

The background of the entire page is a photograph of a modern office interior. In the foreground, a man in a dark suit is talking to a woman with long brown hair wearing a black blazer. To their right, another woman in a white top and patterned skirt is engaged in conversation. In the background, a woman in a teal suit and another woman in a grey patterned jacket are visible. There are tables with drinks, including orange juice and beer, and modern office furniture like black chairs and white tables. The ceiling has exposed pipes and lighting fixtures.

bcs

The
Chartered
Institute
for IT

2021-22

REPORT

COMMUNITY IMPACT REPORT

Making IT good for society

WELCOME

TO OUR FIRST EVER BCS COMMUNITY IMPACT REPORT. WE HOPE TO MAKE THIS AN ANNUAL PUBLICATION CELEBRATING THE ACHIEVEMENTS OF OUR BCS VOLUNTEER COMMUNITY.

Our volunteers play a vital role in helping BCS meet the four pillars of our strategy; membership, inspiration, progression and influence. Whether it's working with our policy team on a response to their latest government consultation, hosting a webinar to share technical knowledge or arranging a networking event to help the next generation up the career ladder — together, we're making IT good for society.



Today BCS has **65,000** members in more than 150 countries — over 3,000 of whom are BCS Fellows



We've featured over **200** speakers delivering talks across eight BCS campaign goals: **AI, cybersecurity, digital divide, diversity & inclusion, education, green IT & net zero, health & care, and tech & society**



We have over **170** organisational members, companies committed to our mission of making IT good for society



Barefoot computing has reached **3 million** pupils and **85,000** teachers



Our groups have held over **300** events with the support of nearly **1,000** volunteers



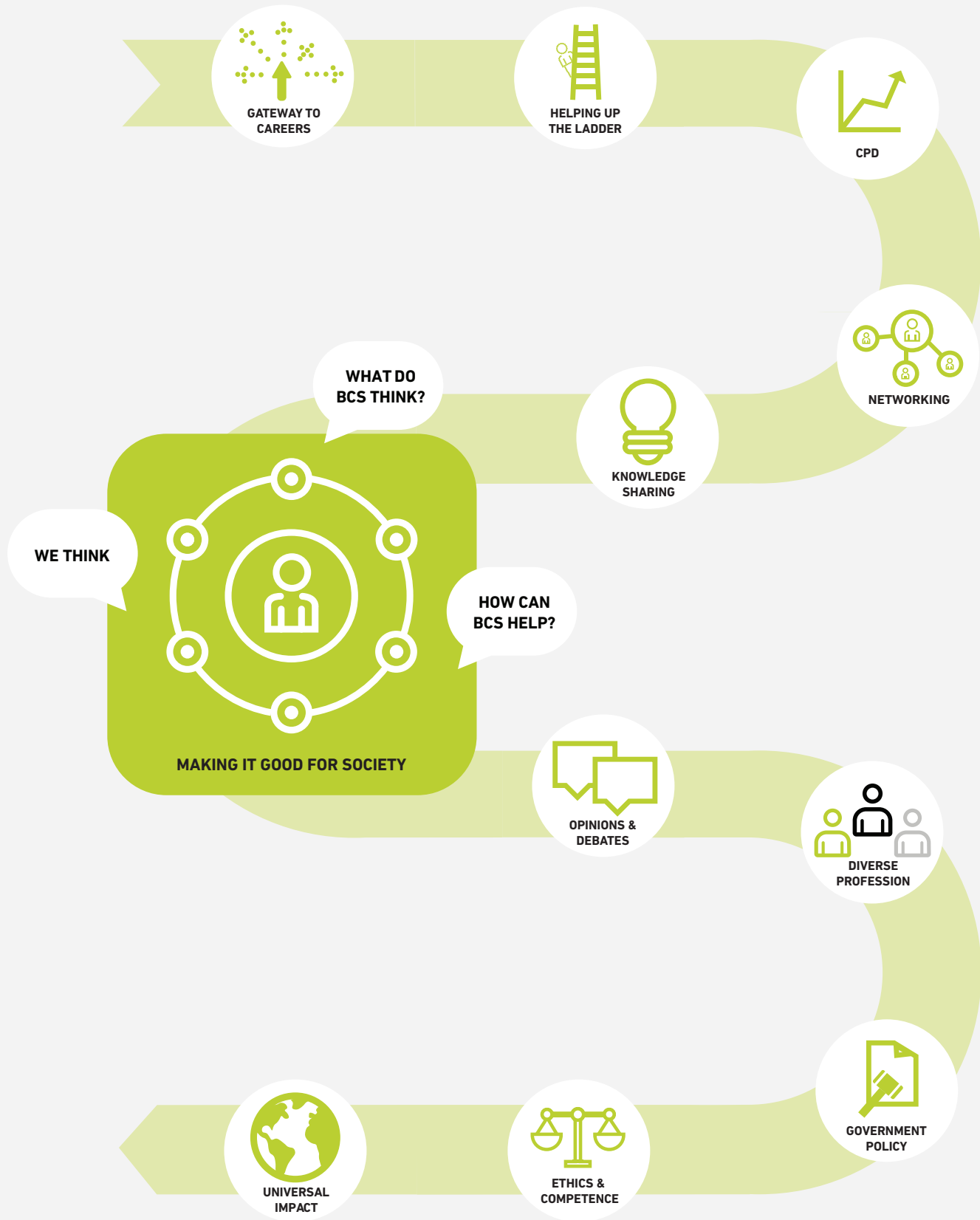
Our Fellows Technical Advisory Group (F-TAG) has published **8** thought leadership articles



we have **470** Computing at School community leaders



11,391 teachers have downloaded Barefoot resources





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OUR ROYAL CHARTER

The Duke of Kent has been our royal patron since **1976** and we were granted a royal charter by the Privy Council in **1984**.

Our royal charter defines our purpose of setting and maintaining standards of competence, conduct and ethical practice within the IT profession.

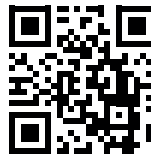
It means we're responsible for ensuring technology shapes a safe and positive future for everyone. Our commitment is not just to the people working in the industry but to society as a whole.

What is a royal charter?

Royal charters have been issued since the thirteenth century to establish significant organisations and learned societies.

Our charter recognises our organisation as an independent professional body and grants us the power to award chartered status to information technology professionals.

BECOME A MEMBER AND JOIN OUR COMMUNITY OF **65,000 PROFESSIONALS**



Scan to become a member

Help deliver our charter and create impact by **volunteering with BCS**



MEET ALASTAIR, VICE-PRESIDENT COMMUNITY

I run a management and technology consulting practice. I'm also heavily involved in several professional bodies in the sector at a national level, currently serving as a trustee of three of them.

I initially got involved actively with BCS by joining my local branch committee in 2008. I had been a passive member for many years. In June 2010, I successfully applied to join the then Best Practice Committee, which was the start of a journey to my current role as Vice-President for Community.



YOU'LL FIND GIVING YOUR TIME AND ENERGY IN MAKING A DIFFERENCE WILL BE IMMENSELY REWARDING AND INCREDIBLY BENEFICIAL TO YOUR OWN DEVELOPMENT."

So why did I get involved? I believe passionately in professionalism in IT and the importance of chartered registration to society. I also know that what you sow, you reap. *Pro bono* work provides a tremendous opportunity to develop professionally and to make a real impact to what you believe in.

Volunteer work outside the profession early in my career gave me many soft skills and experiences which have shaped me as a professional today. I'd encourage any member to join the Institute's volunteering community. It may seem counterintuitive, but you'll find giving your time and energy in making a difference will be immensely rewarding and incredibly beneficial to your own development.

This impact report demonstrates what dedicated volunteers can achieve at all levels and stages of their career in making IT good for society. I'm very excited that we are celebrating our successes as the BCS Community in what I hope will become an annual appraisal of our capability as volunteers to really make a difference together.

We've seen a number of new groups formed recently who'll make a positive difference to our profession for many years to come: EMBRACE, Pride, NeurodiversIT and Digital Divide.

The big highlight is our new strategy in which every group has a role to play in growing and sustaining our membership, inspiring the next generation, providing opportunities for professionals to progress and increasing our influence to make IT good for society. These strategic themes are symbiotic: supporting one strengthens the other three.

What makes our BCS community so special and enables it to thrive? Unquestionably, it's the drive and enthusiasm of like-minded professionals coming together to make a real difference. Emerging from the pandemic, it's also the incredible resilience of our volunteers to keep going despite everything.

I am really hoping we'll see a full return to face-to-face events next year. While online meetings bring a valuable dimension to our ability to reach wider audiences, they don't replace the valuable interactions that can only occur face-to-face.



**EUR ING Alastair Revell CIP
CEng FBCS**

Vice-President, Community
Board Chair

MEET HOLLY

I've been at BCS for three years now as Membership Director and have found it hugely rewarding to build such a great team around me and to put the importance of membership back on the agenda. We have such a huge opportunity to support people across the profession and beyond, now technology is in the hands of more people and at the centre of so many roles. And this is what inspired me to join BCS.

My degree is in modern languages, with an early career spent in sales, marketing and product management roles for commercial organisations, and then latterly Chief Marketing & Membership Officer for a global data standards company. Although this was a technical field, I'm very much a 'tech layman'. In fact, my teenage kids find it amusing that I work for the professional body for IT when I am so inept with the TV, printer and anything relating to phones!

This year we've made great strides in broadening our membership footprint and impact. We launched an Academic Membership model for universities which complements our degree accreditation work by providing an offer for both students and academic staff. We have also linked with several of the new digital skills bootcamp schemes funded by the UK government and one pilot in Sri Lanka. In a relatively short timescale we've added 6,000 new

members through these initiatives.

The energy from our member groups is a real breadth of activity covering webinars, events, community outreach and peer-to-peer connections.

Some examples are:

- The BCSWomen Lovelace Colloquium in April, which connected over 200 female computer science undergraduates and postgraduates from across the UK. Engaging talks and a poster competition were held with presentations from the winners.
- Our Hampshire and Dorset branches jointly ran a series of webinars on achieving Fellowship and professional registrations, to demystify the topic and bust myths about the 'products' that sit at the core of BCS.
- The #PrideInBCS campaign led by the Pride Specialist Group featured a programme of events and communications across the summer, to celebrate our difference and the difference LGBTQIA+ people are making across our profession.
- Our BCS Community Forum launched in January empowering members to network with other members, share expertise, gain advice and stay engaged with BCS.

There's so much on the agenda for the next few months. I'm really looking forward to working with our new Community Support Committee, comprising BCS volunteers, to develop best practice across our member groups and create stronger links with BCS' strategic pillars; membership, inspiration, progression and influence. And we're setting up two new committees within our Community Board focusing on Fellowship and employers, providing the opportunity to grow relevance, participation and advocacy among these groups, so that we can generate demand for professionalism and build a sustainable future for BCS.



Holly Porter MBCS
Managing Director Institute, BCS

RECOGNISING OUTSTANDING VOLUNTEER ACHIEVEMENTS

OUR AWARD WINNERS [ROLL OF HONOUR]

CERTIFICATE OF APPRECIATION AWARDS 2022:

Glen Vaal CITP MBCS
John Rendall CITP CEng MBCS
David Grundy AMBCS
Gareth Niblett FBCS
Patrick Roberts MBCS
Alan Woodroffe FBCS
Margaret Johnston Low CITP
CEng FBCS
Tim Denvir CITP CEng MBCS
Dr Shahrzad Zargari PhD
Julian Schwarzenbach CITP FBCS
Phillip Hopkins MBCS
Charlotte Hughes CITP MBCS
Dr Martin Beer PhD CITP CEng FBCS
Adam Leon Smith CITP FBCS
Michael Buckland CITP MBCS
David Binns CITP MBCS

MERITORIOUS SERVICE AWARDS 2022:

Dr Irene Glendinning PhD CITP
CEng FBCS
James McLean CITP FBCS
Charles Houston-Brown MBCS

JOHN IVINSON AWARDS 2022:

Dalim Basu CITP FBCS
Professor Richard Chandler FBCS
EUR ING Carol Long FRSA CITP
CEng FBCS

A SPECIAL THANK YOU TO...

We are grateful to the following
volunteers for their support with our
New member welcome webinars,
which launched in July 2021:

EUR ING Professor Margaret Ross
MBE CITP CEng HonFBCS
Andrew Shaw MBCS
Nicola Martin MBCS
David Donaghy CITP CEng MBCS
MIMA
Sathpal Singh CITP FBCS
Kylie Fowler FBCS
John Dyer CITP MBCS
Paul Stevens CITP MBCS
Tim Chapman MBCS



MY BCS VOLUNTEERING DOESN'T STOP WITH AWARDS. IT'S SIMPLY A RECOGNITION OF WHERE I'VE GOT TO SO FAR."

Meet Dalim Basu CITP FBCS, Chair of BCS London North & London Central branches, who won the 2022 John Invinson Award, an award in the namesake of the former BCS President which recognises the outstanding services of an individual BCS member.

I've always been in IT. I have a BSc (Hons) in Computer Science from the University of London, and IT has been my professional career. Now I've retired, I can say that with confidence. I have FBCS and CITP, and ISACA certifications in Certified Information Systems Auditor (CISA) and Certified in Risk and Information Systems Control (CRISC). My expertise is in IT governance and risk management. More specifically, this includes IT audit, compliance, controls, security, project management, and project management office. I was a director of a risk management consultancy, and I've worked in the UK and at a global level, for major financial and business services firms such as: Price Waterhouse Coopers (PwC), KPMG, Chase Manhattan Bank, ITN, Lehman Brothers, Lloyds Banking Group, Mitsubishi, Mizuho Bank, Nomura, Shell and Zurich Financial Services.

I am Chairman of BCS London Central & North branches and events director for ISACA London Chapter, which has a 4,500 membership out of a global 180,000 cohort. I deliver events on: IT, compliance, risk management, assurance, governance, security, cybersecurity and privacy. And of course, there's an overlap there between the areas of interest of ISACA and BCS. So when I recruit good speakers, I can offer them more than one set of audiences and events.

I'm a judge for the BCS & Computing UK IT Industry Awards and I chair and present at events and conferences in the UK and Europe. I also mentor IT students, young people, innovators and entrepreneurs. Overall, I'm a firm believer in the high value of IT professionalism, and actively encourage and promote it at many levels, including at events and conferences with various organisations in the UK and overseas.



"I've always believed in the value of useful technology and automation in our world, and I'm keen to learn more and share with others. I uphold that giving back is a continuous process, it's not just for when you're older. When a friend introduced me to BCS over 40 years ago, I found myself at BCS London North branch meetings in the backrooms of various local pubs with ten other people. A while later, I found myself on the committee as secretary, before being elected as Chairman in October 2019. I later became Chair of BCS London Central branch too, which is one of the largest BCS member groups with over 5,000 members. I'm busy with running webinars and events — I'm running about one a week at the moment. I focus on what my members are interested in, and I encourage my committees to run with activities that interest them too. In 2021 alone, we ran over 40 events."

"I've often encouraged senior level speakers at our events to join BCS as members or Fellows, and many, I'm pleased to say, have accepted my invitation. One particular success story is a lady called Sarah Armstrong-Smith, Chief Security Advisor for Microsoft. As well as becoming a BCS Fellow, with my encouragement Sarah has participated in four BCS interviews and events for BCS London North and Central branches, and she's referred other senior Microsoft colleagues to become speakers, who I've later persuaded to join us as members. I'm pleased to be able to influence senior people in organisations."

"I've recently introduced a new event series, Seniors Coffee Mornings, and we have an initiative called Innovation Hubs which reaches out to innovation venues and organisations in the London region. We also have an Eco series on sustainability, and a Higher Education Initiative too. Another popular event series is Secure IT where I piggyback on some of my ISACA and BCS knowledge to attract great speakers on security and cybersecurity. We also have initiatives on Data, IT Leaders, and 'Womenspiration' — for women and those interested in creating equal opportunities in IT, in association with ISACA London Chapter's SheLeadsTech. We've also interviewed CIOs and CEOs of various large organisations about their journeys, and what the messages are for younger people today."

"When recruiting new BCS members, I personally focus on Fellowship as I'm more successful in reaching out to senior professionals — because of my IT background, we can have a conversation on a peer-to-peer level. They see the value in joining BCS. Certainly what we want is to encourage more early careers people, university students, and even school students, to become part of the ongoing revolution in IT. Enthusiasm and appreciation of value are key to our voluntary world — I'm very excited by the new CPD tools under development for BCS, and I look forward to the delivery of these projects to members. The model that I've been trying to promote for a long time is that when you join BCS, you pay a subscription (membership fees) but that's only half of what you must contribute. The other half is your record of CPD hours to show you've participated in certain activities. If you don't show those CPD hours, even when you've paid your subs, you can't in honesty add post-nominals after your name and a valuable part of the recognition is lost. When you do have the letters after your name, then you can display that on your CV, and you can shout about it to your employers."

I was very pleased when BCS kindly awarded me the John Ivinson Award this year. I attended the ceremony with three of my fellow committee members, each one of whom leads the initiatives I mentioned earlier.

The award says:



IN RECOGNITION OF YOUR TRULY EXCEPTIONAL VOLUNTARY SERVICE ACROSS A WIDE RANGE OF THE INSTITUTE'S ACTIVITIES. IN PARTICULAR, YOUR WORK AS BRANCH CHAIRMAN HELPING TO SUPPORT BCS MEMBERS TO DEVELOP, AND YOUR ROLE IN PROVIDING DIVERSITY AND HELPING TO PROMOTE MEMBERSHIP."

"It's very gratifying. It's just that I don't feel that I have done, or I am doing, enough to help BCS members develop. I'd like to do more. And as for diversity, we're still at a solid 17% of women in IT — although we are advancing in neurodiversity and BAME representation. I've done a little bit of membership promotion, but I'd like to do a whole lot more. I'd especially like to start galloping through academia and lapping up student members. It's kind of BCS to make me feel appreciated, and of course I share this appreciation with my committees, my colleagues and my communities. For me, my BCS volunteering doesn't stop with awards. It's simply a recognition of where I've got to so far."

"Personally there's no one favourite thing about volunteering with BCS, there are many things. I enjoy learning, I enjoy meeting people, and I enjoy helping them. Now, together we can help to make IT good for society as part of this great organisation, BCS. And that is for today, for tomorrow, and we must benefit from the lessons of yesterday. Hence, I capture a library of videos for BCS to retain a record of great speakers and events we've held. IT has indeed had a wonderful effect on our world but it's also had a negative one. We've made IT so available to so many people, that it's exposed not only the good things, but also some of the bad things in our society. What we do and where we operate is 'above the table' but simultaneously, there are increasing numbers of people who are operating 'under the table'. By that I mean the world of cyber, of fraud, and of crime in general.

All of these things are available as well, including IT on the dark net. We've created a wonderful world of opportunity but a huge world of risk as well. What's more, the world of crime tends to run ahead and create a situation which we then have to react to, and that's where we are now. BCS plays an advisory role in this and I often find speakers to talk about these subjects. A number of our events relate to cybercrime and the dark net, keeping us informed and able to devise ways of fighting cybercrime activities. But this is all reactionary when what we really need is more absolute measures to halt these mechanisms, because the monster we've created is very large and growing. It's a big challenge. A drastic solution would be to scrap computers altogether, or put harsh controls on them! None of us want that but it's a matter involving our civil liberties, ethics, morality and religion too."

"At BCS, there are plentiful opportunities for collaboration and learning from and with each other. We need to increase the value of what we bring to society and, in particular, to big organisations because they influence so much of our lives. All efforts to increase the value of BCS as a membership organisation — to large corporates, universities, academic institutions, and large non-profits — is what we should be aiming for, until BCS membership is seen as an essential part of every IT person's portfolio."



Members attending 'Evening with the Presidents' and BCS Society Medal presentation

BCS PLEDGES CLOSER TIES WITH UKRAINE'S TECH SECTOR

A memorandum of understanding has been signed between BCS and the IT Ukraine Association as the tech industry continues to be one of the few sectors to thrive in Ukraine.

The latest figures from the IT Ukraine Association show the tech industry has continued to grow and maintain its position as a major IT powerhouse in Europe. Despite the conflict, the country's computer services industry generated US\$5.5 billion in exports so far this year, up by almost 13 per cent on the previous year, with exports to the UK second after the USA. Overall, the industry's turnover was US\$6.8 billion in 2021.

The two organisations signed the MoU at a joint event at the BCS' London office attended by Ukraine's Ambassador to the UK, Vadim Prystaiko, the IT Ukraine Association's Executive Director, Konstantin Vasyuk and the BCS CEO, Rashik Parmar.

EXPERTISE

The Ukrainian Ambassador, who has a computer science degree, said the signing of the MoU was an important step as it went beyond "natural sympathy" for the plight of the people of Ukraine.

Mr Prystaiko added:



WE WANT COMPANIES TO UNDERSTAND THEIR SUPPORT ISN'T ONLY ABOUT COMING TO US OUT OF THE KINDNESS OF THEIR HEARTS, BUT ALSO BECAUSE WE HAVE SOMETHING TO BRING TO UK FIRMS AND THEIR STAKEHOLDERS – OUR EXPERTISE."

OPEN FOR BUSINESS

BCS' CEO Rashik Parmar MBE welcomed the Ambassador's "personal passion for IT and the industry". He said the MoU would help Ukrainian IT firms succeed in the UK: "Ukraine is open for business, and the memorandum of understanding allows us to build a mutually beneficial relationship. There's so much talent there. By building this network, we can draw on our relationships to help them, and learn from their expertise, including what it takes to be brave and courageous."

He added the collaboration between the two tech membership organisations would also be significant when addressing issues such as climate change.

BCS will continue to hold joint events with the IT Ukraine Association, and Mr Parmar added:



WE WANT TO STAND TOGETHER WITH UKRAINE AND MAKE A DIFFERENCE."



IT Ukraine Association's Executive Director, Konstantin Vasyuk and BCS CEO, Rashik Parmar signing MoU.

BRINGING OUR COMMUNITY TOGETHER

BRINGING OUR COMMUNITY TOGETHER

One week I was thinking “it’s about time BCS created a Pride specialist group”, and in almost that same week, I noticed Dan Aldridge and Arnoldis Nyamande from the BCS Policy team had made a similar statement via the BCS newsletter. And so began the journey of bringing the community together.

We launched the Pride specialist group in the public domain, calling for an end to transphobia in technology. This extraordinary campaign from our committee of volunteers and the BCS Policy team, culminated in online engagement and an article in Computer Weekly. I am incredibly proud that the group took a solid stand to be inclusive and led the debate from the front, from day one. We were promoting a critical message that transphobia in our industry is not acceptable.

Pride Month saw the first Pride campaign by BCS, and it was excellent to be consulted on logos and content. From within the group, our University Engagement Lead, Maddy McMurray, worked hard to bring us a series of inspiring online speakers who talked about higher education for the LGBTQIA+ community.

Pride Month is always a hectic time for visible members of the LGBTQIA+ community and BCS Pride was no different, with speaker events held daily. Now we’re looking to build up our group’s membership as we have an exciting set of campaigns and media planned for the coming year, and we’ll need their support.

Kavita Kapoor FBCS

Chair, BCS Pride specialist group



PARTNERSHIPS AND BEST PRACTICE

BCS HAS A KEY ROLE TO PLAY

BCS has a key role to play in helping to support, inform and shape the future of our digital professions

Lisa Emery FEDIPLdgPra FBCS CHCIO, until August CIO of the Royal Marsden NHS Foundation Trust and Chair of the London CIO Council, discusses her role at a world-leading research hospital and her involvement with BCS as a volunteer.

“The CIO role is about people. I was never planning on that career and I never had a formal path to it. I had a scientific background, so I’m quite structured anyway, and then I did programme management so I got accustomed to creating detailed plans of work and prioritising. I like people and I love health and science, so it was a happy mix of things. I’m not particularly technical, as in mega detail technical, but I am lucky to have a team of amazing technical people. I don’t think you can be a CIO unless you’re absolutely part of the whole business. Your role is more as a translator – what can the technology do to support change? It’s so much more now like a transformation role than a technical role.”

“I was made aware of BCS by fellow CIOs through conversations about professional membership and development. Recently, I was delighted to be asked to be a member of the BCS Fellowship Technical Advisory Group (F-TAG), which has been a real honour.”

“When it comes to new technologies allowing greater collaboration between NHS Trusts, I think it’s a mix of the technologies themselves, and a desire to collaborate on digital transformation. When you bring similar types of organisations and transformation cultures together, then there are many opportunities to work together. One example at Royal Marsden Hospital (RMH) is our Connect programme, where we are deploying our new ‘Epic Digital Health Record’ in partnership with Great Ormond Street Hospital (GOSH).

Interoperability is critical. We work with a range of local and national system partners and as part of care networks (for example cancer and diagnostics networks), which means the ability to share data is key. Digital maturity measures how well providers of secondary care in England use digital technology to create a paperless health and care system. Digital maturity is really important — and not just as a score/number. We feel that the important thing is to use digital technologies and tools to transform our services, which ultimately will lead to us achieving increased digital maturity.”



Lisa Emery FEDIPLdgPra FBCS CHCIO

Chief Information Officer, Royal Marsden NHS Foundation Trust

PROGRESSION

MY LOCAL BCS BRANCH HELPS ME TO STAY IN TOUCH WITH WHAT IS HAPPENING IN INDUSTRY

Dr Beverley Cook MBCS is a BCS member through her employer, Nottingham Trent University, where she serves as Principal Lecturer in Computer Science. Here, she discusses her involvement with BCS as a volunteer including a talk she delivered at Boots PLC.

“As a Principal Lecturer, I am responsible for business-facing activities, which includes being our apprenticeships courses manager and employability/placements manager. It also includes mentoring and supporting our practice-focused staff. In terms of teaching, my main subject area is mobile development, which goes through the process of designing and developing mobile apps with a business focus. I particularly enjoy teaching this as it’s a rapidly changing field and includes both UX and development. I also teach professional development, which I find satisfying, helping students see the benefit of improving their transferrable skills as well as their technical skills.”

“I became involved in BCS through my employer, as I was introduced to the local branch as part of their drive to encourage participation of younger people and the department’s interest in providing more experiences for the students. I like being involved with my local branch, BCS Nottingham & Derby branch. They help me to stay in touch with what is happening in industry. I enjoy finding out new things through the talks — particularly the things I think will be useful to our students. I’ve also enjoyed the

events hosted by the BCS Software Practice Advancement specialist group in the past for the same reasons.”

“My biggest highlight at Nottingham & Derby branch was being voted in as Vice-Chair — to have the Chair’s confidence in my potential takeover when he steps down was really nice. Another big highlight was the event I organised in March to celebrate International Women’s Day. I gathered eight women to give short talks about their passions and experiences, and it was a great success. It was a very different event to our usual ones, and we received some very good feedback.”

“I delivered a talk at Boots who have corporate membership with BCS. It was part of a wider initiative of theirs which BCS was attending. They asked the Nottingham & Derby branch if someone could come and introduce the branch specifically. Our Chair was unavailable so I volunteered. I talked about what we do as a branch, and also about my experience with it and what I get out of it.”

What excites me most about the future of computing, also scares me! The potential of computing technology to improve life and equality for many is immense, but I have concerns around our reliance on software systems and the potential for unintended and intended harm that could bring.”

PROGRESSION

LEAVING NO ONE (DIGITALLY) BEHIND

The BCS Digital Divide specialist group was established in January 2022, with Freddie Quek FBCS taking on the role as chair. Here, Freddie gives an update on the group, which was created to advance a BCS policy priority — addressing the Digital Divide.

“Championing digital inclusion for all — through access to skills and technology, and by working with other stakeholders — the BCS Digital Divide specialist group ensures that BCS plays a major role for its members and the wider community it serves. As a new specialist group, we’re already well connected with 12 other UK tech leaders and professional communities through #JoiningtheDots, an organisation I founded, which has a combined 130,000 members. This enables the IT sector to come together to address digital divide in a more joined-up, holistic, strategic, sustainable and further-reaching way than if anyone were to do it on their own.”

BELOW ARE EXAMPLES OF SOME OF OUR INITIATIVES:

BCS IS A BOARD MEMBER OF THE DIGITAL POVERTY ALLIANCE

“BCS is represented in the Digital Poverty Alliance by BCS Head of Education, Julia Adamson, who is also the executive sponsor of the Digital Divide specialist group, and I represent the #JoiningtheDots community of 13 UK tech leaders and communities.”

#JOININGTHEDOTS DASHBOARD

“To tackle the digital divide, we need multiple dimensions and to join up many dots. We’ve created a simple one-page view of joining up across at least 10 action areas.”

TECH SUPPORT PILOT

“When we have an issue with IT in the workplace, we can call a helpline / helpdesk to provide support. Where is the equivalent in the wider world? When we’re trying to help resolve the digital divide by providing recyclable end-of-life equipment to

segments of the population who may not have the digital skills to use one, they will need tech support too! A pilot project is being started as part of the Digital Poverty Alliance’s National Delivery Plan.”

NATIONAL CATALOGUE OF DIGITAL PERSONAS

“Today’s digital solutions and apps make assumptions about who’s using them — usually able-bodied people with some level of digital skills. One way the Digital Divide specialist group is helping is to coordinate the creation of a national catalogue of digital personas, which is being started as part of the Digital Poverty Alliance’s National Delivery Plan.”

HOW WE’RE ADDRESSING THE DIGITAL DIVIDE

Michelle Kaye MBCS, Events & Email Coordinator, BCS Learning and Development specialist group committee said:



AS BCS LEARNING & DEVELOPMENT SPECIALIST GROUP, WE ALL AGREED THAT ALL OUR WEBINARS AND EVENTS THIS YEAR WOULD BE CENTRED AROUND THE BCS PRIORITIES — ONE OF WHICH IS THE DIGITAL DIVIDE. OUR COMMITTEE AND MEMBERS HAVE A WIDE-RANGING INTEREST IN A VARIETY OF IT SKILLS-RELATED TOPICS AND A CONTACT NETWORK TO MATCH. WE’VE BEEN RUNNING EVENTS ON THE TOPIC OF ‘ADDRESSING THE IT SKILLS GAP’ FOR SEVERAL YEARS, SO, WHEN THE OPPORTUNITY AROSE TO SUPPORT THE DIGITAL DIVIDE PRIORITY, WE INCLUDED IT IN OUR EVENTS CALENDAR”.

PROGRESSION

DIGITAL BURSARIES TO ELEVATE YOUNG PEOPLE'S CHANCES

The new My Digital Future programme aims to tackle digital inequality by providing bursary-funded training, support and resources to young people, particularly those from disadvantaged backgrounds.

Digital skills are vital for accessing opportunities across all sectors of the economy, whether that's as an active, online citizen, or developing the latest computing technology. The scheme aims to increase opportunities for young people and tackle inequality in the digital industry.

"We know that access to education and training can be influenced by someone's social and economic circumstances — and that's as true for digital skills as it is for reading, writing and arithmetic," says Julia Adamson CIP MBSC, Director of Education at BCS.



WE NEED TO CHALLENGE AND IMPROVE THE DIVERSITY OF THOSE ACCESSING AND BENEFITING FROM EXCELLENT DIGITAL SKILLS EDUCATION AND TRAINING."

The programme will provide expert coaching to support young people, drawn from BCS' members and supporting partners. It will work with inspirational role models to offer opportunities to young people who face challenging circumstances, enabling them to develop the digital skills to flourish in the 21st century.

Support will be targeted to people aged between 16 and 24 who meet a range of criteria, such as: from a family where no-one has gone to university; recipients of free school meals; carers; refugees; members of Black, Asian

or minority ethnic communities.

The initial pilot programme is now running in London, where it's supported by the BCS EMBRACE specialist group, who focus on tackling barriers to entry and progression within the IT industry which result from race and ethnicity. The programme was given a financial boost by a £25,000 donation from The Trade Desk London, which also hosted a recent launch event attended by BCS members and partners to share their support to tackling digital equality.

Programmes will also run in Birmingham and South Wales from September and the aim is to expand My Digital Future across the UK with the support of members, partners and donors.

Nzube Ufodike MBSC, Chair of BCS EMBRACE said: "I am blown away by the financial and non-financial contributions from The Trade Desk. Their support has given our minimal viable product launch a significant boost. The difference such a programme can make in a young person's life is material. At EMBRACE, we look forward to this partnership as well as future programmes that increase access to very promising careers in IT."

BCS is urging its membership to support My Digital Future by raising funds to enable bursary support; offering training and development such as networking events and work experience; and donating resources such as training courses, books, and equipment.

BCS student chapters are a cohort of talented and passionate students from universities across the UK and overseas. University student chapter committees are made up entirely of student volunteers with support from BCS and academics.

PROGRESSION

WHAT OUR BCS STUDENT MEMBERS SAY:

"Although I only recently became a BCS Student member at the University of Westminster, I've had the privilege of having access to a vast amount of resources and helpful information which has not only reinforced my understanding of topics such as cybersecurity, career development and the tech community overall, I've also been able to develop my personal goals into real achievements. Personally, I believe BCS is the perfect door for an individual to open for themselves at any point in their career because the opportunities and networking potential that BCS provides can be incredibly beneficial."

**Jonathan Carrillo Sanchez, student,
Westminster University, 2022**

"I joined BCS as a Student member in 2011/12 during my bachelors. Over the years, I began learning more about the IT sector and the importance of sharing knowledge and having a central hub. I was delighted to learn that I could apply for a BCS student chapter as a university society during my more recent years as a grad student. This gave us access to hackathons, hybrid events with companies, and job boards with the latest job opportunities."

**Bijaya Limbu MBCS, student,
University of Hertfordshire, 2022**

SPOTLIGHT ON THE DUNDEE UNIVERSITY QUACKATHON

The Dundee University Computing Society (DUCS) Quackathon is an annual free hackathon for Dundee-based students. The return of the on-campus Quackathon this year created a fun atmosphere for everyone.

Sponsors who provided the challenges included BCS, BlackRock and Unity. BlackRock asked students to create a solution to an environmental issue faced by ducks.

Unity challenged students to create a duck-themed game integrating one of Unity's values: In it together; Go bold; Users first; or Best ideas win. Submissions ranged from visualisations of animal trade between companies, to web apps to track endangered species, to a 'save a duck' game using the power of words. The winner of the BlackRock challenge, a project named SAA, was a comprehensive visualisation of different aspects of animal trade in the world. Ultimate Duck Squad Builder was announced as Unity's winner. BCS chose Duck of Fortune as its winner, meeting all expectations. The winners received great prizes and the giant DUCS duck.



DIGITAL BOOTCAMP LEARNER OF THE YEAR 2022 ZAIRA MARTINEZ DELGADO

CONGRATULATIONS ON WINNING THE AWARD FOR DIGITAL BOOTCAMP LEARNER OF THE YEAR 2022. HOW DID YOU FEEL WHEN YOU HEARD YOUR NAME CALLED OUT?

"Honestly? I didn't believe it! But my colleagues came with me to the event and were cheering so loudly that I thought it must be true. Even when I had the email the previous week to say I was a finalist and had been invited to attend the award ceremony, I thought it must be a scam and didn't open it for a couple of days – I've obviously worked in cyber security too long!"

WHAT HAS BEEN YOUR CAREER JOURNEY TO GET WHERE YOU ARE TODAY?

"I was a primary school teacher. But I've always been interested in IT even as a child and I have family members that work in the industry and my partner is a software developer. I decided to learn more and was particularly drawn to cyber security, I made the decision to change to supply teaching so that I had more time to study and develop my skills in IT. Looking at various learning opportunities, I eventually embarked on the Digital BootCamp course and once I'd qualified, I became a Success Coach. Having been through the process myself, I'm now able to use this experience to help and support other students who are going through exactly the same process."

TELL US WHY YOU CHOOSE TO DO A DIGITAL BOOTCAMP COURSE?

"I was researching and doing self study with the Open University but I didn't really want to do another degree –it's a long term and expensive commitment. I then found out about the government funded digital boot camp qualification and it seemed to be the perfect combination of acquiring new skills, learning through actually doing and still being able to work if needed."

WHAT'S BEEN YOUR BIGGEST CHALLENGE TO GET WHERE YOU ARE TODAY?

"For me, the time constraints were quite hard. I was working full time and studying. They've all been incredibly supportive throughout my professional development and I literally could not have succeeded without them. I'm a huge advocate for the Digital BootCamp and recommend it to everyone I know!"

WHAT'S THE BEST PIECE OF ADVICE YOU'VE BEEN GIVEN, AND WHAT WOULD YOURS BE TO SOMEONE ELSE CONSIDERING A CAREER IN THIS FIELD?

"When I started my Digital BootCamp, my technical trainer told me to work hard or to leave. He was that blunt! He made it very clear it was going to be hard work and that I needed to commit the time and energy to complete my course. But he was totally right. You have to really want to do this otherwise you won't commit your time and energy. My advice though would be to stay curious. Always ask questions, keep learning and to not give up even if you fail at first, you will have learnt lessons during the process. That advice applies not only to your training but also as you continue in your IT career. It is important to keep learning, stay up to date with developments and keep moving forward."

HOW WOULD YOU LIKE YOUR CAREER TO PROGRESS?

"I am hungry to keep learning and am very focused on my professional development - I think I will be studying for the rest of my life! I love my role now, combining my technology expertise with my people skills. So more of the same I think – supporting others and passing all my exams!"



Zaira Martinez Delgado being presented Digital Bootcamp Leader of the Year 2022 Award

PROGRESSION

COMMUNITY MATTERS

My relationship with technology started from a young age, playing MS-DOS games on my father's work computer. But it really took off at the age of 13 when we got our first home computer, and I used to play around making websites and using HTML.

Put off during disruptive computer lessons — which were mostly about speed typing or using Excel — I didn't pursue a career in IT. So 'BCS and me' feels a bit like serendipity. I took my first role at BCS as a college leaver wanting to save a bit of money so I could travel the world while figuring out what I really wanted to do in life. But I quickly found my calling for Community. First, I worked in the assessment team, helping to schedule CITP assessments and supporting our volunteer assessors with process improvements and training. I then moved to what is now the Community team, where I was responsible for communications. During this stage of my career I really enjoyed working with our volunteers, learning about their expertise, their careers and, in many cases, developing long-standing relationships.

What I haven't mentioned is that my other 'unpopular' hobby at the age of 13 was politics, most likely parroting my parent's views. I really didn't think I'd have the chance to work in policy and public affairs, but through my time working with member groups, colleagues and BCS volunteers, I could feel my passion for the subject grow. This led to a position as a policy officer, leading our healthcare policy programme at BCS, which was predominantly concerned with developing professionalism in healthcare IT. I also developed BCS positions on key issues such as the use of data in health and care.

After 15 years working at BCS, I feel really fortunate and proud to be in a leadership position as Head of Community, working with our volunteers and members to make IT good for society. Community is about people coming together, supporting each other, exchanging knowledge and working towards common goals. When I reflect on the last year, there is so much to be proud about.

BCS members have established specialist groups such as; Embrace, Pride, NeurodiversIT and Digital Divide.

These groups are exemplary in making IT good for society, helping to address the societal imbalances that our profession can unintentionally create. On top of this, members have been front and centre in BCS asserting its voice on tech and society issues, with volunteers across our membership responding to surveys, contributing to policy discussions, and sharing their expertise in the media. While on a day-to-day basis our community is running an events programme that advances knowledge of IT practice and improves professionalism for public benefit.

BCS membership is many things to many people, but to me it is a thriving community engaged in making IT better for everyone. To all of our volunteers and wider members who have contributed in so many different ways over the last year — thank you, you bring BCS and its purpose to life.

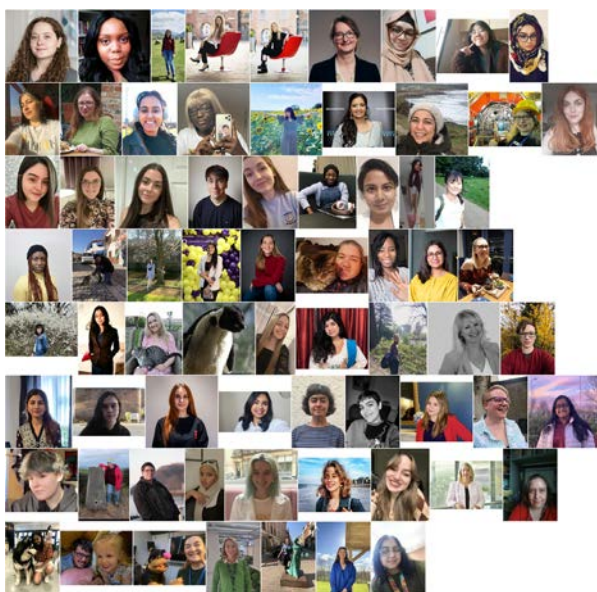


Jonathan Jeffery

Head of Community at BCS

INSPIRATION

CELEBRATING WOMEN IN IT



LOVELACE COLLOQUIUM 2022

The 15th BCSWomen Lovelace Colloquium was held as a virtual conference again this year. It was jointly organised by Dr Hannah Dee MBCS, Dr Amanda Clare MBCS, Dr Safia Barikzai MBCS from and PhD student, Lucy Hunt. They were provided with admirable support from BCS staff members Olivia Wolfheart and Mandy Bauer RITTech AMBCS. The event was held online via Discord, Teams and Gather.

The headline sponsor was Ocado Technology, lunch was sponsored by NMI, and student prizes were sponsored by the Science and Technology Facilities Council (STFC), the Intelligence Services (MI5, MI6 and GCHQ), Amazon, JP Morgan, and Oxford University's AIMS doctoral training centre. Socials were sponsored by Airbus and AND Digital.

The day started with a keynote from Rebecca George, OBE. As the event was online, talks were presented on YouTube for maximum attendee flexibility. This means you can watch them on our channel now if you want!

Topics included: quality; using speech analytics and AI to detect dementia; software development; robotic

manipulation; and a 'skills buffet'. The buffet was a series of shorter ten-minute talks on topics like professional body membership, communication skills and careers fairs. This was followed by a short Pilates video from Rachel Hubbard, to encourage everyone to stand up and get moving!

The panel at the end of the day featured women at various stages in their career journey. Edel Sherratt from Aberystwyth University gave the academic perspective, Natalia Miller from Moonpig is a senior engineer, Alex Stanhope from Airbus is in a graduate job just out of university, and Darya Koskeroglu is an undergrad, currently on placement with STFC. As ever, the conversation was wide-ranging, taking in all aspects of tech careers from the perspective of women in the workplace.

Students also participated in poster competitions with contests and their prizes sponsored by the Intelligence Services (MI5, MI6 and GCHQ), Amazon, JP Morgan, Oxford University's AIMS Doctoral Training Centre, and STFC.



THE BCSWOMEN LOVELACE COLLOQUIUM CONTINUES TO BE ONE OF THE GREATEST ACHIEVEMENTS OF BCSWOMEN. IT'S GOT BIGGER EVERY YEAR, AND TRANSITIONED SMOOTHLY TO VIRTUAL."

Professor Cornelia Boldyreff CIP FBCS

INSPIRATION

“
**BCS IS WHERE
I BELONG.”**

Andrew Nwanakwaugwu is a recent graduate in MSc Data Science from the University of Salford. Born in Nigeria, Andrew completed his national service with Equal Education Chances charity as an IT trainer, and he's continued his volunteering in the UK with the BCS University of Salford student chapter and BCS ICT Ethics specialist group.

TEACHING COMPUTER SCIENCE

I have a passion for teaching people, sharing knowledge, building community, and networking with people. Growing up in Nigeria, I undertook my National Youth Service Corps (NYAC). In Nigeria, once you graduate you have one year to serve the country under the NYAC. You can be posted anywhere as long as it isn't in your own region. I was posted to Akwa Ibom State, where I served as a computer science teacher, teaching computing to kids with the charity, Equal Education Chances, which helps children and young people in the UK and Nigeria with disabilities.

I taught young people virtually everything in IT from engineering and software to data science and programming languages. They developed an interest in learning how to develop software and artificial intelligence systems using Python, and I was also able to introduce data science tools such as Tableau for visualisation. Most of the students were kids so we had to bring the teaching down to a level they would understand. One time, I was introducing them to the hardware and software that makes up a computer system. One of the kids wanted to know about the engineering behind the hardware. I told him that without the software, the operating system, the hardware can't work.

After my deployment, I completed a one-year industrial placement in the school laboratory at Abia State Polytechnic, and taught students practical aspects of the computer science course. I also introduced students to different programming languages and how we develop systems. After my NYAC, in 2013, I went on to study BEng (Hons) Computer Engineering at the University of Agriculture Umudike. I graduated in 2017 as the second best in my department.

Andrew Nwanakwaugwu is a recent graduate in MSc Data Science from the University of Salford. Born in Nigeria, Andrew completed his national service with Equal Education Chances charity as an IT trainer, and he's continued his volunteering in the UK with the BCS University of Salford student chapter and BCS ICT Ethics specialist group.



INSPIRATION

UNIVERSITY OF SALFORD BCS STUDENT CHAPTER

Recently, I graduated from the MSc Data Science course at the University of Salford, where I was the pioneer chair of the University of Salford student chapter and the Nigerian Students' Society's wellbeing officer. During my final year, I got back in contact with the charity, Equal Education Chances. They invited me to teach children and young people during the school holidays. The charity coordinator contacted me about this year's summer school, telling me the children liked my sessions and she'd like me to continue. When I finished the programme, most of the kids were crying as we'll miss each other. It gives me joy whenever I have the opportunity to teach.

The University of Salford BCS student chapter was started with the help of Hannah Reay-Jones, BCS Student Engagement Coordinator. Our student chapter, which I chair, is very active at the moment with over 80 members, and we're looking forward to organising a summer programme. BCS communication is good and I contact Hannah when we need support from BCS to reach out to speakers. I've met with some senior lecturers who have agreed to be our mentors. Professor Mo Saraee, the programme leader for MSc Data Science, is one of them. We are hoping to be the community to turn to, even after

graduation, for anyone with an interest in IT. A community you draw strength from, where you go to hear topics that rejuvenate you, or to get answers to your IT questions. I'm hoping this will continue even when I graduate. I was also recently nominated as a committee member for the BCS ICT Ethics specialist group. We've not been able to host many activities yet, but hope to be able to share updates with the community soon.



I'D ADVISE ANY STUDENT WHO WANTS TO PROGRESS IN HIS OR HER CAREER TO JOIN BCS."



INSPIRATION

GETTING INVOLVED WITH BCS

During my days at the University of Agriculture Umudike, I was the assistant secretary of a body called the National Association of Computer Engineering Students (NACOMES). I benefited being a member of a community where people can gather to talk about IT, share ideas and learn. When I came to the UK, I was looking for another opportunity like this, and in my search I discovered a similar community at BCS. I decided to get involved with BCS because I saw how well their programmes were run. I registered for a few webinars, and they were amazing so I said to myself, "OK, I think BCS is where I belong!" I started telling friends about it and since registering, I've influenced around ten other people to join after sharing some of the webinars with them. We're looking forward to growing a student chapter community where people will get insight and motivation, find a good mentor to work with, and gain hands-on, practical experience to help them secure work after they leave education.

The experience I've received has really helped me. I arranged an internship with Bright Network as an ambassador. We try to connect people in the student chapter with these kinds of opportunities. Many of them have already registered for the Bright Network programme starting in June. I'm confident we can build a strong BCS community in the University of Salford with the help of the BCS team and the good mentors we have. The new BCS Community Forum online platform helps to provide a real sense of belonging too. It's somewhere you can go to ask questions and get answers from the membership. The communication within BCS is very good.

THE NEXT STEPS IN MY CAREER

I'm involved in a live project with Greater Manchester AI Foundry, and I recently received an offer from Accenture to start in March 2023. It's been an amazing experience, and contributing to BCS activities has really helped me to gain valuable insight and practical knowledge.

RECOMMENDING BCS

I'd advise any student who wants to progress in his or her career to join BCS. I joined a session the other day about engineering where I learned a lot because, even though I already have a BEng certificate in Computer Engineering, the BCS webinar was very detailed. I've got some experience, but the session helped me understand so many other things about engineering, such as projects I'd never even thought about which I can do with engineers. I also discovered I can apply for certification programmes with BCS. These are opportunities people should leverage — employers want to see what you're capable of and how proactive you are. These are the things that have helped me secure job offers.

My placement at Accenture is dependent on whether I can get sponsorship to remain in the UK. I currently work part-time with HMRC though it's not a sponsored job so I'm now working on my student visa — that's the only concern I have now.



INFLUENCE

AN EXCLUSIVE INTERVIEW WITH OUR CEO, RASHIK PARMAR MBE, ABOUT THE ROLE OF FELLOWSHIP



Technology moves quickly and its future moves faster. BCS Fellows Technical Advisory Group (F-TAG) is a cohort of 25 BCS Fellows invited from across industry and academia, whose focus is understanding tomorrow, and in doing so, helping IT professionals and organisations make the best decisions today.

Since its formation in mid-2021, F-TAG members have collaborated on practical, rigorous and robust papers across topics such as: sustainability, AI, crypto currencies, legislation, digital transformation, and what it will mean to be an IT practitioner of the future. F-TAG uses BCS' influence themes (professionalism and ethics; the digital divide; green IT and net zero; diversity and inclusion) as lenses through which to explore subjects. These technical papers are made available exclusively to BCS members: <https://mybcs.bcs.org/knowledge-and-resources/thought-leadership-and-insight/>

CEO of BCS, and former IBM Vice-President, Rashik Parmar MBE FBCS, steered the F-TAG as Chair. Here, he reflects on the responsibilities of Fellows to both our membership body and wider society.

BCS has over 3,000 Fellows representing an estimated 6,000 years of IT experience, maybe more. As F-TAG, our vision is to tap into that expertise and provide some wisdom to people in the early-to-middle points of their careers, to enable them to 'up their game'. Creating F-TAG involved a vigorous selection process, to appoint Fellows who represent a cross-section of IT professionals, from

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CIOs and developers, to service delivery and sales, to consulting and academia. As a team, we look at the areas where established best practice and technology are changing so significantly that we can provide new insights that you wouldn't get in any other way. To date, we've issued seven technical papers, which have drawn distilled insights that members get real value from.

The IT practitioner of the future topic is very interesting, because we provide an interesting model towards the backend. We also created an A-F of the mindset of an IT professional; Ambitious, Bold, Capable, Determined, Entrepreneurial and Foresighted. In F-TAG, we use this as a mini alphabet of a mindset for success. When you think about it in terms of careers it's asking: where is my gap? What's holding me back on my next career step? Is it the level of ambition I've got, the skills or capabilities, or is it about how I'm coping with challenging situations and being determined enough?



THESE ARTICLES ARE NOT A FULL STOP, THEY'RE A COMMA... WE DON'T HAVE A MONOPOLY ON WISDOM, WE WANT TO DRAW THE BEST FROM EVERYBODY."

Firstly, we'd like members to read our technical papers and come back to us with their thoughts. These articles are not a full stop, they're a comma. I want members to take their reflections into the BCS Community discussion space. We'd love to have a conversation with members on the topics that BCS want us to produce. We don't have a monopoly on wisdom, we want to draw the best from everybody.

As BCS CEO and in my previous role as VP Technology for IBM in EMEA I look at the big picture. I think about three broad areas of issue: what's that next era of digitisation to transform industries and organisations, and how do I prepare for that?; sustainability is the existential crisis for mankind — how does IT play its part in being more sustainable and, coming out of the pandemic, how are people re-evaluating the meaning of work? When you bring those three things together, you start to think about digitisation that helps create sustainability and purpose for an individual.

BCS was one of the trailblazing members joining a group called the 'Responsible Computing Initiative', something I created two and a half years ago with the Object Management Group (OMG) at IBM. I intentionally trademarked it, and we've given that trademark to OMG to make it a marketing initiative, because I think there's a massive societal change that needs to happen, and I want to be part of that change. That's what I'm trying to drive as I embark on my retirement this year. I summarise it as three things. Firstly, how does IT increase productivity? It sounds quite simple but it's actually quite a complex topic. It's partly digitisation, partly AI — and what happens is we get micro-focused on the technology rather than the outcome. There needs to be a shift where we focus more on the outcomes that we're trying to achieve for businesses, individuals, industries and government, and productivity is one of those big things. The second thing is performance. We have to be able to reduce the cycle time on things and take some of that friction away. The final consideration is: how do we create more predictability? Predictability says we are getting more and more data. How do we leverage that data to provide real practical insights on when things might occur? If you think about booking a taxi a decade ago, you might have phoned a taxi company and they'd respond that the taxi will take 10 minutes. You didn't know if that was a guess or a lie. You would only find out when the taxi turned up. Uber took a digital representation of a taxi, placed it on a map and democratised that data in a way that was meaningful for you so you could see where your taxi was, and that gives you predictability. Uber is an example of how we use data and modern AI systems to solve societal issues.

As an industry, we are trying to find places where friction exists in daily life, use the microscope of the data to remove that uncertainty, and make life move faster. That's how to think about where technology will emerge. There are five fundamental patterns where that happens: we take anything physical and we add technology to it to make it more intelligent; we take what people do and we replace it with software, codifying labour; we find data gaps between organisations and we use data to bring them together, making data a tradable asset; and we create a digital twin of something to make something completely different.

Fellowship is the recognition that you've achieved a level of competence to take on bigger and more complex challenges. It's also a licence to go and do some really transformational things. There will be many types of

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Fellows — some will focus on research, others focus on driving business transformation, but each should be working at the forefront of established technologies and unproven societal issues that need to be solved. They should be picking up and taking societal issues and saying,



I'M NOW A FELLOW, AND I SHOULD BE DOING SOMETHING TO ADDRESS THAT ASPECT OF SOCIETY AND MAKE A DIFFERENCE”.

You can't know everything, it's humanly impossible. But what you can know is what knowledge you have, and what your boundaries are. To be a responsible professional, you should know that you're getting into a territory where you recognise that you need help and can call for help. There's plenty of help within BCS, in your organisation, in the industry and various other places. You should also be looking at invention, innovation and transformation in everything, to help 'make IT good for society' as we talk about. You should be doing that in a way which is not risking life, business or huge costs.

BCS has a point of view on what computing is going to be doing in the next decade. That viewpoint is a hypothesis. F-TAG or a specialist group should be taking that point of view and asking what their role is in that future, how they contribute, and how they create the evidence to support their view. As we start to move forward, I expect organisations to create examples of where that's been proven to be true. If F-TAG state there's going to be a cryptocurrency for the UK in 2025 that will revolutionise the way money moves around the UK, the Information Security specialist group (ISSG) may add that we need to have certain security technologies first and we then gather those perspectives. As we make progress, it will challenge our views. As you implement the latest security you start to realise we need lattice encryption or a different way of doing multi-factor authentication, and that builds a bigger picture. It becomes a virtuous circle where BCS has a point of view, we start to create assets around that, we start to create proof points of what we actually achieved, and that helps us improve our knowledge. I think that's the virtuous circle we don't have today but we do need to create.

You should feel a sense of belonging that comes from being a BCS member, whichever your membership grade. Coming with that sense of belonging is responsibility. Having F-TAG or MBCS as a title should carry a responsibility. By signing up to be a member, there should be a code of ethics, and a responsibility to you as a professional.

I think giving members the confidence to come forward and do something is a massive topic and one I'm hugely passionate about. Part of the reason I created F-TAG is because these F-TAG members would never have shared their expertise in the way they're doing now. We'd never have had those seven technical papers. That would have just not happened. My ambition is to produce one paper every month, and we're getting close to that, which isn't bad for a volunteer structure. The question is, is one paper a month ambitious enough? I don't think it is. What's stopping people from doing it is not knowing where or how to start, not having the networks, imposter syndrome etc. There's a whole host of issues and I think we have to simplify our process. If you've got something you want to contribute, we need to make it easy for you to do so.

Is it fair to say we all have something to offer? Without a doubt. You might think you're mundane and the same as everyone else but you will have something unique and special that could really make a difference.



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A SPOTLIGHT ON GREEN IT

We chatted with Alexander Bardell CITP MBCS, Chair, and John Booth MBCS, Vice-Chair, of the BCS Green IT specialist group about their views on the environmental impact of, and sustainability within, the IT industry and how BCS can take tangible steps to tackle it.

TELL US ABOUT YOUR IT BACKGROUND

John: I started as an apprentice with BT, moved into structured cabling as a project manager, then joined Computacenter, and spent 12 years with them as a systems engineer. My “road to Damascus” was visiting Cornwall’s Eden Project and seeing a recycled PCB that was being sold as a mouse mat. I remember thinking “that’s a terrible way for a computer to die, there must be something better we can do with old equipment!” I embarked on a journey to learn more about the ICT environment, beginning with a degree in technology at the Open University. In 2009, the opportunity arose with Computacenter to take early voluntary redundancy, which I did, and I used my pay-out to start Carbon3IT Ltd, a sustainable IT consultancy. Since then, we’ve built upon knowledge and attracted some global clients.

Alexander: I started off on the IBM Graduate Training Programme in 1997, working in a development team out of the IBM Labs in Hursley Park. After a couple of years, I moved into a technical consultancy role and many other roles over the next 15 years, including sales and product management, and project and programme management, before ending up as a consulting enterprise architect within the global consultancy organisation. I later moved to Deloitte as an enterprise architect and after four years, I left to set up my own technology consultancy firm.

WHAT DRIVES YOUR PASSION FOR GREEN IT?

John: My passion comes from the dual role of green IT to both “green itself” and all that means: devices, networks, data centres, and the manufacturing and disposal of ICT equipment; and to use technology as an enabler for other environmental, energy and carbon-reducing activities. I was already a member of BCS when I was at Computacenter but when I left, I started attending more events. Of course, when starting a sustainable IT consultancy you reach out to like-minded people. Obviously, the Green IT specialist group was key to that goal, and I learnt a lot about green IT that I hadn’t even thought about. That continues today, every day is a learning day.

Alexander: At IBM, we started up an initiative called the ‘House of Carbon’, where I was introduced to the extended green IT community. The BCS Green IT specialist group was already in existence, and when I was able to achieve my BCS accreditation, I joined the group. For me, green IT is new, it’s innovative, and there’s an opportunity to make a positive difference.



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WHAT ARE YOU MOST PROUD OF IN YOUR WORK WITH THE GREEN IT SPECIALIST GROUP SO FAR?

John: The first moment, or series of moments, was delivering an overview of green IT to various branches in the West Midlands region in 2013–2014. More recently, we delivered ten or so presentations on various aspects of green IT to branches virtually during the pandemic. The thing with green IT is that it's the same as 'normal IT' so it covers a lot of things, far too many to write about here.

Alexander: I am most proud of the work we are doing to promote sustainability, both within BCS and further afield. We've created some interesting, thought leadership pieces, and hopefully we are educating people in the area of green IT.

FOR YOU, WHAT IS THE BIGGEST FOCUS IN GREEN IT RIGHT NOW?

Alexander: Helping organisations to achieve their net zero goals must be our 'number one' objective. There's a lot of work to do, and we need to be leading this initiative.

John: Well, although we are a sustainable ICT consultancy, we do a lot of our work in the data centre community. Globally, the biggest focus at present is the impending legislation coming out of the EU / US, which will probably be replicated in the UK. The legislation covers the reporting of key data centre metrics, such as power usage effectiveness (PUE), renewable energy factor (REF), energy reuse factor (ERF), carbon utilisation effectiveness (CUE) and water usage effectiveness (WUE). It also includes the calculation of the GHG Scopes (1, 2 and 3), for both embodied and operational carbon. This is keeping us very busy at the moment. We're now working with EU clients on two projects, and we're finalising tenders for some work in both UK and EU institutions for matters relating to the data centre sector.

WHY DO YOU BELIEVE PEOPLE ARE NOW MORE FOCUSED ON BEING GREENER?

John: Well, we only have one planet, and there has been some truly alarming weather of late. The EU had a temperature record of 49°C last year, which is likely to be broken this year. There was eight months of rainfall in four days in Australia this July, and stark warnings from the IPCC with regards to fossil fuel use. Whilst it's gaining

prominence with the people, sadly governments appear to have a "Don't Look Up" attitude. This has got to change, and soon, but personally I think we may have crossed the Rubicon and we won't be able to keep to the Paris Agreement. To be honest, COP26 last year, hosted by the UK, didn't really come up with anything meaningful.

Alexander: When we started the Green IT specialist group, and were speaking to organisations, we were pushing on a closed door. It was very difficult to get any leverage. In the last couple of years this has changed as the importance of climate change, mitigation and electronic waste is being better understood. We're on the cusp of something important, and BCS must be prepared to invest to be relevant in green IT.

HOW CAN WE BEST IMPROVE DATA CENTRES AROUND THE WORLD, IN YOUR OPINION?

Alexander: I would say the data centre is only part of the solution. IT as an enabler to net zero is just as relevant and this will call upon the skills of many specialists across BCS. Smarter homes, cities and energy consumption is underpinned by tech, and this needs to develop to fix the problems which exist today. But John can answer this better...

John: Aha! Data centres, my specialist subject. The first improvement, well 160 of them actually, is to use the best practices as contained in the EU Code of Conduct for Data Centres (Energy Efficiency). These cover: management, ICT systems, cooling, power, other data centre systems, design and build, monitoring and measurement. As a joint author of the EUCOC, I've been instrumental in inserting new best practices relating to sustainability, and I'm not done yet! The other important thing to remember is that the impending EU legislation I spoke about earlier already references the EUCOC, so that will improve things. The way we build data centres hasn't changed much in over 50 years; the only real improvements have been in cooling technologies. If we are to meet the climate emergency challenge we must have a radical rethink about how we plan, design, build and operate data centres. This could mean immersed cooling, fuel cells and more integration with the urban landscape. This is the most exciting part of my job. Everything I've been banging on about for over 10 years is now slowly but surely becoming more mainstream.

INFLUENCE

WHAT IS THE SINGLE BIGGEST DIFFERENCE A BCS MEMBER CAN MAKE?

Alexander: We need to generate the training and consultancy material needed to educate organisations and provide them with the tools needed to achieve net zero. There has to be a conversation between the members and the training part of the organisation to agree how to best deliver this.

John: Think about sustainability in your job — how can I use less energy and reduce carbon emissions? Go on a training course, the BCS Foundation Certificate in Green IT is likely to be relaunched soon — ask your employer to send you on it. You'll learn the background, how to create a green IT policy, and actual methodologies to reduce ICT energy and its impact on the environment.

IS THERE AN UNCOMFORTABLE TRUTH BCS MEMBERS SHOULD ADDRESS?

John: Anyone who's listened to my virtual Green IT specialist group presentations over the past three years will know that we, as in UK PLC, have no real understanding of the energy used for data centres in the UK. We have some data, but it relates to the professional commercial data centre operators, which for the last reporting period of the Climate Change Agreement was 3.8TWh. This is around 1.5% of the total electricity use, but this data only represents a small fraction of the actual enterprise estate. Even with the move to cloud, our calculations indicate that the real figure is close to 41TWh and represents about 12% of UK electricity use. We do not measure data centre energy consumption specifically at that level so we really don't know. The problem is that this means no policy decisions can be developed or measures taken to reduce it. The actual amount used by "distributed ICT" is hidden — although it is in plain sight, just included in the organisation's energy bill. It could be up to 40% of that bill. One way to get the IT department in your organisation to start thinking sustainably is to present them with the IT energy bill, and tell them 'that it's in their budget rather than the organisational budget'. You'll soon see some changes!

Alexander: If we are not successful in achieving net zero by 2050, there's a very real danger that living on our planet will become very uncomfortable for its population. There's no reason why this should be the case as the issue at hand can be solved.



INFLUENCE

WE NEED A RICH PIPELINE OF IT PROFESSIONALS FROM DIVERSE BACKGROUNDS

BCS is proud of its membership partnership with Coding Black Females (CBF); our relationship reached a new phase with the CBF 'takeover' of the 2022 BCS Diversity Report published in October.

The research features a mix of interviews with Black women in the IT profession covering their experiences and challenges, alongside original analysis of ONS Labour Force Survey data.

The report's key findings were covered by the BBC and range of other media. It showed that black women remain under-represented in the tech sector, and face barriers to progression, such as lack of flexible working, career development support and, in some organisations, what was described as a 'tech bro' culture.

Our analysis found that whilst black women make up 1.8% of the UK workforce, they only make up 0.7% of IT professionals.

So, for black women to be truly represented in IT there would need to be 20,000 more within the sector.

The percentage of all women in IT has increased only slightly over recent years from 17% of the IT workforce in 2017 to 22% in 2021, the report found.

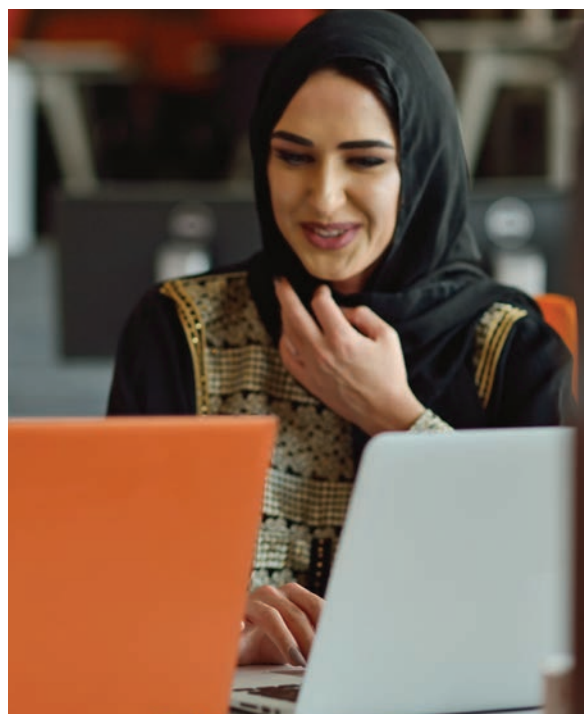
But there is still some way to go. If gender representation as whole in IT were equal to the workforce 'norm' there would have been an additional 486,000 female IT specialists in the UK, the study said.

Scotland displayed the best gender balance, where women account for 32% of IT specialists.

Coding Black Females have been working alongside BCS since 2020, and through this partnership, we've made 225 memberships available to the CBF community.

Over the last two years, we've collaborated on a range of events for the community including speed networking and careers panels. Through the partnership we've seen our members gain new roles, start their tech careers and achieve promotions with their access to the BCS membership platform.

It's been phenomenal to see the impact of the partnership and the Diversity report - and we're excited to see even more exciting opportunities in the future.



INFLUENCE

“High-stakes fields like data science and cyber security desperately need many more technologists from a diverse range of backgrounds, who all see computer science as an ethical, aspirational career choice.

While there are some really inclusive IT organisations, our research found that successful black women (and women in general) working in tech are often where they are despite the prevailing culture, limited flexibility in their working options.

The fact is that a diverse tech profession produces much better products and outcomes, for example in teams working on AI.”

**Charlene Hunter MBCS, CEO and Founder,
Coding Black Females**

“The CBF takeover of the 2022 BCS Diversity Report has been a very positive collaboration fostering lasting friendships. Together, we openly debated the theories, assumptions and lived experiences. Together, we conducted a substantial number of interviews with Black women in all sectors and all levels of tech. Through this, we obtained some key recommendations for change in schools and companies. To conclude, the collaboration has been a big win that has allowed each side to complement the other perfectly!”

Amma Manso MBCS, Volunteer, Coding Black Females



BCS IN THE NEWS

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MAKING IT GOOD FOR SOCIETY

THANK YOU FROM THE BCS POLICY AND PR TEAM

BCS members have embraced their new discussion forum, BCS Community, to discuss the hottest topics in IT and technology, the matters that affect their working lives, the future of the profession and its impact on society. Policy discussion is a key part of that, as well as live 'Policy Jams' debating the big issues and ultimately influencing government and industry.

Here, James Woodward MBCS, Head of Policy & PR at BCS, shares his thoughts on how members are influencing industry, the public and policymakers.

The selection of two Prime Ministers in rapid succession, and the party conference season, gave our community a new opportunity for influence and impact.

Thankfully we were ready - over the past two years members have been working closely with the central team to transform BCS' ability to communicate and make a difference where it matters.

I want to say a huge 'thank you' to the community for helping shape our profile, including specialist groups like Law, Software Testing, Green IT, Gaming, Information Security, BCS Health and Care and BCS Women.

New groups like Embrace, Pride and Digital Divide are increasing our reach and relevance with

under-represented groups and setting an example for courageous, pro-active engagement with business and influencers.

To take one recent example, Dr Sam de Silva CITP FBCS and our Law specialist group have repeatedly called for the protection of the right to human review of decisions made by AI. In June, the Government's response to its Data: A New Direction consultation confirmed that this right would be preserved despite GDPR reform, after listening to the views of key stakeholders including BCS.

Andrea Palmer FBCS, Chair of BCSWomen was ranked fourth in Computer Weekly's Most Influential List; Adam Leon Smith, Chair of SIGIST, spoke to national media (on a Saturday morning!) about the online safety implications of Elon Musk's troubled purchase of Twitter.

A joint report by BCS, The Chartered Institute for IT and Coding Black Females (CBF) - showing there are at least 20,000 black women 'missing' from the IT sector - was covered by the BBC and a range of other national media. A significant step forward for us.

The UK Digital Strategy, published this summer, featured a number of BCS' key policy asks around professionalism and ethical practice. We were proud to see BCS credited

by name, alongside TechUK, as an organisation directly tasked with helping SMEs develop their digital apprenticeship capacity. The National Centre for Computing Education (NCCE)'s role in promoting computer science education was also highlighted.

A pro-active paper by BCS Health and Care, stressing the importance of 'computable knowledge' in assisting clinical decision-making in the NHS was reported widely, including in the Engineering Council's own journal, and is informing key digital health conferences.



James Woodward

MAKING IT GOOD FOR SOCIETY

The National AI Strategy, published last year, acknowledges BCS' contribution on its launch page. In September we were able to call on a range of expert members to create BCS' response to a consultation on AI regulation, which we welcomed with some caveats.

We worked with key BCS cybersecurity experts within our membership to launch our first live Tweetathon during the Channel 4 drama, *The Undeclared War*. Elsewhere, over 100 people also attended our cyber 'policy jam' the latest in a series of themed monthly sessions, where any member can come along and share their ideas and challenges with the central team.

BCS' Schools Curriculum and Assessment Committee (SCAC) oversaw the publication of the ground-breaking Landscape Review of computing education data, covering all four UK countries — and revealing that boys outnumber girls by six to one across the subject.

Elsewhere, thousands of BCS members have responded to our surveys on: E2EE, where the community stressed the need to protect it; cryptocurrency and NFTs, where members see grave risks to society; and the Online Safety

Bill, where our concerns about free speech were covered by *The Times*. All of this research makes its way to media and policy makers, and builds our credibility.

With the launch of the Alliance for Data Science Professionals (AfDSP), the growth of FEDIP, and BCS helping to shape new standards in cybersecurity and AI, policy makers are listening to our community.

So, contributing to BCS' influence is now an important reason to recommend joining the professional body for the IT industry.

What's so exciting is there is much more potential to be activated across our community — and with the role of tech in society so central to political debate as an election approaches now is the time to be heard.

We're also thinking globally and looking to establish digital skills as a key aspect of international development.

If you'd like to learn more about our influence work, you can email policyhub@bcs.uk. To remind yourself of all the ways to get involved, see our Influence and Impact guide.



I've enjoyed a highly productive working relationship with the BCS Policy team over the last couple of years. They've been brilliant at drawing media attention to work that we've initiated in the Health & Care group, as well as getting our responses to press questions out to various channels. In particular, a recent white paper that we produced on computable knowledge in clinical decision support was considerably improved with the help of the Policy team; and they got us excellent media coverage of the report. Recently we've worked with the team on the 'lines to take' on topical questions in digital health and care, for use both in responding to journalist enquiries and specifically for BCS thought leadership in the forthcoming party conference season. I thoroughly recommend to all BCS groups to build a strong relationship with the Policy team, they're great!"

Dr Philip Scott FEDIPLdgPra CITP FBCS
Chair, BCS Health & Care Executive



Scan to read influence and impact guide

MAKING IT GOOD FOR SOCIETY

THE POWER OF THE DARK SIDE...

Casting a spotlight over cybersecurity, the BCS Policy team and cyber experts from the BCS community held a “tweetalong” coinciding with the release of Channel 4’s *The Undeclared War* — a fictional drama capturing the intensity and importance of the work of the UK’s cyber defence teams, with references to Russia, BT and GCHQ. Our security pros answered Twitter’s burning questions on real-life cybersecurity compared to the programme.

Back in March 2022, the Policy team produced an official response to the UK Government’s consultation on ‘embedding standards and pathways across the cyber profession by 2025’, inclusive of the independent response of the UK Computing Research Committee (UKCRC) comprising BCS, the IET and the CPHC. BCS is also a member of the Cyber Security Alliance, a collaboration of 16 national and international organisations who are the founding members of the UK Cyber Security Council.

Dr Bill Mitchell, OBE, CITP, FBCS, joined forces with Stephen Sands MBCS, Chair of BCS Information Security specialist group (ISSG), together with the independent UKCRC, to create a compelling BCS response to this government consultation:

“Cybersecurity is a means to an end, which is to ensure organisations can securely go about their business in a digital world.”

To achieve sustainable innovation and growth, organisations need to embed high standards of professional practice across many information technology specialisms, including cybersecurity.

Such specialisms might include, for example, data science, artificial intelligence, software engineering, health informatics, etc. Standards of professionalism in such strategically essential information technology specialisms need to be supported and recognised by government to at least the same extent as cybersecurity.

BCS welcomes the Government’s ambition to embed high standards of professional practice and progression pathways across cybersecurity. BCS is a committed member of the UK Cyber Security Council and will act in good faith to implement government proposals in the consultation if they are taken forward.

However, we still hold the position first stated in 2016 that it is not clear there needs to be a new chartered status for cybersecurity when existing chartered statuses can be contextualised to cybersecurity, which would avoid the unintended consequence of diluting practice or causing confusion in other professions.

In contrast to the consultation proposals the approach being taken to professionalise data science is through a broad alliance of national bodies, led by the Royal Statistical Society, who are contextualising various existing chartered statuses to data science (further details are given in the following section).

Government recognised this initiative in the National Data Strategy. It would be logical for cybersecurity to follow a similar approach, led by the UK Cyber Security council.

MAKING IT GOOD FOR SOCIETY

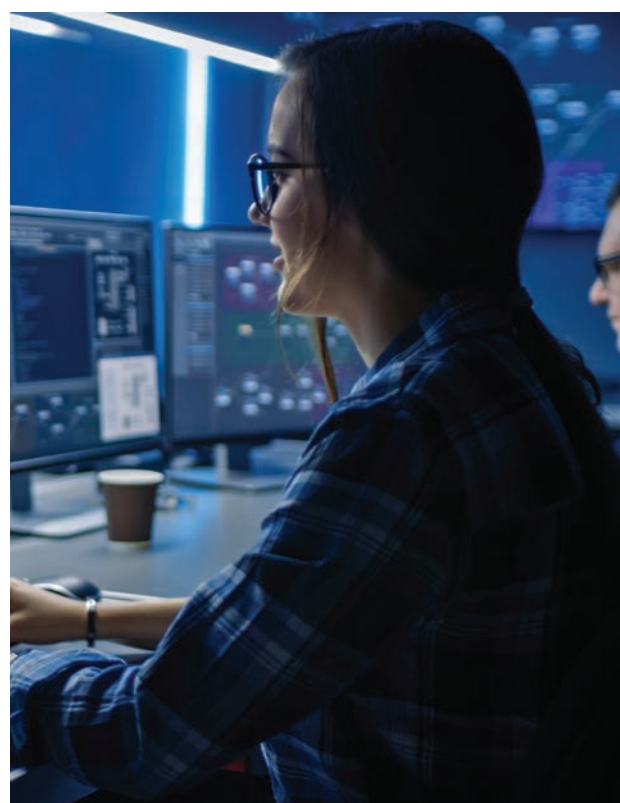
BCS RECOMMENDATIONS

Government proactively sets the expectation that information technology practitioners in highly responsible roles are professionally registered and whenever possible hold an approved chartered designation (for example CEng, CStat, CMath or CITP, or for example in the case of the NHS are registered with FEDIP, etc).

Government proposals to 'lead by example' in cybersecurity professionalism are applied equally to professionalism in all information technology specialisms that are critical to the National Innovation Strategy, National Data Strategy, National Artificial Intelligence Strategy and the forthcoming national digital strategy. The introduction of requirements around procurement and broader alignment on recruitment across government and the public sector should apply equally to all strategically essential information technology specialisms such as, for example, data science, artificial intelligence, software engineering and health informatics, etc. as well as cybersecurity.

The UK Cyber Security Council works collaboratively with key stakeholders to ensure its efforts strengthen professional practice across related areas. For example, by recognising chartered statuses from other professional bodies that are appropriately contextualised to cybersecurity, such as for example in engineering, health and information technology.

Safeguards are put in place to ensure professional standards and professional registration provided through the UK Cyber Security Council are cohesive with, and do not inadvertently undermine or cause fragmentation of, professional standards or professional registration in information technology, engineering, data science or health informatics.



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