**8 Hayaatun Sillem**

Hayaatun - So, if you do know that you want to stay in life in say academic research, you do have a sense of what you have to do to progress. As soon as that's gone, actually, that's part of your professional identity that's gone. And working out: what is good for me? You know, what actually is going to deliver fulfilment and success or happiness or whatever it is you're looking for in your career is I think genuinely one of the hardest questions to answer.

Kat - This is the Suffrage Science podcast: How women are changing science, brought to you by the MRC London Institute of Medical Sciences. I’m Kat Arney and over the coming series we’ll be exploring the journeys of women in science - reflecting on progress we’ve made and the challenges still to be addressed - through conversations with an incredible group of women scientific leaders, who have all received one of the Suffrage Science awards over the past ten years.

We’re hearing from inspirational figures from the world of science like former Chief Medical Officer Sally Davies, computing legend Wendy Hall and climate scientist Tamsin Edwards, so make sure you’ve subscribed to the Suffrage Science Podcast through Apple podcasts, Spotify or wherever you get your podcasts so you don’t miss a single episode.

This time I sat down for a chat with Dr Hayaatun Sillem, the first female and first ethnic minority CEO of the Royal Academy of Engineering and one of the most influential women in UK engineering.

Nominated by Professor Karen Holford from Cardiff University, Hayaatun received her Suffrage Science award in 2021 for being unapologetically passionate about diversity and inclusion in the profession, with the aim of attracting more young people from all backgrounds to choose a career in engineering.

With extensive leadership experience in the UK and internationally, especially in Africa, Hayaatun is demonstrating what can be achieved when women are at the top. For example she chairs the UK government’s Innovation Expert Group and St Andrews Prize for the Environment, and co-chairs the Commission on Black representation in UK motorsport with Sir Lewis Hamilton.

She is also the CEO of the Queen Elizabeth Prize for Engineering Foundation, a trustee of EngineeringUK and the Foundation for Science & Technology and has been named as one of the ‘Inspiring 50 Women in Tech’. All of this added up to her being made a CBE for services to international engineering in 2020.

Yet despite her job title and impressive credentials, Hayaatun didn’t start out as an engineer, as I discovered when we started talking.

Hayaatun - Yeah, it's my dirty secret that I've masqueraded in the world of engineering for a long time, but actually I started out as a biochemist. So, I did my PhD at the precursor to the Crick many, many years ago, working in cancer research. And unfortunately my plans to be one of those people that went on to be responsible for some fantastic breakthrough in cancer research were thwarted by the fact that in the last year of my PhD, I developed really severe chemical sensitivity. So I literally had to walk out the lab one day and never go back in again, which was a bit traumatic. Yes, it was an experience. I didn't have any plan B at that time. I was just about sort of set up my postdoc and everything. And I didn't really know what people did if you didn't go on to have a life in research. So I had to basically find a plan B quite quickly, and I stumbled into the world of engineering and science policy. I didn't really know what engineering was. I certainly didn't know what policy was. So that was quite a big transition for me. And I then had some really great experiences actually realising that I could draw on my technical skills, but also in my communication skills and people skills to help inform decision-makers about engineering, science, technology that was relevant to their area of work. So I did that in the House of Commons, I was a committee specialist to the Science and Technology Committee, that was a really amazing experience, kind of part of my education as a citizen I think! It's very easy to sit there and be an armchair critic of politics, but actually just working closely with parliamentarians made me think more carefully about why people prioritise the way they do and what the reality is of trying to do that incredibly challenging job. So I had a really interesting time at the House of Commons. I also spent some time at the department for international Development, briefly helping the first Chief Scientific Advisor there, Sir Gordon Conway set up his office and I spent really the bulk of my career working my way up that greasy pole at the Royal Academy of Engineering. So I've spent the vast majority of my career there, I've actually done two stints. I don't recommend my career path as a sort of template for anyone else to follow, but it has somehow worked out for me, which I'm very grateful for.

Kat - When you're making that kind of change, leaving the lab, trying to get into this area of policy and then working your way through to the leadership role you now have, who has supported you, where have you managed to draw inspiration or mentorship along the way? Cause I can imagine that there's been quite a few times when you've just gone: "what the flip do I do now?".

Hayaatun - You were in my brain, Kat. I think it's actually people sort of underestimate how hard and how significant it is to navigate your career when actually all career structure has sort of fallen away. So if you do know that you want to stay in life in say academic research, you do have a sense of what you have to do to progress. As soon as that's gone, actually that's part of your professional identity that's gone. And working out, you know, what is good for me? You know, what, what actually is going to deliver fulfilment and success or happiness or whatever it is you're looking for in your career is I think genuinely one of the hardest questions to answer. So I probably learned a huge amount through doing that. And I was massively supported, partly by looking at and working with some very, very inspirational senior people. So, I mentioned Gordon Conway earlier, and I learnt a massive amount from Gordon as somebody who was just a thoughtful and kind of very human leader, actually, who was a brilliant scientist, but also really great at things like storytelling and making personal connections with people, emotional connections with people. But I always think that the people who have in practical terms probably helped me navigate that career progression sort of process most are really my peers. So I never set out to be someone who networked if I probably would have been horrified if you told me that's what I was doing, I'd be mortified!

Kat - : Sounds very LinkedIn, doesn't it? My “professional network”...

Hayaatun - I know it sounds awful, but actually I just got used to enjoying meeting great people and talking to them about stuff. So I have a lot of work friends who've just been fantastic as a peer support network. And you find out a lot about what else is out there through meeting other people and learning about what they're doing. And then I think the kind of calibration point is thinking: What is it that makes me happy? What is it that gives me job satisfaction? What is it that makes whatever the stresses and strains of my job - and every job has stresses and strains - what will make that equation worthwhile for me?? And also, I mean, I, I've sort of now developed into a more, I would say, conscious approach to cultivating that peer network. And I have a great group of peer mentors, you know, three or four of us meet regularly and we talk through our problems. We share our worries, concerns, and career successes, and we help and support each other. And not just by saying, "Oh, you're amazing, oh my God, that's so awful they treated you that way", which is part of what you need from your, from your friends and your peers, but actually being able to challenge each other and push each other further. I think it's somehow easier to take that advice from someone else than it is to give it to yourself and for it to feel meaningful and to then follow through on it. So I think my peers have probably pushed me further than I would have got without them, but I also have to say that I was very lucky. I had amazing parents who just instilled in me some really good habits. And I suppose I focus on being, self-aware thinking about what is it I'm bringing to this situation, encouraging self-reflection and not waiting for others to tell you, "Oh, well, you know, I think you need to work on this", but asking yourself, well, you know, "what could I do differently? What can I do better? How can I learn from people around me? "And that's stood me in massively good stead. And I had no idea that they were kind of coaching me in a way, it was just part of their values, I think. But that, that really helped me in a quite deep way. I think, to make the most of the opportunities I got.

Kat -I'm thinking back to your childhood. If someone had said, "Oh, one day, you're going to be the first female, the first minority CEO of the Royal Academy of Engineering", what would you have thought?

Hayaatun - I would have thought that they were possibly taking something and certainly didn't know me. I actually, as a child was... I had an older brother. This is probably quite a classic story for people who have an older brother and he was a scientific one and I was the creative one. And it's sad, isn't it? That those sort of categories even exist; the idea of science and creativity being in some way in opposition to each other or different poles is just beyond bizarre. But that is the mindset that prevailed at that time and I think in many cases still does. So people were downright shocked when I went into science, they were confused. My parents weren't like that, but you know, even teachers were sort of slightly nonplussed. And I just didn't know what engineering was until I ended up working in it. And I think that is again, an insight into part of why we don't have more women in engineering because if, like me, as a sort of secondary school student, you're picked out as being capable in science or maths, people just channelled you into medicine, and then there was a subset of those people who wanted to be vets. I literally didn't know anybody who would have said, I'm good at science, I love maths, I want to be an engineer. It just wasn't something that was in any of our consciousnesses. It wasn't in, there were no role models, there were no prompts to think: could that be me? And so, you know, the idea of engineering being a massively human-centric profession, a profession which is really quite analogous to medicine, if you want to help make the world a better place, improve the human condition, great go and be an engineer! It just, didn't just didn't feature in my thinking at all. So I think all of this has been a massive surprise and frankly, probably you can go back a few years. I would have found it, not necessarily a very likely scenario. You know, the process of trying to progress in your career, it's like a never ending decision tree and you feel at any point, it could have gone a different way, but I feel really fortunate and delighted that it did work out the way it did.

Kat - Yeah, absolutely. And I do agree with that idea that there's no particular career guide, any more in many, many cases; you don't sort of set out going, "Oh, I'm going to be the CEO of a company, how do I get there?" You just blunder along the way. But I want to dig into this idea of, you said when you were younger, you kind of didn't even know what an engineer was. And we've been talking to a lot of people about encouraging girls and minorities to go into STEM subjects. And you can picture a scientist, you know, scientists or someone in a lab coat. Maybe they're staring down a microscope. We know we don't all do that, but you sort of know what scientists kind of do, but engineering has this dual problem. I think in terms of the stereotypes, like people don't know what engineering is and then don't know who engineers are. What's your view on that?

Hayaatun - I think that engineering is really in a very different place to a lot of science and so actually the STEM acronym can be quite unhelpful in that it masks some really big differences. So, I went into the biosciences where women were already, even all those years ago when I was studying, in the majority. And actually, if I looked around at the professors who taught me, who lectured me, there were many, many fantastic women role models. In engineering that's simply not the case. It's... The latest data we have from 2020 entrance into engineering courses in the UK doing degrees says that 18% of that intake were female. 18% - and it's 2020! It's not like nobody noticed that there was a challenge over gender diversity and no one's been trying to tackle it - that's with all the efforts. So let's, let's try and find something positive to say, and I can say that in 2011, it was only 13%, so we are creeping up, but it's still, you know, it's still so far short of what is my point of view acceptable. And there are lots of myths around why that might be the case. And there is now quite a lot of evidence that helps give some clues as to why is this such a persistent problem? I think the first thing I want to say is this is not a problem across the whole world. The UK fares really poorly globally in terms of its gender diversity in engineering. So there's this sort of slightly absurd argument in my view that, well, maybe there's a natural inclination of girls towards one career or another or engineering is somehow different from the rest of science. I mean, you know, even as I'm saying it, it just sounds so absurd and there's just no evidence at all to support that, that I believe is credible. So there are many countries in the world where you'll see high proportions of engineers, parts of the Middle East, parts of Asia. I mean, we did a study several years ago and we were 58th out of 86 countries, for example, in the gender diversity of our engineering graduates. That's just one data point, there are lots of others. So let's try and relate that to our own experience, not because that in itself is evidence, but because I think it's always useful to bring a human dimension to the evidence, to the data points. And I think it's fair to say that there is a very reductionist view of who an engineer is and what they do. We don't use the word in school to describe a subject. So it's not like you can say, "Oh, well I liked biology. So I want to be a biologist." There's no equivalent to that. If you Google an engineer, you see a sea of people in hard hats and high vis.

Kat - That is what I think of. I mean, it really is. It's someone on a construction site with a hard hat on, sorry,

Hayaatun - I got nothing against PPE. We want people to wear PPE and I've got nothing against construction sites or hard hats. You know, this is all really great, but it's quite ridiculous to reduce this enormous, varied, diverse profession into the single image of somebody in a hard hat and high-vis jacket. If I look back, I went into biochemistry and I was working in cancer research like I said. So I could have been, in another universe, I could have been an equivalent version of myself if I had studied engineering, I could have been a bio-engineer, I could have been standing next to myself, metaphorically speaking, at the same lab bench, but having come through that route of engineering. And I had absolutely no idea that that was possible. And there's some really interesting, very deeply culturally ingrained perceptions of engineering as being something that people associate with a particular agenda in a way that I just don't think is as strong for science. It doesn't mean there aren't challenges over getting women girls into scientific careers and, in particular, getting them to progress to the highest levels. But engineering is lagging way behind, engineering, physics and computer science bring down the overall average for the whole of STEM diversity in terms of gender. I think it's really interesting, I was motivated as a biochemist by this feeling that I could do something worthwhile with my life, I wanted to contribute to some social good. And I just didn't have any awareness that all these breakthroughs that are associated with biomedical science, with biology, with medical advances: all of that wouldn't reach patients, all those insights, all those discoveries would never actually result in tangible benefits to patients without the work of engineers. It was utterly invisible to me. So the instrumentation that we use to uncover the knowledge is all engineered, the development of devices, medical devices, the scaling up of manufacturing, the logistics associated with delivering those to hospitals or clinics or to patients, the hospitals themselves, all of that is enabled by engineering, but we just don't focus on it. And I think engineers often work in teams, there's not the equivalent of the Nobel Prize winner in terms of that lone figure that we can all look at, but you know, how many people know Margaret Hutchinson's name, who know Alexander Fleming's name, but both of them are critical to penicillin being something that was useful to humanity. Margaret was the one who industrialised that process. The insights that Alexander Fleming and his colleagues came up with wouldn't have actually benefited anyone without the work of someone like Margaret Hutchinson. So I think that's an example of, of the differential emphasis we place on discovering insight and that kind of "aha!" moment. The intellectual endeavour rather than the practical delivery of solutions and that in turn plays into some of our perceptions.

Kat - So we've talked about the problem of gender diversity, particularly in engineering, but also you're the first ethnic minority CEO of the Royal Academy of Engineering. So where are we with that kind of diversity in the engineering workforce? It does feel very sort of male pale and stale.

Hayaatun - So we currently have a profession in the UK that is 9% black and minority ethnic engineers; that may not sound as horrific as the 12% female engineering stat that we have for that same UK engineering profession but then when you look at what's happening, there are some really, really troubling statistics underpinning that headline. So actually black and minority ethnic students are overrepresented in the entry cohort versus the wider population. So it's varied over the years, but it's been well over 20% for a long time now, and it's over 30% in some cases. And then what you see is that the transition into engineering for those black and minority ethnic engineering graduates is much worse than for their white counterparts. So one of my least favourite statistics in engineering is that you're twice as likely to be unemployed six months after graduation, if you're black and minority ethnic engineering graduate than your white counterpart, even when you control for the type of university you went to and the class of degree you got. And those differences persist, so you're, you're more likely to be unemployed over the longer term. And if you just look at the sort of who makes it into engineering roles, 60% of white students in six months after graduation are in engineering occupations, 37% of black graduates are. These are really worrying differences, differential outcomes. And unfortunately, and I don't think this is probably going to come surprise to anyone, you have lots of other pieces of data and evidence that say that your whole experience of the engineering workforce is also different depending on your diversity characteristics, with people who come from black and minority ethnic backgrounds saying that they feel that their assumptions are more likely to be made about them, and they're more likely to experience inappropriate banter, that sort of thing. And so I think there is a natural fixation on the gender challenge that we have in engineering.

Hayaatun - That's that's right, because we are so out of step with where we need to be - engineers shape the world around us, it cannot be right that they are so unrepresentative of that wider society that they serve. But I think it's really important not to reduce our focus, to narrow focus to gender in isolation. It's absolutely essential we think about the different dimensions of diversity. Yes, it's about intersectionality. And the fact that, you know, I'm a woman, I'm from an ethnic minority background, I am a mother and so forth, but it's also just being honest with ourselves about what is the experience of people who choose to come into engineering and be more ambitious about the kind of community that we want people to be joining and the experience that we want them to have no matter what that kind of come from and in turn, it's absolutely vital that that sense of inclusion, that diverse representation accompanied by an inclusive culture actually results in more inclusive outcomes. So engineers are designing, developing, delivering physical and digital infrastructure products and services that every single one of us use all day long, whether we notice it or not. So if we are not working really hard to make sure that those pieces of infrastructure, those services, those products work for people from all parts of society, that they produce benefits that are balanced and equitable, then we as a professional letting society down

Kat - We’ll come back to Hayaatun soon, but now it’s time to hear a few words of advice from another Suffrage Science awardee, space scientist Maggie Aderin-Pocock.

Maggie - The piece of advice I think really made a difference to me was given to me by my father. And he taught me how to think and how to know myself, because if you know your strengths and weaknesses, you know, the direction to work in. And so I thank him for that every day, the ability to think and question, but the ability to know myself better.

Kat - If you’re enjoying this series of the Suffrage Science podcast, please do rate and review us on Apple podcasts, and make sure you’re following on Apple podcasts, Spotify or wherever you get your pods, so you don’t miss a single episode.

Now let’s return to our conversation with Hayaatun Sillem, to find out what it felt like to be nominated by Karen Holford for her Suffrage Science award this year.

Hayaatun - I was amazed and thrilled, delighted, honoured, all sorts of wonderful words, when I found out that I'd been nominated for this award from the really exceptional leader that is Karen Holford. So Karen is Deputy Vice Chancellor at Cardiff, she is an outstanding engineer and I've always admired her because she is exceptional in terms of her technical achievements, her academic leadership, but she's also very authentically her, in the way that she goes about doing that. So it's not just about the, 'what you achieve', but the ‘how you achieve it’. And so I was astonished that she'd nominated me. And, you know, it's a funny thing, Kat: I feel as if ever since I got the Chief Executive role at the Academy, I've suddenly kind of become very visible. And as a result, I feel like I've got a lot of recognition and opportunity that sometimes I feel like, you know, God, I don't think this is really a reflection of what I am, what I'm doing, or it feels almost symbolic. But what I really loved about the Suffrage Science Award was it's so personal, it's somebody who has already been recognized choosing to then pass the battle or in this case, the jewellery onto someone else that they respect. And so it really stood out for me as something that was meaningful because I knew that it was very personal and because of my incredible respect for Karen.

Kat - The theme of the awards discussion, the panel that we had was "Looking forward to the next 10 years". So, you know, thinking about where you are in your life now, what do you think the next 10 years holds for you as a leader and you as a leader in engineering,

Hayaatun - I guess that I'm in the fortunate position where I have a job where I still feel I have a lot to do. And I think that's really fantastic. I want to have that feeling of motivation when I get up every day and metaphorically at the moment go to work, not really going very far. But for me, you know, I have to feel that there's something worthwhile I can do with my energy and my effort. And I do feel that being in the current role, I am, I can leverage my personal qualities, who I am, as much as the skills I have to hopefully make a difference. So I think we're very far from done with the diversity challenge in engineering. And I think, more broadly, there are a whole set of issues around the interface between engineering and society and really that's where the Royal Academy of engineering is positioned.

Hayaatun - It's harnessing excellence within the engineering profession in order to deliver greater societal benefit. So there is so much in that space that I feel I can contribute to personally, through trying to provide effective leadership for the Academy. That is very motivating. I don't feel any need to be thinking beyond that in terms of a day job. And I'm also fortunate that alongside my day job, I get to do a range of other interesting roles. So some of them are directly connected with my job. And some of them are sort of maybe one degree of separation away from that, but all in some way, contributing to this wider objective to ensure that engineering and technology really are in the service of society. So, for example, I'm currently chairing the government's Innovation Expert Group, and we're supporting the government in developing an innovation strategy. And it's a great thing to be able to harness my expert network for and to really try and do something useful on. I co-chair a commission with Lewis Hamilton focused on improving black representation in UK motor sport. I mean, what is not to love about these opportunities where you can extend your, hopefully, your reach and your impact, your ability to make positive change happen through working with different organisations. I'm in the very fortunate position where I have many things to keep me interested and engaged.

Kat - I do think it's fascinating that you've gone from working in a lab, into an area of policy where it's not the world's most sexy area. I think people who don't work in policy don't understand how important and fascinating it is because this is one of the ways that change happens, is by having policies, good policies, and implementing them. And then also engineering that's got this sort of image problem as well. How do you see yourself in that role of really trying to get people to understand how important these things are that maybe people don't see as important and sexy, perhaps, you know, I can see like, Oh, being a film director is very cool and sexy being an actor is very cool and sexy. Finding a vaccine against COVID is very cool and sexy being a policy person or being an engineer, not so cool.

Hayaatun - Well, obviously I'm deeply shocked. I don't recognise at all what you're describing, Kat. But no, seriously, I think in a way that's partly why I decided that it was worth staying in this area because I feel I can make more difference here than I could in a sector or a community where there were more people like me. So it's a kind of accident of birth, but having got to a certain point impression, I thought, well, I can see why the very fact that I, for example, was appointed the Chief Exec of The Academy is a statement in itself, and it's something that then gives me a platform that I can leverage. So why would I not do that? And as you say, both policy and engineering are absolutely profoundly important. They're fundamental to the society that we exist in. And I feel very passionately that we don't want people to be unaware of this almost framework they exist in. It's not healthy to not understand the role that these things play in our experience of daily life. And I think that the last year has, although perhaps there has been a lot of focus on the biomedical advances in the context of all the vaccines, you said, I think actually people have realised that you can't afford to as a, citizen just say "science and technology engineering, that's, that's not something I have to worry about". There's a very immediate connection, so rightly we have celebrated the incredible people who've developed new vaccine technology, new platforms. We celebrate to some extent that the manufacturing, we certainly have seen how much difference it makes to our ability to actually receive the vaccine. You know, if our manufacturing capability of our supply chains are not in place, but also I think we've seen how well our infrastructure has held up. I mean, in those early chaotic phases of the pandemic, it was extraordinary that, you know, the internet, our broadband communications, our water utilities, all of that managed to sustain and cope with extraordinary fluctuations in demand, which are quite kind of mind-blowing. It all held up, not by accident, but because of the hard work of engineers and many others who had put that thought into creating resilience in the way that it was designed, who had made sure that the maintenance of those networks was absolutely kept on top of during this incredibly difficult time. So, I do think that at a societal level, we have seen how that does connect with our daily experience in a way that I think is quite healthy, but there's still lots more to do. And of course that's a big focus of what we do at the Academy. So we have, for example, this engineering campaign, that is very much about trying to challenge the outdated perceptions of engineering that both young people hold but also there are people who influence them; parents and teachers. We have an annual awareness now, the first Wednesday in November, where we try to show the engineering underpinning people's lives so that people who are just going around their daily business say "Oh, hang on a minute, I'm using engineering there! There was an engineer that did that. Let me, let me visualize these people." Let's humanise it, bring it to life.

Kat - Yeah. I'd love to know, who are the people who are just making this call, you and I are obviously not speaking in the same room because we're still in a pandemic, all the technology that's making this call possible and the way it's held up and the way it's improved over the past year, I think it's just a real testament to the kind of computing engineering and the digital infrastructure that's going on underneath it.

Hayaatun - Absolutely these everyday heroes, they deserve to be known. They deserve to have names and faces. And that's part of what we're trying to do through this engineering campaign and 'This is Engineering' day each year. So we're still building up, but it's been really great to partner with lots of major organisations who want to also shine a light on the fantastic engineering talent that they rely on each day, whether that's Amazon or whether that's some of our fantastic broadcasters like the BBC or some of the supermarkets, all of these organisations can't function without engineers. And it's about time that we saw who they were, because actually that's part of how you do help more people to see themselves as having a future in engineering, by putting faces to this profession that is not all about hard hats and high-vis jackets.

Kat - And then on the other side of it, you've done all this amazing work and you're trying to raise the prominence of engineering, but the same time, you've also spoken about being a mum and the importance of that to you, the importance of your family and how on earth do you keep the balance of being a mum, raising your kids, and then doing all this incredible impactful work that you've been up to?

Hayaatun - Well, you make it sound so great, Kat, it doesn't always feel like that day to day,

Kat - I can see no finger painting in the frame!

Hayaatun - It's all carefully staged. This year has been an interesting test for me because part of how I have combined having kids - I have got a nine and just-turned-12-year-old, part of how I made that work is by really clear compartmentalisation of my life previously. So I was very much, you know, I'd work intensively four days a week in the office and then I was at home one day a week. I was very much there when I wasn't at work, the kids had me as their first priority. And of course it's not all about me because I've got an amazing husband and my mum has been fantastic in helping with the childcare. So, you know, it's a kind of extended family model. It's not all about heroic effort from me. I want to be very clear about that.

Hayaatun - But the test for me this year, this last year, was that ability to compartmentalise my life into work and home just completely was flipped on its head. So for the first lockdown, I think I had, for about five weeks, I had my then eight year old daughter sitting in every single meeting I had and I have a lot of meetings. So it was a really odd experience. But I think out of it, it's also given me the opportunity to realise: I don't have to be quite so regimented in the way I segment my life. Maybe at one stage that helped me and, you know, things change over time. So I think when I started out as a mother, I was just on the verge of being promoted into senior leadership team level. Actually, I think I had my interview to become a director when I was seven months pregnant, which was an interesting experience and fantastic that the organisation said, yes, we still want to even though you're just about to go on maternity leave. So at that stage, I was really, I really felt I didn't want to emphasise the fact that I was a mother. I wanted to really be seen as somebody who was entirely, if you like, equivalent to my counterparts, who either had much older children or didn't have children. And as I've gone on and also become more senior, I realised that part of what I can do is to say, "look, I'm a human being and there are different bits of my life and they do intersect". And I don't need to avoid talking about children, I don't need to worry that's going to impinge on people's perceptions of me. I think the wider almost culture in the workforce has also changed a bit over that time. You know? So now I think people don't necessarily feel that inhibition about "oh I don't want to talk about my children, because it might be perceived as being, you know, I'm not so serious about my work", but I was still quite conscious of that at the time I became a mother. And so I hope that now I'm part of a generation, I see loads of other people who are much better than me in this actually, but certainly in that group of us who want to say "we are whole people" and I firmly believe I'm a better CEO because I have children. It's not that I believe you can't be an amazing CEO without children. But for me personally, it improved me. It just put that little separation between me and my work and helped me to, I think not over obsess, not be quite so anxious, not be so controlling of everything. So I think I became a better CEO and I certainly would not be a better mother if I was at home more. So nobody in my family thinks that the answer would be for me to not have a job, I'd be horrible. So it's not a zero sum game. People often say, "Oh, how do you fit it all in?" But actually doing both of them makes me better at both. And I'm very proud to say that and very grateful I have that opportunity to pursue both those parts of my life in parallel and not feeling like I'm compromising. I don't feel fully, you know, I don't feel conflicted, I don't have this guilt complex lots of people have, just because I know I would not be better at either if I didn't have the other part of my life.

Kat - I guess it comes back to that question of visibility as well. It's seeing women leaders. We're seeing a lot of women leaders now starting to come through, but it's like women leaders who are mums, women leaders, who are not mums, women leaders who have small children, women who are - and I think this is still maybe the last big taboo - women leaders who are caring for older parents or have caring responsibilities for people in their family. It's like we are humans and we work, but we are also humans and life goes on and life is actually really important.

Hayaatun - Absolutely. And I'm in that sandwich generation, so my mom is a great help in my life, but I also have a dad who's poorly. And so we took a rather extreme approach to trying to integrate our lives. So we live two doors away from my parents. It doesn't work for everyone, but it works brilliantly for us. But yeah, it does, you know, life is full and I wouldn't have it any other way, but there are times when that is intense. I think your point about visibility is also spot on. So, visibility is a word I would say I'm marginally obsessed with. And it's partly because for a lot of my career, I just felt invisible, I felt like I had to work harder than everyone else to be seen in my own right professionally. And that's all the stuff about, you know, people mistaking you for the catering assistant or the note taker, all that stuff. It's, you know, when you're sitting around a table and really struggling to get a word in edgeways, even though you have something important to say. But what I also found really extraordinary was the difference between being in that cohort of people who are considered too early, you know, you're up and coming, but you don't really have any visibility in your own right In the broader profession, maybe your bosses think highly of you. And I was certainly someone who just felt my job was to serve the organiSation, serve my boss, be as dedicated as I could to that cause. And eventually I kind of looked around and thought, gosh, I don't have any visibility beyond my immediate colleagues and this can't be healthy. And then if you flip that round, once I became CEO, it was this... Suddenly I was discovered, it was hilarious. You know, got asked to be in Vogue! I got given awards! I got every speaking opportunity going and I kept thinking, Oh yeah, it's all very lovely but I am the same person that I was the day before I became CEO. The takeaway for me is that one of the ways we're going to get more people from underrepresented groups into those most senior leadership roles quicker is by looking at those people who are currently in that 'too early' category with that low visibility and say, what can we do to give a publicly visible stamp of credibility to them to say, we back this person, this person is ready because those external expressions of confidence are so key to giving other people the confidence to think, "oh I'm recruiting for a board, or I'm looking for a speaker or I'm, you know, I'm looking for a new CEO or a new director, maybe that person could be that person". You know, maybe just because they haven't done it before they could still do it now. And so just trying to get away from the 'too early', because when you look at the demographics in science and engineering, unless we can get more of those fantastic earlier career people into senior leadership roles quicker, then the pace of change is just going to be unacceptable.

Kat - You do have an opportunity for this coming because in 2023, you're going to have to hand over your award. Are you starting to think about that? Or are you just enjoying having the thing now you've just got it?

Hayaatun - Well it did actually cross my mind because I thought "Oh my God, that's going to be really hard" because I have such a privileged role where I see just amazing people all the time. So I'm looking forward to having deep internal arguments with myself about which of the amazing people I know should get the jewellery, but I will look forward to that tremendously. And the fact that there are so many people who immediately spring to mind to me is one of the many reasons that I am a huge optimist.

Kat: Thanks very much to Hayaatun Sillem. And if there are any budding young engineers in your life, you can send them to find out more about the This Is Engineering campaign at [thisisengineering.org.uk](https://www.thisisengineering.org.uk/)

Next time I’m speaking with computer scientist Hannah Dee about the barriers that still stop girls getting into computing, and how we can overcome them.

Hannah - So the idea is that girls don't feel like they belong in computer science as a discipline. If you don't feel like you belong, then you're less confident when it comes to things like asking questions. And if you don't ask questions, then you don't find out the answers that you need and that becomes a vicious circle.

And before we go, here’s a final word from Maggie Aderin-Pocock about her hopes for the future

Maggie - We live in very interesting times and the Covid crisis has really brought home the importance of science in our lives. So my hope for the future is that that will be widespread. People will realise the importance of science in all our lives and especially that it will encourage the next generation to consider careers in science because we really, really need them.

The Suffrage Science Podcast: How Women Are Changing Science is presented by me, Kat Arney, with audio production by Georgia Mills. It is produced by First Create The Media for the MRC London Institute of Medical Sciences Suffrage Science scheme. Find out more and read profiles of previous awardees at [suffragescience.org](https://www.suffragescience.org/) and follow @MRC\_LMS on Twitter and the hashtag #SuffrageScience for all the latest news. Until next time, goodbye.