Dr Christine Kitchen

Technical Manager, Supercomputing Wales

I’m Technical Manager at Supercomputing Wales and Assistant Director for Research Computing Services at Cardiff University. My role has evolved since I first joined the University and has also involved developing interim solutions to support the ever-growing research demands, particularly around Storage and implementing a scalable storage solution that is now being evolved into an RDS – Research Data Store.

I haven’t always been interested in HPC. I was a complete technophobe and had very little exposure to computers growing up in rural Yorkshire! I qualified in Chemistry and really enjoyed the hands-on aspects of my degree. My final year undergraduate project in physical chemistry involved using computers. My confidence gradually grew, and it was from this that I was offered the opportunity to expand on my preliminary research into a three-year industry-sponsored PhD.

Even now, I do not have any formal computer qualifications, and everything has been self-taught or on-the-job experience. There is a lot to be said for being ‘in at the deep end’ and trying things to see what impact they have. You certainly learn a lot, quickly.
I find the rapidly-changing environment, and understanding how to harness this to introduce new solutions and techniques to support research, a rewarding aspect of my role. Facilitating research across a wide range of domains is fascinating – from micro (chemistry, biosciences, life sciences) through to macro (astrophysics – star and galaxy formations, black hole detection, earth sciences and tectonic plate movement etc).

Equally, seeing staff embrace technology and grow and evolve provides a sense of achievement when you see them tackle the challenges technology throws at them and some of the innovative ideas to improve performance of current systems.

HPC might have a higher percentage of males, but this is reflective of the gender bias in STEM fields generally. If we have less females entering into these fields of study, then naturally there will be a lower percentage going into HPC as this tends to be the entrance into using these services.

However, there is a gradual addressing of this imbalance, with a number of initiatives that are being established to help promote the disciplines. In terms of the Research Software Engineer network, there are a greater number of women being recruited into this, so we can take some leads from how this has been promoted and hopefully translate it into HPC more widely.
The question is, how do we encourage more promising students to take up HPC as a career path? There is a real shortage of talent in this area. Gender neutral advertisements are important and consistency in the terminology used when describing the roles would be a good starting point. Likewise, identifying career pathways that help people understand the opportunities that are presented through HPC service provision will be useful. We need to champion the successes and what was required to develop/deliver these.

Promoting HPC opportunities and the diversity in the types of roles to children in schools is an easy solution – if we do not have the students interested from a young age, then we do not have the range of potential coming through in latter stages. Children are being brought up with technology, and we need to get them questioning how apps are designed, how the computing infrastructure is underpinning their ‘google question’, why networks are important for the online gaming activities, voice activation and precision medicine – these are all excellent hooks that we should be using as they are already au-fait with using the technology.