

Council of Professors and Heads of Computing Departments in the UK

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CPHC

The Council of Professors
and Heads of Computing

Organisation and Context - 1

- ❖ CPHC seeks to co-ordinate general interests in CS developments in UK Universities
<http://www.cphc.ac.uk/>
- ❖ Aim is “*to promote public education in Computing and its applications and to provide a forum for those responsible for management and research in university computing departments*”.

Organisation and Context - 2

- ❖ UK Computing Research Committee (UKCRC) focuses on research

<http://www.ukcrc.org.uk/>

- ❖ UKCRC is an expert panel of the Institution of Engineering and Technology and the BCS for computing research in the UK. Its members are leading computing researchers from academia and industry.

Declining Interest in Computing and IT degrees - UK

- ❖ Applications to study Computing in UK Universities are down a further 10% this year – following on from a 20% drop last year, and a 15% the year before. The UK therefore appears to be following a similar trajectory to the USA

Funding Cut by HEFCE

- ❖ From Sept 2004, Computing was moved from Band B (laboratory-based funding) to Band C, a reduction of ~26% in funding (UK students)
- ❖ Some Universities passed this straight on to the CS Dept, others moderated it, and some are ignoring it until after RAE2008
- ❖ Those CS Departments most dependent on this core funding potentially suffer most
- ❖ Now ~103 Computer Science Depts in UK Universities – ~109 some 5 years ago

Downsizing of CS Depts - UK

- ❖ Early retirement, voluntary severance, and redundancy schemes are in operation
- ❖ Some Universities have immediately downsized the faculty
- ❖ Difficult situation to manage after the rapid growth in the period 1999 to 2003
- ❖ Follows on from an earlier (~ 1995 onwards) downsizing of Engineering Depts in the UK

Employability of Computing and IT graduates - UK

- ❖ Graduates obtaining a job within 6 months of graduation from national HESA statistics from all UK Universities)
- ❖ Employability in Computing and IT has dropped from 85% in 1998 to 65% in 2004 (Engineering has also dropped similar %, but over a 10-year time frame).
- ❖ This has generated the public view that there is only a 1 in 2 chance of a graduate getting a job, and has caused potential students and their parents to look at other areas (for example, Medicine has an employability of over 90%, as has Law)
- ❖ However, employability of those with an MSc in Computing has remained fairly constant at ~85% from 1998 to 2003. It has, however, dropped to ~70% in the last few years.
- ❖ However, Gartner Report has identified “skills shortages”

Perceptions of Computing and IT in high schools in UK - 1

- ❖ Detailed surveys and analyses have been done by CPHC over the last year of pupils in high schools
- ❖ Pupils currently perceive computing and IT as too technical, boring, high workloads, and difficult to get good grades
- ❖ Jobs in Computing/IT are perceived by pupils as not gaining as much respect and status as other areas (the nerd, geek, anti-social image tends to prevail)

Perceptions of Computing and IT in high schools in UK - 2

- ❖ There is a perception that computing is an office job and employees in the IT area will be stuck in front of a computer all day, rather than doing something interesting and different every day
- ❖ Also there are no strong role models in the field to benefit from (e.g. compared to biosciences). They ask: “*Where is the ‘thrill factor’ in computing/IT?*”
- ❖ Parents/pupils perceive jobs uncertainty following the Internet “boom and bust” – field of study is discarded as too risky

Grand Challenge in Education – Computing and IT Curricula - 1

Some of the issues are as follows –

- ❖ Are computing degrees currently overly constrained by BCS Accreditation requirements?
- ❖ How can computing and IT courses optimally evolve and attract student interest?
- ❖ How are current courses preparing students for the global economy?
- ❖ How do they recognise the importance of creativity and innovation?
- ❖ How do they link in with competitiveness, capacity to lead, and economic productivity?

Grand Challenge in Education – Computing and IT Curricula - 2

- ❖ Could early modules be based on new technologies and new developments to attract student interest and enthusiasm, rather than failing 20-30% of the student because they cannot pass the Java programming module?
- ❖ Do we have to teach students to write programs or is an understanding of software sufficient? IT courses address this point. Should computing courses move in this direction also? A BSc in Smart Systems?



Grand Challenges in Research

The current Grand Challenge areas are -

- ❖ GC1 Systems Biology
- ❖ GC2/4 Ubiquitous Computing
- ❖ GC3 Memories for Life
- ❖ GC 5 Architecture of Brain and Mind
- ❖ GC 6 Dependable Systems Evolution
- ❖ GC 7 Journeys in non-Classical Computation
- ❖ http://www.ukcrc.org.uk/grand_challenges/index.cfm
- ❖ http://www.ukcrc.org.uk/grand_challenges/current/index.cfm
- ❖ http://www.ukcrc.org.uk/grand_challenges/about/criteria.cfm

RAE2008

- ❖ Research Assessment Exercise (previous one in 2001)
 - ❖ Determines your QR funding p.a. for the next period
 - ❖ Combination of analysis of data (funding, no of PhD completions, critical mass in research, etc) and peer review (quality of papers published, esteem factors)
 - ❖ RAE preparation process generates a transfer market for academic staff, some en-bloc with their research groups
 - ❖ Probably the last RAE in the UK
 - ❖ UK Government moving in the direction of assessment by metrics – perhaps real-time
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Conclusions

- ❖ Difficult time for CS Departments and CS faculty in the UK
- ❖ Approx loss of 50% of income – unit of resource for funding and market for students
- ❖ Over-provision increases local and national competition
- ❖ Future of CS uncertain in some Universities