



New Computer Science Academic Workshop: 25th May 2022

Joint event: BCS Academy Board of Computing and the International Federation for Information Processing, Technical Committee 3

This is a repeat of the workshop that took place on the 3rd of March 2022

The event will be online, booking link is –

<https://25may22computerscienceacademicworkshop.eventbrite.co.uk>

All times given are in BST

Programme

Times are GMT

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| 09.00 | Introduction and Objectives – Alastair Irons |
| 09.15 | IFIP Opportunities and Challenges in University Teaching from TC3 Perspective – Don Passey |
| 09.40 | Overview of work BCS for new CS Academics – Alan Hayes |
| 10.05 | BCS Academic Package – Holly Porter |
| 10.30 | Coffee Break |
| 10.50 | International Perspective: Challenges in developing Data Science curriculum – Angela Lee Siew Hoong |
| 11.15 | Early Careers Network for Computer Science academics: Experiences from the point of view of an Early Careerist – Simon Downs |
| 11.30 | Workshop – post it note session Tom Prickett |
| 12.00 | Conclusion and way forward – Alastair Irons |

Overview of Sessions

09.00 Introduction and Objectives – Alastair Irons

The workshop will explore the work that has been undertaken by the BCS Academy Board and IFIP TC3 to support academics new to computing and computer science and discuss how the BCS and IFIP can work together to create a community of practice and support for those academics.

09.15 IFIP Opportunities and Challenges in University Teaching from TC3 Perspective – Don Passey

In this session, Don will discuss this shifting context, from context, content, attitudinal, national and international perspectives, and will consider implications for new computer science academics.

09.40 Overview of BCS project for new CS Academics – Alan Hayes

This presentation explores how this community of practice addresses the needs of new computer science academics to UK&I higher education and what opportunities there are to bring together and develop new academics as a part of this community.

10.05 BCS Academic Package – Holly Porter

This presentation will explore BCS's different engagement points with HE and how it is developing its partnerships to help support young people into the workplace.

10.30 Early Careers Network for Computer Science academics: Experiences from the point of view of an Early Careerist – Simon Downs

This presentation will give experiences of the network in its early stages from the point of view of an early careerist. The presentation will cover the experiences of workshops, the sort of topics covered and the insights they have given to the early careerists and the benefits of attending.

10.50 International Perspective: Challenges in developing Data Science Curriculum – Angela Lee Siew Hoong

In this session we will discuss about the challenges we face in developing data science curriculum from an international perspective

11.15 Coffee Break

11.30 Workshop – post it note session Tom Prickett

This brief workshop session will build upon the delegate presentations and utilising an electronic whiteboard will explore delegates views related to the current and future opportunities for the developing of a Computer Science Education Community of Practice?

12.00 Conclusion and way forward – Alastair Irons

To conclude the workshop we will extract the main points from discussion and generate an action plan for how to move forward in supporting colleagues new to academic practice in computing and computer science and encourage participants to get involved in future activities and events.

Abstracts

Introduction and Objectives – Alastair Irons

The workshop will explore the work that has been undertaken by the BCS Academy Board and IFIP TC3 to support academics new to computing and computer science and discuss how the BCS and IFIP can work together to create a community of practice and support for those academics.

The workshop will share and reflect on the activities and events that already exist from BCS and IFIP and discuss what we might want to establish moving forward – CPD programme, shared resources, mentoring, collaboration and research. We will cover a range of topics including:

- Need to specific support for CS Academics
- Creating a programme of CPD
- Developing a community of practice
- Mentoring and buddying
- Collaboration between BCS and IFIP

There will be opportunity for questions and discussions throughout

IFIP Opportunities and Challenges in University Teaching from TC3 Perspective – Don Passey

The importance and significance of computing for maintaining, increasingly, so many professional and personal practices is now widely recognised. Society is more and more aware of the essential roles that computing plays in everyday situations, contributing to our individual and societal functioning and choices. To ensure our abilities to benefit and function in this respect, there is clearly a vital need to develop long-term approaches to support future computing professionals. Many countries are already aware of a shortage of computing specialists, and a major route for the development of those specialists arises through university education. The development of new computer science academics, therefore, is essential to the needs of a projected future where computing plays significant roles. Given this, prospects for new computer science academics should be excellent – but, the wider context in which those new computer science academics are working and will work is changing, and whilst future prospects should continue to be excellent, what might determine those excellent future potential possibilities should be fundamentally considered. In his session, Don will discuss this shifting context, from context, content, attitudinal, national and international perspectives, and will consider implications for new computer science academics.

Overview of BCS project for new CS Academics – Alan Hayes

A vibrant Computer Science Education (CSE) Community of Practice is emerging in the United Kingdom and Ireland (UK&I), promoted by national and international professional body/learned society specialist interest groups and supported through a number of CSE research and practice conferences. This presentation explores how this community of practice addresses the needs of new computer science

academics to UK&I higher education and what opportunities there are to bring together and develop new academics as a part of this community. The complex and contesting demands of teaching, research and managing (courses, modules and their development) in UK&I higher education make the early career of an academic challenging and potentially lonely. Typically, initial mentoring of early career academics is via the host Department providing support for working towards a Fellowship of Higher Education Academy or similar teaching-focused qualification. This presentation discusses the emergence of three complementary and additional approaches. The first is the development of a community of practice and in particular the development of a core body of knowledge in the form of continuous personal development (CPD) support and material. The second is the emergence of a national mentoring scheme whereby early careerist and established academics from different institutions meet and discuss the issues and challenges associated both with subject (teaching and research) and career development. The third is the establishment of a buddying scheme whereby early careerists with similar academic interests form groups to offer mutual support and the sharing of best practice. In this session, Alan will discuss these emerging initiatives and provide an overview of the progress they have made in supporting the development of early career academics.

BCS Academic Package – Holly Porter

Links with Higher Education, Universities and the Academic community are fundamental to the development of BCS and its role as a Professional Body. The rapid evolution of the digital economy in the UK and internationally has sparked a vibrant employment market and growing pressure to provide a plentiful talent pipeline with the right digital skills and technical capabilities. Professional bodies, schools, universities and employers are all struggling to keep pace with the changing needs and can only succeed if they work together. The presentation will explore BCS's different engagement points with HE and how it is developing its partnerships to help support young people into the workplace.

Early Careers Network for Computer Science academics: Experiences from the point of view of an Early Careerist – Simon Downs

The early careers network for computer science academics has brought early careerists together with experienced academics from different higher education institutions from all around the UK.

Professional Development Workshops have been put on for the benefit of early-career computer science academics, to get insight and shared knowledge from experienced academics from other institutions. The workshops are interactive events and aim to get early careerists to work together and discuss the topics and questions being posed. Early careerists have been assigned a mentor from a different institution to meet with every couple of months. In these meetings the mentee can discuss a range of topics in confidence with their mentor, this could be research techniques, teaching practices or career progression. In addition, the buddying scheme has enabled early careerists to meet with peers from other institutions in groups to talk about their own experiences of their careers so far. The buddying groups aim to meet monthly and discuss experiences, frustrations, techniques, and a whole range of topics in an informal and confidential setting.

This presentation will give experiences of the network in its early stages from the point of view of an early careerist. The presentation will cover the experiences of workshops, the sort of topics covered and the insights they have given to the early careerists and the benefits of attending. An early careerists' point of

view will also be given for the mentoring scheme, which sees early careerists meeting with a more experienced academic at a different institution to discuss topics that the mentee would like some advice on. Experiences from the buddying groups will also be discussed, whilst the meetings can be difficult to organise, they are hugely beneficial to the attendees and offer a good support network for early careerists to support each other and network across a range of institutions.

International perspective: Challenges in developing Data Science Curriculum – Angela Lee Siew Hoong

Although data science is gaining a lot of attraction in academia and industry, there is still little formal agreement on how to teach it. Many practitioners, such as computational researchers in university or data scientists in industry, are now teaching data science. Data Science is a rapidly developing job title in industry, with applications spanning from technology to healthcare to education. Hence, many universities have started to teach Data Science and lately been formalise to an academic subject, despite its benefits across many sectors of practice, and there is currently no agreement on what should be included in a data science curriculum. Hence this session we will discuss about the challenges we face in developing data science curriculum from the international perspective

Workshop – post it note session Tom Prickett

This brief workshop session will build upon the delegate presentations and utilising an electronic whiteboard will explore delegates views related to the current and future opportunities for the developing of a Computer Science Education Community of Practice? Specifically, delegates view related to the following questions will be explored:

1. What current and future opportunities are there for early career colleagues to engage in good practice sharing?
2. What current and future opportunities are there, in your respective countries, to establish a national mentorship scheme for early career academics? What format does such a scheme take?
3. What current and future opportunities are there, in your respective countries, to establish a national buddying scheme for early career academics? What format does such a scheme take?
4. How do you continue to raise the profile of early career academics engaging in CSE research?

InVision Freehand is best when accessed using a laptop / desktop computer rather than say a tablet. The whiteboard is available at: <https://projects.invisionapp.com/freehand/document/BpyzHPjG7>

If you do not have an InVision Account, we suggest you “Continue as a Guest” (Top right hand side).

Conclusion and way forward – Alastair Irons

To conclude the workshop we will extract the main points from discussion and generate an action plan for how to move forward in supporting colleagues new to academic practice in computing and computer science and encourage participants to get involved in future activities and events.

Speaker Biographies

Holly Porter, Membership Director – BCS, The Chartered Institute for IT

Holly leads community and membership development at BCS, focusing on delivering strategic growth, engagement and value to its different audiences. She joined in 2019 from GS1 UK, a global data standards organisation where she was Chief Marketing Officer and Membership Director. Prior to this, she was Marketing & Communications Director at Wincanton plc. Holly is a graduate of Bradford University with a BA (hons) in Modern Languages.

Professor Don Passey, University of Lancaster and IFIP TC3 Chair

Don is Professor of Technology Enhanced Learning, the Director of Studies for the Doctoral Programme in e-Research and Technology Enhanced Learning, and the Director of International Strategy in the Department of Educational Research at Lancaster University, UK, and is an Honorary Professor of Amity University, Uttar Pradesh, India. He is currently the chair of the International Federation for Information Processing (IFIP) Technical Committee on Education (TC3), as well as the national representative for the UK in IFIP TC3. In his work with IFIP, he has presented and had papers published from many IFIP conferences over a period of some 28 years, has co-edited 8 post-IFIP-conference books, has chaired an IFIP TC3 WCCE and co-chaired 2 IFIP OCCE conferences, and has been honoured with the IFIP Outstanding Service and Silver Core Awards.

Dr Alan Hayes, University of Bath and Lead for BCS New CS Academics Project

Alan has 30 years' experience in computer science education, working in both the teaching-led and research-led sectors. He has held positions of Director of Teaching, Head of Department, Associate Dean (L&T) and Dean. Currently, Alan is working in the Department of Computer Science at the University of Bath. He is a Fellow of the British Computer Society and regularly participates in professional accreditation events. He is a National Teaching Fellow, Principal Fellow of the Higher Education Academy and Fellow of the British Computer Society. He represented computing on the pilot subject review for the Teaching Excellence Framework in both 2017 and 2018. He currently Chairs the national Advisory Group for the review of the QAA Subject Benchmark Statement in Computing.

Dr Tom Prickett – Northumbria University

Tom has 18 years' experience in computer science education, working at Northumbria University, UK. He has held several education leadership roles for the department of Computer and Information Science and the Faculty of Engineering and Environment and is current working as the Faculty Director for Quality Assurance. Tom is an experienced academic assessor for his professional body, BCS, The Chartered Institute for IT. He is former chair and vice chair of the BCS Academic Accreditation Committee. He is a member of the national Advisory Group for the review of the QAA Subject Benchmark Statement in Computing.

Professor Angela Lee Siew Hoong – Sunway University, Malaysia

Angela is a Professor and Head of the Department of Computing and Information Systems at School of Engineering and Technology, Sunway University, Malaysia. Angela has been developing a data science curriculum since 2009. Angela is the key person to introduce the Analytics and Data Science degree at

Sunway University. She was recognized by the SAS Institute as the 2021's 'Distinguished Analytics Educator of the Year' and recently won the most outstanding women researcher in Data Science 2022 in the 7th Venus International Women Awards. She regularly speaks at data science conferences. Angela has developed many innovative ways to use analytics and data science tools from the most elementary level to advanced analytics. She teaches Social Media Analytics, Visual Analytics, Advanced Analytics and Business Intelligence and has authored many published international journal in the area of churn analytics, sentiment analysis and predictive analytics.

Simon Downs Lecturer – Computer Science University of South Wales

Bio to follow.

Professor Alastair Irons University of Sunderland, and Vice President BCS, Chair of BCS Academy Board and IFIP Board member

Alastair is Professor of Computer Science and Academic Director for Digital Education at the University of Sunderland, having previously been the Dean for the Faculty of Technology. Prior to joining the University in September 2008 he worked at ONE North East, Northumbria University and ICI having moved to the north east of England from Scotland after graduating in 1984 from Edinburgh University. Alastair was a visiting scholar at the University of Cape Town in South Africa from 2013 – 2017 and is currently a senior research associate at the University of Johannesburg. Alastair is currently Vice President (academic) of the BCS and is chair of the BCS Academy board, he also sits on BCS Council and BCS Trustees and is a member of the BCS Academic Accreditation Committee. He has recently been elected as an IFIP Councilor and sits on the IFP Board. He was a member of the 1997 QAA Benchmark team for Computer Science and has worked with Alan Hayes on the most recent QAA Subject Benchmark for Computing.

His research interests focus on digital education and digital pedagogies, but also on digital forensics and cybersecurity. His current research includes digital skills frameworks for students and academics, digital skills for all and digital poverty, as well as cybersecurity in the classroom and learning safely in the classroom of the future. His most recent book was published in 2021 - Irons A and Elkington, S., (2021) Enhancing learning through formative assessment and feedback, Routledge, London.