

# Supporting Early-Career Academics in the UK Computer Science Community

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# Aspiration, Who, Why, Where?

- Aspiration - Develop a National Community of Practice in Computer Science Education
- Who is it for – Computer Science Academics who are new to Teaching in UK HEIs i.e. early career academics
- Why do this?
  - Changes in the national computer science curricula
  - Attrition and failure rates of students can be high
  - Student satisfaction as measured by major national surveys is reported as commonly below that of other disciplines
- Where from
  - Discussions with BCS Academy of Computing Board
  - Work undertaken as part of the Institute of Coding

# New to Teaching Comp. Sci. – What do we mean?

- Post Docs taking up their first academic appointment at the start of their academic career.
- Postdocs who are helping out with teaching as part of their career development in preparation for applying for an academic position.
- PhD students, aspiring to an academic career, and with significant teaching responsibilities.
- Established Academics (international) new to the UK HE sector.
- Junior academics who have been in their permanent post for a few years.
- Those transitioning from FE or College into their first HE job.
- Those transitioning from industry into their first HE job.
- CS lecturers at HEIs who don't currently specify that their lecturing staff undertake a PGCE with CS-specific content

# What have we done?

- Formed a steering group – 5 founders plus 12 senior colleagues across four nations
- Held an exploratory workshop at ACM UKICER'20 to consult regarding
  - the challenges early career colleagues face
  - how a community of practice might help
- Ran networking workshops in December 2020, March 2021, May 2021 and December 2021
- Establishing
  - Mentoring Scheme
  - Buddying Scheme

# Recruitment of Early Career academics

- Early career academics were recruited representing the Universities in the related steering group
- These represent all four nations of the UK
- The Universities are a mix of research and teaching intensive
- Engagement is entirely voluntary
- Colleagues have been invited by a senior colleague at their university

# **Why do early careerists become involved?**

## **What attracted them in the first place?**

- An opportunity to find out more about Computer Science Education in HE.
- Develop a network of peers outside of my own Institution.
- To build me knowledge and experience of developments across the sector.

# Buddying Scheme

- Feasibility Pilot – popular in principle / what is the real demand?
- Expectations
  1. Are negotiated between buddies
  2. Include a mutually agreed focus / objectives
  3. Have expectations for frequency of meeting
  4. Are supported by a grouping mechanism (does not have to be 1:1) which takes account of preferences such as sub-discipline area, career aspirations in terms of research or education specialism, type of university, gender, ethnicity, experience of all parties and geography.
  5. Will initially take place online
  6. Will be monitored by recording dates of conversations, items for wider dissemination or discussion / potential future events

# Mentoring

- Feasibility Pilot – popular in principle / what is the real demand?

This includes formulating the expectations for mentoring including:

1. Are negotiated between mentors and mentees with normal expectations
2. Will initially take place online
3. Focus of mentoring could be Education, Research, Career - pathways and option, Sub-discipline area, Professional registration or recognition (NTFS, FHEA, SFHEA, BCS CITP, MBCS, FBCS, etc)
4. Are supported by a pairing mechanism which as much as possible takes account mentees preferences (for example: Subdiscipline area, Career aspirations in terms of research or education specialism, Type of university, Gender, Ethnicity, Experience of both parties)
5. Will be monitored by recording dates of conversations, items for wider dissemination or discussion / potential future events

# Early Career Colleagues Research Interests





# What next?

1. The pilot to date highlights appetite for computer science related educational professional development opportunities aimed at aspiring and early career academics. The programme of events will be expanded, taking on suggestions from participants and also reflecting current trends. These events could become more formalised and made available to a wider audience - potentially utilising micro credentials / micro accreditation
2. We need to evaluate a pilot of the buddying scheme
3. We need to run and evaluate a pilot of the mentoring scheme
4. The initiative could benefit from a formal home to
  - a) More formalise the scheme
  - b) Provide web hosting for material related to the scheme
  - c) To provide more formal mechanism for registration for future events ( Eventbrite or similar)
5. One candidate home is a special interest group within a relevant professional body for example BCS, The Chartered Institute for IT
6. To date we have taken a practice focused / action research approach.
7. We want to consider if there are benefits to augmenting the approach by also viewing the development through a research lens

# Do you want to join us?

- Aspirating, early career and experienced computer scientists / computing related academics are very welcome to join in the initiative by signing up to the link at:
- <https://bit.ly/CSEDJoinIn>
- We will then invite you to future events and discussions.

# Feedback / Discussion Points

- Do similar initiatives exist in other disciplines? If so what works, what challenges have you faced and how have these been overcome?
- What key challenges to early career colleagues face in establishing their academic careers?
- What are the barriers to engaging in education research, possibly alongside discipline related research? How can these be overcome?
- What are the barriers to engaging in good education practice sharing? How can these be overcome?
- Have UK wide mentoring schemes been established in other disciplines? If so what works, what challenges have you faced and how have these been overcome?
- Have UK wide buddying schemes been established in other disciplines? If so what works, what challenges have you faced and how have these been overcome?
- Reverse mentoring has been suggested as a possibility. Have you experience of such schemes? If so what works, what challenges have you faced and how have these been overcome?

# Contacts

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**Questions?**





# Event 1 Summary

Event was ran in Microsoft Teams on 16th December 2020. There were 22 attendees from 7 different universities representing the Four Nations of the United Kingdom. There were four main activities:

1. Challenges and tools for teaching programming. It explored tools for automated testing and plagiarism detection and provided good practice examples for discussion.
2. Supervising CS Project Students. This was an interactive session related to the challenges and opportunities of supervising CS project students
3. Prior to the event attendees were asked to pose 3 questions for a panel of 5 Professors to address.
4. A workshop explored
  - How can we support / help
  - How can we develop a community for you
  - Does this format work? What would work better?

# Event 1 Feedback – 22 attendees – 11 responses to feedback questionnaire

	Strongly Agree	Agree	Neither agree nor Disagree	Disagree (note these are different people)	Strongly Disagree
The "Challenges and tools for teaching programming" session was useful	5	5		1	
The "Supervising CS Student Projects" session was useful	3	7		1	
The panel session was useful	4	3	2	1	
Overall, the workshop was useful	4	7			
The online format worked for me	4	1	4	1	1
I may have found it difficult to attend a face-to-face event	3	5	2		1

# Event 2 - Summary

The second event was held on Microsoft Teams on 3rd March 2021. There were 22 attendees representing all 4 Nations of the United Kingdom. The focus of the event was:

1. Networking Opportunities. Breakout rooms were used for the attendees to discuss the challenges and successes they have been experiencing and how this initiative could best support them
2. Professional Bodies and Accreditation related to Computer Science were explored
3. Would you like us to set up a mentoring scheme was explored
4. The existing information sharing opportunities were discussed

# Event 2 Feedback – 23 attendees – 8 responses

	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
Breakout – networking opportunities.	6	2			
Professional Accreditation and Professional Bodies	4	3	1		
Coffee Break	3	2	3		
Mentoring Discussion	4	3	1		
Information sharing	5	2	1		
Overall, the workshop was useful	6	2			
The online format worked for me	4	4			
I may have found it difficult to attend a face-to-face event	2	3	2	1	1

# Event 3 Summary

- The third event took place on 6th May 2021, again via Microsoft Teams. Given where it was in the academic calendar in the United Kingdom, the focus of this event was Delivering Effective Higher Education Assessment and Feedback Processes.
  - This session was led by former employee of Advanced HE.
  - It was attended by 15 colleagues.
- Only 2 items of feedback



# Event 4