D company, Swati realised that the company's electrosurgical units were not sustainable. Swati implemented five pathways to improve the sustainability of these medical devices, including recycling them.



## Sarah Teliani

### Project Manager, Arup

After winning the ICE-Balfour Beatty Student Innovator of the Year award in 2017 for her ideas on how to improve the health, safety and sustainability on construction sites which included using robotics and carbon-neutral materials, Sarah co-founded a mentoring programme. Her programme has now helped over 200 people at Atkins. Sarah also founded and chaired the Institution of Civil Engineers Essay Group to help support colleagues in preparing for their professional review.



## Dr Navya Thomas

### Research Fellow in Membrane Crystallisation, Cranfield University

Dr Navya Thomas leads research to scale up membrane technology for modular and decentralised wastewater treatment for rural and off-grid households. Her doctoral research leveraged 3D printing to develop complex geometries for clean water production. Her work has been shown to reduce membrane fouling by 50% and increase clean water production by up to 60%.



## Georgia Thompson

### Assistant Design Programme Manager, BAM Nuttall

Georgia is an assistant design programme manager on the central section of HS2. She oversees the design programme of a £1bn portfolio. On a recent project, she introduced a product which saved £1.3m and which she had researched for two years. In 2021, she worked with the Institute of Physics to try to encourage more girls to study physics.



## Carolina Toczycka

### Co-Founder and Chief Commercial Officer, Lenz Labs

Carolina Toczycka is the co-founder of a start-up that invented IP-pending hardware-software products for the rail network – a train braking system to increase traction and a maintenance platform that optimises scheduling of work. By increasing rail efficiency, the Lenz Labs products can potentially save 0.37 giga tonnes of CO<sub>2</sub>e annually in rail freight capacity (via faster braking, gradient increase, higher technical loads.). Carolina is also working to tackle social inequalities through a better access to education and work opportunities.



## Georgina Wharton

### Director of Science and Technology, Parkside Community school

Georgina Wharton teaches design technology and engineering and has become an “evidence leader in education” for the research schools network. In this role she supports colleagues in other schools, including developing the teaching of engineering and design technology at primary school age. She is also leading on sustainability at Parkside Community School, working to develop bio diversity on the site and incorporate sustainability into the curriculum.





## Jane Wright

### Infrastructure Carbon Adviser, Department for Transport (DfT)

Jane Wright joined the DfT in April 2022 after leading the design of Transport for London's (TfL) carbon management tools, training and processes. She developed a tool to create carbon models for highways, rail, e-scooter and art on the underground. Jane also set up a working group in 2021 at TfL to increase the number of female applicants to the early careers schemes.



## Nadja Yang

### President, European Young Engineers

Nadja Yang is currently finishing her PhD in systems engineering at the University of Oxford where she researches the urban bioeconomy, looking at ways to help cities become more sustainable. She is also president of European Young Engineers, an international organisation that represents 500,000 young people in the engineering sector across Europe. Her work with the organisation has been recognised by the German-language edition of Forbes 30 under 30.

WE5 

CONGRATULATIONS TO  
ALL  
50 WINNERS

# Thank You

Thank you to the Trophy Sponsor, Ball Corporation, for their kind donation which made the trophies possible,



and to The Guardian for publishing full details of the WE50 on their website.



# Thank You

Thank you to the generous sponsors supporting International Women in Engineering Day 2022.





## Our mission: Supporting women to fulfil their potential and supporting organisations to be more inclusive

The Women's Engineering Society is a non-profit organisation, dedicated to gender parity, equality and diversity in engineering. We work tirelessly to bring more women into engineering and make it a sector that they can be proud to work in.

We'd love you to join us, either as an individual member, partner company or sponsor of one of our key events during the year. To find out more about how to get involved as a member, partner or sponsor, visit our website or email [comms@wes.org.uk](mailto:comms@wes.org.uk).

[www.wes.org.uk](http://www.wes.org.uk)



The Women's Engineering Society has not validated any claims to invention and innovation. Any dispute about the veracity of any claim should be taken up directly with the claimant.





**CONGRATULATIONS  
TO ALL  
50 WINNERS**



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