

GENDER DIVERSITY IN CYBERSECURITY

Martin Cooper MBCS speaks to Professor Niki Panteli, Dr Boineelo Nthubu, and Change and Test Manager Claire Mironik to explore the underrepresentation of women in the tech sector as BCS Women marks its 25th anniversary.

Despite decades of research, policy efforts, and industry initiatives, gender inequality in technology, and particularly cybersecurity, remains stubbornly unresolved. Drawing on academic research and lived industry experience, this conversation explores why women continue to be underrepresented in the workplace and overlooked in leadership. The contributors reflect on structural barriers, the importance of visible role models, and why diversity is not just an inclusion issue but a security imperative.

Why don't you introduce yourselves and your interests?

Niki: I am Niki Panteli Professor of Digital Business in the department of Management Science at Lancaster University Management School. I have developed expertise in online collaborations, virtual and hybrid work and digital transformation. I bring decades of research and publication to the study of gender in computing and the IT sector.

Boineelo: I am Lecturer in Business Management at York St John University, London Campus. My research interest is in the field of Information Systems.

Within these areas, I have been researching on cybersecurity, gender diversity, responsible AI and lately cyber violence against women.

Claire: I am Change and Test Manager for Digital services at Aston University. In my early career, my roots were in technical roles across 2nd Line Support, Service Desk, Network Engineering, and Project Engineering. Outside of my role, I am passionate about advocating for Women in Tech and improving gender balance in the industry. In September 2025, I founded a Women in Tech meet up Birmingham event for women and allies to attend. We had some fantastic speakers. This led me to join the BCS Women Committee in October 2025.

Talk to us about your diversity in cyber security research – what motivated the work, and what were the top line findings?

Niki: Early on in my academic career I developed an interest in understanding women's status in the UK IT industry, a growing sector, with my first paper on the topic published in 1999. My early research was driven by an interest in understanding why women remained under-represented, and I have been involved in numerous research projects. In autumn 2025 I started a project examining women's experiences in the cybersecurity sector. In collaboration with Boineelo, we interviewed 23 professionals with different seniorities and positions within the profession. Findings from this project will be presented at the UKAIS 2026 conference (9-10 April, 2026).

Our study reiterated constraints and challenges that women have been facing for the last two decades in IT careers – notably masculine IT culture,

limited career opportunities and lack of role models. Despite numerous academic studies and industry and government inclusivity and diversity initiatives in the sector, not much has been achieved. This is particularly alarming especially as we see gender representation going down, with reports showing 16-17% representation (in the early 2000s this was around 22%).

Claire: What stands out most to me is that this isn't just a pipeline issue – it's about retention and progression. Only 22% of the UK tech workforce is made up of women according to the latest data from Lovelace and the ONS (<https://tinyurl.com/897eteet>). More women are leaving tech than ever before for the following reasons:

- 25% cited a lack of career advancement
- 17% cited inadequate recognition
- 15% pointed to pay inequity

Many also reported toxic workplace cultures and a lack of support.

Why is it important to have women visible in positions of leadership?

Claire: There are two key statistics I know of through research and Women in Tech networks that resonate with me as I approach the workplace and look at representation in leadership:

- In the technology sector, only 5% of women hold leadership roles.
- In the specialised area of cyber security, this figure is 12% (<https://tinyurl.com/pjrh4dy6>).

Niki: The cybersecurity sector, like the IT industry more broadly, experiences a low representation of senior female leaders. The impact of



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this is twofold: women do not have a voice at important strategic decision making which reduces opportunities to make an impact, and second there is a limited presence of female role models which may discourage young female professionals from joining the sector. The lack of role models was mentioned by almost all participants in our study; this indicates that though women are recruited in cybersecurity, they are either not retained and therefore depart the profession, or when they do stay, they are not promoted.

Boineelo: We have seen instances where women get stuck in middle-management positions. This glass ceiling is reinforced by a lack of visible predecessors; without relatable role models who have successfully navigated barriers and challenges, the path to senior leadership feels less possible. This lack of visibility is most prevalent at the intersection of gender and ethnicity, and within deeply technical roles. To widen participation, it is important that women in leadership in senior roles are visible, this can be done individually by the women, but also as highlighted by our participants, the company has responsibility towards the visibility of their women senior leaders.

How do you see the relationship between diversity and security?

Boineelo: The ‘human factor’ is

the most significant vulnerability in cybersecurity. Our data shows women are carving out a niche in human-centred cyber security where they are making social impact at family, community, organisational and societal levels. By dedicating and exploiting skills such as communication and emotional intelligence, women are managing human risk, the number one cause of breaches. Therefore, increasing diversity can lead to increased security as human factors would be addressed at a larger scale.

Finally, it’s BCS Women’s 25th anniversary. Why is it important to have gender diversity as a focal point for diversity?

Niki: BCS Women has been a champion of inclusivity and diversity in the IT and related sectors. Its role in developing a community of women in IT and promoting gender representation should be celebrated and honoured in its 25th anniversary. Now more than ever, with decreased women’s representation in IT professions, AI threats and increased misogyny in society, it is important to use the anniversary to celebrate and foster inclusivity and diversity in the sector.

Claire: In an industry that prides itself on innovation and forward thinking, we still often get diversity wrong. It’s our responsibility to make the tech sector a better place for everyone.

I’ve faced challenging situations and witnessed underrepresentation first hand. The hard work of women isn’t always seen. But when you look around, attend networks and really listen, the amazing work women contribute to this sector absolutely shines through. I encourage anyone reading this to look at your local Women in Tech groups, BCS Women, and other causes that advocate for change. It can feel incredibly daunting for women to speak up and champion themselves – and that’s why allyship matters so much. BCS Women are a shining light in supporting and advocating for women in technology. Celebrating 25 years of their mission is incredible – milestones like this are important because they show progress while reminding us there is still more to do.

I’m committed to continuing to highlight, support, and amplify the brilliant work of women in our industry. I really hope that the next generation of women entering this industry will face far fewer challenges than the ones who came before them.

Organisations interested in improving their hiring practices to encourage diversity can explore Claire’s inclusive hiring toolkit on the Women in Tech website: <https://witbham.co.uk/witbham-inclusive-hiring-toolkit>