

# The Woman Engineer



The journal will be going exclusively online from Summer 2024.

If you would like to receive a printed copy after this time please email: [comms@wes.org.uk](mailto:comms@wes.org.uk)

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# From the editor's desk

While the world is currently going Barbie crazy, I am delighted to see that Lottie is once again making the headlines as we prepare for the 2023 #WESLottieTour. There are plenty of opportunities to get involved by taking Lottie to work, capturing the image and then sharing it to inspire future generations to consider a career in engineering and STEM subjects. Lottie is so much more than a doll, she is a role model and with *Tomorrows Engineers Week* in November, Lottie takes centre stage, so visit [www.weslottietour.org.uk](http://www.weslottietour.org.uk) to see how you can help Lottie to make a difference to that 'women in engineering' 16.5 per cent statistic.

November is also the time when we hold our annual *WES Student Conference*, offering the opportunity for students and early careers professionals to come together to debate subjects close to their heart and to listen to motivating presentations and expert opinions from those in the engineering sector. Look out for more details about date, venue and programme in the coming weeks.

For those who worry about engaging with other delegates at events like this,



Lynn Postle, FICME

check out the advice on the outside back cover of this issue of *The Woman Engineer*, to enable you to get the best out of any networking experience. Meeting people, especially like-minded professionals, is a rewarding experience but it can sometimes be daunting. However, it's worth remembering that many people are apprehensive about networking, but once you learn some relaxed 'ice-breaking' techniques you can go on to thrive in that situation.

This is your society, so please get involved in what ever way you feel comfortable – we're in this together and it's a great team to be playing for!

Happy reading.

Next issue: Winter 2023, contribution deadline – 10 October 2023



## President's Message

Even if the weather has not been that helpful over the summer; it has still been a great summer! I say this because despite believing that it was impossible for INWED to grow any further, it did indeed surpass all expectations. 23rd June was a truly amazing day with so many events globally, and of course the announcement of the WE50 for this year.

Meeting our amazing winners and seeing the depth and breadth of their roles across various industries was so interesting – an astounding list of role models who are all ensuring that we #makesafetyseen. Many congratulations to not only the winners, but also to all the nominees. The standards were so high and I know the judges had a great deal of difficulty selecting down to just 50.

It is so good to be able to shine a light on female engineers for one special day and I have no doubt that it makes a difference. The year-on-year growth of participation and impact shows that momentum is building (social media platform impressions up by nearly 30 per cent and the overall reach expanded). Whether this momentum and growth continues to translate into the overarching women in engineering statistics (using the EngineeringUK reports) which have risen steadily from 10.5 to 16.5 per cent from 2010 to 2022 will be interesting to see. I await the next refresh of the research with bated breath!

This will be the last time that I have the privilege of presenting the WE50 unfortunately because I have decided that it is really time for somebody else to get the opportunity to become WES President. As with many charities and professional institutions, there have been a few challenging years, but WES is really going from strength to strength, and we have an incredible team of volunteers and staff. Along with the President position there will also be some other Trustee positions to be filled in the next election and then ratified at the upcoming AGM. Please do participate and help to drive the future of this fabulous charity that continues to have such a great impact!

Dawn Childs DBE FREng

## don't miss

### WES Student Conference

November 2023 – Date and Venue TBC

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

### Tomorrow's Engineers Week

6-10 November 2023 – Nationally

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

Check the WES website for events and updates at:

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

### Caroline Haslett Lecture and WES Awards

December 2023 – Date and Venue TBC

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



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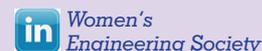
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The views expressed in this journal are not necessarily the views of the Society.



@The Woman Engineer 2023

# Train named after PAST PRESIDENT Verena Holmes



Left: Southeastern technical services engineer, Nada Abouelhiga takes inspiration from women like Verena Holmes

*Southeastern, the railway company serving Kent Sussex and Southeast London, has honoured engineering trailblazer, and WES past president Verena Holmes by naming a train after her.*

Verena was arguably the first female in the UK to have a full-time career as a professional mechanical engineer. WES was founded on 23 June 1919, exactly thirty years after Verena's birth. She was the first professional female engineer to be President (1930-31) and was the first WES President to be elected by its membership, remaining a highly dedicated member of WES for her entire professional life.

As a strong advocate for women in engineering she was dedicated to the development of her fellow female engineers. In 1946 she set up her own all-female engineering firm after working on naval weaponry during World War Two. She also secured an extraordinary number of patents for inventions across a remarkably wide range of inventions in the 1920s and 1930s. Verena was also the first woman member to enter the Institution of Mechanical Engineers.

## A DAY OF CELEBRATION

Southeastern revealed the new train on 23 June to mark *International Women in Engineering Day*. WES CEO, Elizabeth Donnelly attended the launch at which she said: "We are absolutely delighted that Southeastern has chosen to name one of their trains after past President of the Women's Engineering Society Verena Holmes. It is especially fitting that this honour has been unveiled on *International Women in Engineering Day*, celebrated every year on 23 June – the date of both the founding of WES and the day Verena was born.

"Verena was a champion of women engineers throughout her career and in 1931 she became the first woman member elected to the Institution of Locomotive Engineers, so we are incredibly pleased to see her honoured in this way."

## TRAILBLAZING

The train being named after Verena Holmes is a Class 375 operating on Mainline routes between London, Kent and East Sussex, which was unveiled at a ceremony at London's Cannon Street station. Verena Holmes' family was represented by her great niece Caroline Yardley, and she was welcomed by Southeastern's managing director, Steve White, who said: "Verena Holmes was born on our part of the railway,

and she blazed a trail through a male-dominated world to deliver innovation, invention and inspiration in equal measure. We at Southeastern want to recognise that legacy and are proud to name a train in her honour."

Also attending the ceremony was Southeastern technical services engineer, Nada Abouelhiga (pictured above). She said: "Southeastern has supported me in my ambition to be taken seriously as a woman engineer and has valued my skills and the contribution I can make.

"We all follow in the footsteps of inspirational women like Verena Holmes, and she richly deserves this honour."

**For more information on Verena Holmes visit the WES archives at [www.wes.org.uk](http://www.wes.org.uk)**



WES CEO Elizabeth Donnelly at the launch



Once again 23 June saw social media overtaken by women engineers across the globe, all celebrating International Women in Engineering Day 2023.



INWED Namibia

# INWED 2023 another huge success

This international event began in 2014 as a national day set up by WES to celebrate our 95th year. During that first day, over eighty organisations held events, and more than 250 INWED resource packs were sent out to UK schools. The Twitter hashtag #INWED trended, above both #Wimbledon and the #WorldCup which were happening at the time. Three years later and the event had become such a success that WES Trustees took the decision to go international.

2018 marked the first official *International Women in Engineering Day (INWED)* with 245 separate events from different countries such as Bolivia, Cameroon, Pakistan and New Zealand, registered with the INWED website. Companies sponsoring the event included Amazon, GCHQ and the Royal Navy.

Now in its tenth year, the INWED campaign continues to grow with women and allies all over the world joining in on social media.

The statistics show how big a campaign this has become:

- ❑ #INWED23 trended at number 1 on Twitter in the UK.
- ❑ Almost 84k impressions on @inwed1919 Twitter, an increase on 2023.
- ❑ 276,550 impressions across all INWED social platforms.

- ❑ 25 social media ambassadors from around the world posting on the day including Jessica Ashley (Miss England), Jodie Sloss (F1 driver) and Bethany Holroyd (Top 100 Most Influential Women in Construction 2022).

- ❑ 25 community partners.

- ❑ Almost 30k visitors to the INWED website in June.

Alongside the social media campaign, hundreds of events were held around the world, all celebrating *International Women in Engineering Day*. There were podcasts and online events showcasing engineers from industries across the board, including building, manufacturing, civil, structural, and computing. Face to face events were held in locations as far and wide as Hong Kong, Korea, Australia and Africa, all with a focus on the 2023 hashtag #makesafetyseen.

## PLENTY OF ACTIVITIES

Schools also joined in with many holding events led by inspiring engineers to encourage young people to take up a career in engineering. There were online events with speakers showcasing the many and varied opportunities within engineering, as well as some fantastic hands-on experience including intriguing sounding sessions such as the 'egg astronaut' or the 'squashed tomato challenge'.

Seeing how many organisations and individuals were keen to get involved shows just how important this campaign is, not only in inspiring the next generation of engineers but also in supporting women working in industries where they are still in the minority. According to research from EngineeringUK in 2022, women make up



INWED Lesotho

## Thanks to our INWED Partners



only 16.5 per cent of engineers. Women still struggle to break into what is perceived as a male dominated industry and the barriers to women entering and staying in engineering are hard to break down. A lack of flexible working, incorrectly fitting PPE, and unequal pay are all issues that women engineers face today and that need to be addressed.

That's why campaigns such as INWED are still so relevant today and why, as an organisation, we continue to champion our vision of an engineering industry that employs the diversity of the society it serves to solve the biggest societal issues of our time.

# York engineers encourage more women to CONSIDER CAREERS IN RAIL SECTOR

To mark INWED, three female engineers are encouraging more women to consider a career in the rail industry.

Based in York, Clare Brint, Olivia Huntly and Lorena Muscai all work for Network Rail and are involved in a variety of different projects. This includes major work to upgrade railway stations, maintain overhead line equipment and carry out geotechnical work to ensure trains can continue to run reliably and safely.

To mark ten years of INWED, the trio want to highlight what a fantastic career engineering is, the opportunities it brings and encourage more women and girls to consider it as a career path.

Olivia Huntly, senior asset engineer, (pictured below with colleagues) said: "At school, we never really had conversations

about future careers, and I hadn't even considered becoming an engineer. I started out as a team organiser and worked my way up, with Network Rail funding my civil engineering degree when I was thirty.

"I think it's a real shame that women are still a minority in the engineering industry, but days like INWED can really help us to celebrate the successes and contributions of women in the sector. My message to girls who enjoy science and maths is to consider engineering as a career and to follow your passion."

Clare Brint, principal programme engineer, said: "I've worked in the rail industry for a number of years, and it's fantastic to see younger engineers, like Lorena and Olivia, joining the rail industry. A career in rail really gives you a chance to get involved in all different kinds of projects and is a great place to gain and develop your skills. We are seeing more female engineers join us, but we still have a long way to go."

Lorena Muscai, asset engineer, (pictured above) added: "INWED is a great opportunity to showcase how diverse engineering roles can be, particularly within the railway. There are lots of opportunities to try different things in engineering until you find one that fits you."

Network Rail owns, operates and develops Britain's railway infrastructure, that's 20,000 miles of track, 30,000 bridges, tunnels and viaducts and the thousands of signals, level crossings and stations. The organisation runs twenty of the UK's largest stations, while the other 2,500+ stations are run by the country's train operating companies.



*The Top 50 Women in Engineering Awards (WE50) 2023 were awarded on 23 June at an afternoon tea held at One Great George Street in London, where the winners and judges came together to celebrate.*



# Top 50 Women in Engineering Awards 2023

Each year when choosing the theme for the WE50 and *International Women in Engineering Day*, we strive to ensure that it is as diverse and inspiring as possible. That's why in 2023 we chose the theme of *safety and security*. Keeping people safe is a key part of engineering, often unnoticed. Highlighting women engineers who work in safety shows how careers in engineering give women purpose and support others.

The women in this year's WE50 list are a truly amazing group. Their work often goes unseen yet is key to keeping us all safe and secure. The winners were chosen from a range of industries including railways, aerospace, construction, academia, cyber security and waste management. From the creation of a system being used to kill weeds with no chemicals, to providing safety leadership to the RNLI, the women we celebrate in these awards are all inspirational in their work.

## OVERCOMING BARRIERS

Each year the judges are always amazed at the breadth and talent of the nominations. This year the judges were particularly impressed with how many of the women had overcome barriers, both personally and professionally, to forge a career in what is still a male-dominated environment. Many of our winners were mentors for other women, spending time actively challenging gender stereotypes and promoting diversity. They inspire the next generation of engineers through STEM outreach and advocate for diversity in the workplace.

*The full list of WE50 winners is available on our website [www.wes.org.uk](http://www.wes.org.uk)*



## New Year's Honour for WES Member

We were delighted to see that WES Member Dr Nina Baker (pictured) was appointed an OBE in the 2023 New Year's Honours' list, for services to the history of women in engineering.

Nina has had a varied career, having become a merchant navy deck officer on leaving school and later taken an engineering design degree in her thirties, from the University of Warwick. She then gained a PhD in concrete durability from the University of Liverpool. She has lived with her family in Glasgow since 1989, working variously as a materials lecturer in further education and as a university research administrator and, until 2017, as an elected city councillor.

Now retired from all that, her interest in promoting STEM careers for girls has led her to become an independent researcher, mainly specialising in the history of women in engineering. She is Deacon of the Incorporation of Hammermen of Glasgow for 2022-2023. She has been a Deputy Lieutenant in the Glasgow Lieutenancy since 2017.

Nina was also a guest on our INWED webinar where she talked alongside Antony Firth from Historic England, about a new collaborative project showcasing the historic place of women in shipbuilding in the North East.



## Partner News

WES is delighted to welcome our new Partners:

**Event:** CNH Industrial.

**Company Plus Partners:** Ingersoll Rand.

**Company:** Aston Martin Aramco Cognizant Formula One® Team, Biffa Waste Services, Caterpillar, Lotus, MOD DE&S, Vodafone, Worley.

**Not for Profit:** AWE, Engineering and Physical Sciences Research Council.

**Start Up:** Carbon Neutral Fuels.

We are also grateful to our renewing Partners which include: Ball Corporation, Bechtel, Dyson Institute, East Sussex County Council, Edinburgh Napier University, EEMUA, Fraser-Nash Consultancy, HMD Sealless Pumps, Indicatara, Institute of Refrigeration, KLA, Laing O'Rourke, Leaders Plus, Middlesex University London, Network Rail, Rotork, Spirax-Sarco Engineering, The Smallpeice Trust, Queen Mary University of London, University College London.

Partnership and Sponsorship enquiries, contact: [partners@wes.org.uk](mailto:partners@wes.org.uk)

## WES Awards – apply NOW

We are seeking nominations for the WES Awards 2023.

WES Awards celebrate people who deserve recognition for their remarkable achievements and services to engineering and furthering the diversity agenda.

Nominations are now open for the *Amy Johnson Inspiration* and the *Men as Allies Awards*. The closing date is 22 September 2023.

### Amy Johnson Inspirational Award

Named after the famous English navigator and former WES President Amy Johnson, and launched in 2016, this award honours an individual not currently working as an engineer or within the applied sciences,

who has made a truly remarkable achievement in furthering diversity within these fields.

### Men as Allies Award

This award seeks to celebrate a male engineer, or professional male working within the engineering, technical and applied sciences sectors, who has gone above and beyond the call of duty to support his female colleagues and address the gender imbalance within engineering and applied sciences in general.

For more information on previous winners and how to nominate for this year visit [www.wes.org.uk](http://www.wes.org.uk)

## New Members

WES welcomes the following new Members:

Amal AbuSufa, Funmilayo Adeleke, Farheen Ahmed, Saleimah Alyammahi, Shalom Amakhabi, Esther Anderson, Maria Arapi, Diane Aston, Remi Awolola, Judit Balazsi, Clemence Barrett, Saffah Bashir, Nadine Beasley, Melissa Beattie, Jesse Bell, Sofia Bell, Lauren Blakely, Sena Bleoo-Akaba, Rhiannon Brenton, Paola Casagrande, Kubeshnee Chetty, Georgia Collis, Hollie Cook, Cerys Cooper, Teresa Copeland, Niamh Corkery-Hayward, Erin Coulson, Kirsty Davies-Chinnock, Katy Deacon, Silvia Di Lecce, Naomi Ekpoki, Stephanie Enamino, Zhouning Feng, Lucia Fusco, Golnaz Goharnia, Kathryn Gurney, Candice Henderson, Iona Hobbs, Lucy Hodgson, Billie Hurley, Christiana Igube, Jing Jiang, Gillian Johnston, Rebecca Jones, Rhiannon Jones, Laura Justham, Krupa Katechia, Sophie Kelly, Laura Kershaw, Rabab Khan, Susan Khan, Revai Kinsella, Sarah Knight, Jamila Lamido Sumaila, Heather Lamming, Joyce Lamy, Marxileni Lapuz, Karl Lattion, Egle Latvyte, Ellie Leadon, Eleanor Lee, Jennifer MacDonald, Emma McCloy, Katy McKenzie, Mary Moore, Charlotte Morley, Toria Nicholson, Corina Nicolae, Ada Nwadigo, Maureen Okibe, Pranali Panchal, Chisom Paschal-Ndubuisi, Mariana Pereira, Andrew Rangecroft, Amanda Reece, Camila Rey da Rosa, Neda Rezaei, Negar Riiazifar, Nicky Richards, Louise Rush, Summer Ryan, Sara Saeedi, Veronica Sam, Larisa Schelkin, Safah Shaikh, Emily Sim, Kelly Smith, Ashwini Sodaunkuru, Reyhaneh Soltanshah, Carol Southerd, Tereza Smejkalova, Vithursana Somasundaram, Nayantara Srinivasan, Francesca Stry, Melanie Stewart, Rach Stewart, Robin Taylor, Gillian Teague, Kate Thornton, Hannah Trimmell, Rosa Wells, Alexia Williams, Juliet Wood, Lizzie Wood, Enyled Zamora, Daniela Zanni.

## New Fellow

WES welcomes the following new Fellow:

Somayeh Agnia.



## Early Careers Board

### Visit to Siemens Healthineers

On the Monday before INWED23, WES Early Careers Board members Caitlin McCall and Becky Reavell were invited to Siemens Healthineers MR Magnet Technology, Oxford to celebrate.

At the event, they met the Siemens Healthineers team and all the amazing invitees to gain a better understanding of MRI scanning and the challenges in getting them manufactured and correctly located on site.

Caitlin and Becky said they were “excited” to attend and explained: “Siemens Healthineers shared their continued and impressive efforts to support and develop women in their workplace, which we hope to be a further part of.”

“We’d like to thank Madhvi Saini and her team for organising the evening, enabling networking and giving an insightful tour of the MRI production facilities.”

For more on the activities of the Early Careers Board, visit: [www.wes.org.uk](http://www.wes.org.uk) or check out their socials @wesecb on Instagram @WESECB1919 on Twitter



## Here comes Lottie

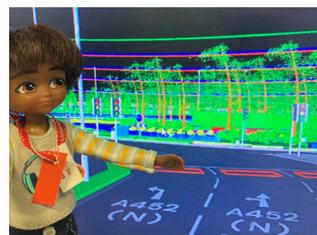
*Lottie is on tour once again and she’d love to come and visit you.*

2023 will be the eighth WES Lottie Tour and we will once again show how varied and exciting it is to work in engineering. We are going to be showcasing Lottie throughout the year with a huge round up throughout *Tomorrow’s Engineers* week in November 2023.

The WES Lottie Tour is an annual campaign that takes ‘Lottie’ to many different locations, accompanying lots of different engineering friends who show Lottie the work they do in engineering and related careers.

Any engineering discipline or activity is welcome, and we’d love to share your working world with our followers. Let’s show the next generation of engineers all we have to offer them! *Lottie’s experiences are shared across social media using #WESLottieTour.*

To sign up visit the Lottie website: [www.weslottietour.org.uk](http://www.weslottietour.org.uk)



## WES Patron Sir Robert Malpas 1927-2023

*With great sadness WES recently heard of the death of our Patron Sir Robert Malpas, on 18 June 2023.*

Sir Robert was a Patron of the Women’s Engineering Society for forty years and we are hugely thankful for his dedicated service and all that he contributed during that time. It was an honour for the Society to be represented by someone as influential within engineering as Sir Robert, and his support for women in the industry was greatly valued. Sir Robert was instrumental in getting government funding for the WISE Campaign which WES hosted in the 1980s and continued as one of our Patrons until his death.

Our condolences are extended to his family and friends.

## Editorial Board – can you help?

We are looking for WES members to join our newly created editorial board for *The Woman Engineer*.

Having been produced quarterly since 1919, we are excited for the future of our flagship publication as it enters the next phase of its development. We are currently looking for a board to work with the editor, publisher and the team to reimagine the journal to ensure it continues to be a key member benefit.

For more details on how to get involved, email: [candi.colbourn@wes.org.uk](mailto:candi.colbourn@wes.org.uk)  
To see the archive of recent journals, visit our website: [www.wes.org.uk/activities/news/woman-engineer/](http://www.wes.org.uk/activities/news/woman-engineer/)



## WES Student Conference

The popular WES Student Conference will be run as a face to face event in late November.

Full details will be available shortly, check out the WES website in the coming weeks.

# Apprentice Board

An update on the WES Apprentice Board from new Chair Amelia Warren.

In June the Apprentice Board welcomed a range of new faces to the team, all bringing great excitement and passion for the year to come. Amelia Warren, a mechatronics and robotics maintenance apprentice at Amazon, has been welcomed as the new Apprentice Board Chair after her amazing work last year, and has been joined by eleven new apprentice members, bringing a new life to the board and a range of exciting ideas. The new board members come from a range of engineering backgrounds and disciplines, including aerospace, civil and structural, electro-mechanical and many more. Check out our recent posts on LinkedIn @WES Apprentice Board to find out more about the new members!

## Networking event

On 23 June, 36 female apprentices, representing fifteen companies across nine different engineering industries attended the second networking event organised by the WES Apprentice Board. The event 'Alexa, Connect Me', was kindly hosted by Amazon RME at EMA2 and the day was filled with talks and workshops presented by female engineers established in the industry. The event provided a great opportunity for female apprentices from different engineering and academic backgrounds to network and learn from each other.

## Future plans

The energy and passion of the new board can be seen in our many new plans for the year ahead. There are some exciting projects in the planning stages, hopefully with more information to come through in due course!

Whilst there are new projects in the pipelines, we also haven't forgotten about the successes of last year's board and we are keen to carry forward the WES Apprentice Board podcast, continuing to bring in inspiring women and discussing more great topics. You can find the previous episodes and subscribe to see our new ones on Spotify; search for: 'Women's Engineering Society Apprentice Podcast'. In June, the 'WES Apprentice Board Guide' was also released and it can now be found on the WES website! The guide contains a great introduction to some of the previous apprentice board members and lots of useful advice, tips, and tricks for any aspiring or current apprentices.

## Question of the quarter

We're now excited to introduce the *Question of the Quarter* to our WES Apprentice Board update! This quarter we're asking – How could AI aid your role as an engineer?

Artificial intelligence is one of the fastest-growing emerging technologies and aids in the workflow of tasks. For example, CAD (computer aided design) is now a fundamental part of our workflow as it makes it possible to visualise and explore a 3D design and more efficiently export data to create a more sustainable solution.

We'd love to hear your ideas, please share your responses and tag our social media pages which are linked below.

Instagram: @wesapb

LinkedIn: WES Apprentice Board

Twitter: @wesapb



**Amelia Warren**  
(WES APB Chair)  
Mechatronics and Robotics  
Apprentice at Amazon



**Laura Kershaw**  
(WES APB Vice Chair)  
Automotive Engineering  
Apprentice at Ricardo



**Iona Hobbs**  
Digital and Technology Solutions  
Degree Apprentice at Arup



**Sarah Knight**  
Aerospace Engineering Degree  
Apprentice at BAE Systems



**Lily-Ebony Ganchi**  
Engineering Degree Apprentice at  
National Gas Transmission



**Saffah Bashir**  
Level 3 Aircraft Maintenance  
Apprentice at Bombardier



**Summer Ryan**  
Electromechanical Engineering  
Degree Apprentice at QinetiQ



**Rasta Resali Ahadi**  
Power Systems Degree Apprentice  
at National Grid ESO



**Eleanor Lee**  
Civil and Structural Engineering  
Degree Apprentice at Arup



**Lizzie Wood**  
Civil and Structural Engineering  
Degree Apprentice at Arup



**Emily Leadon**  
Fire Safety Engineering  
Apprentice at BB7



**Rebekah Chesworth**  
Embedded Electronic Systems  
Apprentice at Capula

# Climate Emergency Group writes to the UK GOVERNMENT

## Brogan MacDonald and Paula McMahon

*WES' Climate Emergency Group believes the current voluntary bottom-up approach needs strong legislative support to facilitate green design and the transition to Net Zero.*

A small task force was set up by the group headed by Brogan MacDonald and we wrote an open letter to the UK Government supported by the WES CEG Chair, President, CEO and Trustee Board.

Thus far this had been widely supported beyond WES. Signatories include presidents of many engineering institutions including the Institution of Civil Engineers, Institute of Water, Chartered Institution of Highways and Transportation and Chartered Institute of Building. Leaders within academia from Bartlett School of Sustainable Construction and the University of Sheffield. Plus, industry leaders from the Association for Black and Minority Ethnic Engineers, WISE, Aldersgate Group, Constructing Excellence, The Worshipful Company of Engineers, Institution of Royal Engineers, The Edge and Ramboll.

We have also had some responses from the Department of Transport and Department of Levelling Up which identify future consultation opportunities for our group members.

WES Members can get involved by signing the petition and sharing the open letter with their MP. Find details of the Climate Emergency Group on the 'Who we are/Committee & Groups' area of the WES Website and follow the links to the letter and the petition. Below is the letter:

buckling tracks, and only months later, there were severe floods causing further widespread disruption across the UK.

As engineering professionals, we are aware a consistent risk-based approach which puts in place mitigation and resilience measures, informed by climate science, is needed.

*We ask the Secretary of State for Transport and the Secretary of State for Environment, Food and Rural Affairs to invest in full updates of all infrastructure standards based on weather predictions in line with a minimum 3°C warming to ensure future infrastructure projects are climate resilient.*

### Support energy efficiency in homes and non-residential buildings

Around 18 per cent of our annual national CO<sub>2</sub> emissions come from existing homes which will still be standing in 2050. 80 per cent of 2050's homes have already been built. UK homes are causing our citizens undue financial stresses alongside significantly contributing to climate change. To reduce carbon emissions in the energy sector, the government must urgently address energy efficiency in homes and non-residential buildings.

Planning restriction policies and the cost of implementation is preventing real change. This is coupled with the lack of retrofit installers able to deliver the plan at scale, and an absence of a commensurate plan of how to achieve EPC "C" rating by 2035 for existing homes.

*We ask the Secretary of State for Energy Security and Net Zero to urgently address the policy gap in owner occupied homes and non-residential buildings and set a clear timeline of activities that align with the Net Zero targets.*

### Facilitate the success of future green jobs

To achieve 480,000 skilled well-paid green jobs by 2030 and facilitate new and expanding industries we need a significant expansion in the existing workforce. To create a just transition we can and should increase efforts to diversify: attract young girls, retain women, and address the needs of local communities who are currently dependent on the industries which are major contributors to the climate emergency.

*We ask the Secretary of State for Education to embed the recommendations from The Gender Pay Gap Report and the FTSE Women Leaders Review into the highly anticipated outputs from the Green Jobs Delivery Group.*

**To summarise**, we ask that the UK Government and all policy makers act with urgency and put in place legislation to enable the engineering industry to build upon the work of scientific climate organisations to ensure a safe and just space for humanity.

## OPEN Letter

### The Women's Engineering Society Climate Emergency Group ask the UK Government to act with urgency

The Women's Engineering Society Climate Emergency Group represents a diverse group of professionals in multiple engineering and science sectors in the UK who are actively addressing the emergencies related to climate change. *We are asking the UK Government to accelerate work to ensure a future for all citizens.*

We ask the relevant Government departments and Secretaries of State to support industry effectively and decisively by:

- regulating whole life carbon,
- ensuring infrastructure standards are fit for the future,
- supporting energy efficiency in homes and non-residential buildings, and
- facilitating the success of future green jobs.

The Intergovernmental Panel on Climate Change AR6 Synthesis Report has confirmed that we are on a trajectory of hitting a 2.7 degrees Celsius global temperature rise if current policies remain unchanged due to poor implementation and insufficient climate plans. *We request a clear and consistent strategic approach which will embed Climate Change Committee recommendations into every new and updated policy document.*

Engineers and scientists are critical to fighting the climate emergency: we are the pioneers of innovation, hence the front line of climate action. Mr Sunak outlined the importance of innovation for achieving Net Zero yet engineers do not have supporting policies to drive change. *The current voluntary bottom-up approach needs strong legislative support to facilitate green design and the transition to Net Zero.* We provide below a few examples where political will would enable the engineering sectors to deliver tangible outputs.

### Regulate whole life carbon

The construction and buildings sector contributes 25 per cent of total UK carbon emissions. At COP26 the Government committed to achieving 68 per cent reductions in carbon emissions by 2030. However, there is little government guidance as to how these targets are to be met by the built environment industry. The embodied carbon of buildings, and more generally construction, is not currently required to be assessed or controlled. Project delivery does not consistently consider the full asset life and the carbon associated with the long-term operation and maintenance of buildings and infrastructure. This is leading to excessive and unnecessary material use which have significant impacts on global warming potential, human health, natural resource depletion and biodiversity loss.

We ask the Secretary of State for Levelling Up, Housing and Communities to urgently introduce the proposed Part Z Building Regulations to enable mandatory assessment of whole-life carbon and to establish embodied carbon limits of buildings. We believe this is integral to achieving the ambitious but vital government targets.

*We ask the Secretary of State for Energy Security and Net Zero to mandate the alignment to and certification of all public and private sector authorities to PAS 2080: Carbon management in buildings and infrastructure 2023.* This practical specification and supporting guidance will support policy and assist in removing the status to optionally account for carbon within asset and project delivery.

### Ensure infrastructure standards are fit for the future

The catastrophic effects of climate change have been tangible to towns and cities across the UK. In July 2022, the temperature reached a UK high of 40.3°C causing rail disruption due to

Sincerely  
The Women's Engineering Society  
Climate Emergency Group

## Early Careers Board



Happy to offer advice and support, the WES Early Careers Board continues its series of Engineering Agony Aunt columns for *The Woman Engineer* readers.

### Engineering Agony Aunt How to effectively time manage and development plan

Question: "How do I to effectively time manage and development plan?"

What a great question, the Engineering Agony Aunt is here to help!

#### Prioritise!

Workload prioritisation is assessing your to-do list and calculating the relative urgency and relevance of each activity. Important jobs are those that advance you closer to accomplishing your objectives.

Tasks that need to be completed right away because failing to do so may have immediate repercussions are known as urgent tasks.

You can better understand which tasks you should focus your attention and energy on right away, which duties you can defer, which you can delegate, and which tasks you might be able to remove by prioritising your work in this manner.

#### Plan your work day

It can be difficult to determine which technique is best for you because there are many different ways to organise your day. Before determining which choice best suits you, it can be useful to explore several day-strategy options and test out a few. There can be certain restrictions on how you can organise your day depending on the nature of your profession. When choosing how to work, it's critical to follow your employer's guidelines.

Finding the times when you're most productive is one of the most useful ways to assess whether a schedule for your day is appropriate for you. When planning how to organise your day, it's a good idea to take this into account as soon as possible. Realising this benefits you.

#### Enhance your productivity

Your productivity may suffer if your to-do list is disorganised and contains numerous incomplete projects. This is a result of your lack of a plan regarding which things should be completed first.

Review your lengthy to-do list and divide it into three organised lists for your daily, weekly, and monthly tasks. After that, prioritise these lists so you can see what needs to be done first. To see how much you've completed for the day in the end, cross off each assignment as you finish it.

#### Have goals

What do you hope to discover? to attain? Where do you hope to be in a month or a year from now? Setting goals is a great method to develop your mentality both personally and professionally, as well as your physical capabilities.

## New review published on interventions to increase GIRLS' ASPIRATIONS for engineering and tech careers



**E**ngineeringUK has released a new report which brings together the available evidence on interventions that aim to increase girls' aspirations for engineering and technology careers.

Despite some improvements, women are still significantly underrepresented in engineering and technology – making up just 16.5 per cent of the engineering workforce, compared with 47.7 per cent of the overall workforce. Providing high-quality impactful STEM outreach activities for girls is a vital part of addressing this.

A summary of existing evidence, the report aims to inform programme design and delivery for STEM engagement practitioners and funders, and to highlight gaps where more evidence is needed.

Anna Horgan-Jones, evaluation manager at EngineeringUK, said: "Engineering doesn't feature highly on school curriculums so high-quality impactful STEM engagement activities are vital in helping to inform and inspire young girls towards these careers.

"We hope the learnings identified in our report will be helpful for STEM outreach providers and will support efforts to improve gender diversity in engineering and technology. However, our review found that there are some gaps in the current evidence, so it will be important that research and evaluation in this area continues to develop."

The review is split into five main sections including activities for primary school students, programmes designed specifically for girls, role models and mentors, links to higher education and careers and summer camps.

Some of the key learnings highlighted across these sections include:

- Start engaging girls with engineering and technology activities at a young age.
- Include activities that challenge gender stereotypes around engineering and technology.
- Learn about the needs, interests, and preferences of girls when designing outreach programmes.
- Understand the limitations of gender as a binary concept.
- The use of role models that are a similar age can help bridge the developmental gap between students and professionals.
- Showcase a range of engineering and technology careers.

The report '*Rapid Evidence Review – interventions to increase girls' aspirations for engineering and technology careers*' – is available to download at: [www.engineeringuk.com/rer-girls](http://www.engineeringuk.com/rer-girls)

# How to ‘survive’ networking at an event



*How can you reduce anxiety when you go to an event or conference that includes networking? You've booked your ticket to the conference and want to meet new people, yet the anxiety and fear that come with networking means you usually avoid talking to people and end up standing alone in the corner. If this happens to you then you are NOT ALONE says Charlie Whyman!*

Networking is not a natural talent and makes a lot of people nervous. I was thrown in at the deep end and have been networking since the age of nine, when my dad used to rope me in for new car launches at his local dealership, so I've picked up a few skills over the years.

What I've learned from working with hundreds of engineers and technical specialists is that they can talk confidently once the conversation is established or the person they see at an event is already known. The main challenge is approaching people to initiate the conversation or starting a conversation with someone previously unknown.

I've coached many people over the last twelve years in sales and marketing and leadership roles to help them overcome these challenges and reduce their anxiety when it comes to starting conversations and building professional relationships.

Here are a few things to try that will make a networking experience a bit easier and to help you get more out of attendance at events and conferences.

- ❑ Arrange to meet someone you already know at the event just before it starts – so you don't have to walk in alone.

## About the Author

Charlie Whyman is a commercial problem solver, consultant, trainer and coach. She specialises in working with engineers in business to help them get more sales from their marketing efforts and increase profits. She does this by working with teams and individuals to give them the confidence and capability to increase performance and thrive.

An engineer by background, Whyman discovered she had a talent for sales and marketing when offering her homegrown Sardinian olive oil on a Yorkshire market stall, selling lasers down one of the world's deepest mines and moving rapidly from marketing assistant to global head of sales and marketing for a major player in the geospatial sector. Contact: [hello@charliewhyman.com](mailto:hello@charliewhyman.com)

- ❑ Look up people from the attendee list on LinkedIn to find out what they look like – so you can put a face to the name and easily pick them out of the crowd.
- ❑ Arrange meetings with people you want to speak to ahead of the event – so you're not leaving key conversations to chance.
- ❑ Rehearse a few conversation starter prompts before you get there – so you're not having to think on your feet.
- ❑ Ask the people you already know who you want to meet and to make an introduction – so that you're not the one having to start the conversation.
- ❑ Learn to read body language, identify people speaking in pairs that are not directly facing one another and ask if you can join them – so that you can join a conversation that's already open to inviting new people.
- ❑ Make a note of things the speakers and panellists said during their session and approach them afterwards – so you have a prepared conversation starter and common area of interest.

Developing networking skills is a good area to focus on in any career, especially in terms of sales and marketing effectiveness.