The Future of Computer Science at Lancaster

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Stimulated by recent discussions about new degree schemes and new projects, I have taken a little time over Christmas to think about possible futures for computing at Lancaster. My original intention was to write a single document discussing a range of issues covering teaching and research but after starting to do so I have come to the conclusion that the issues are best tackled in a more focused way in shorter discussion documents (less than 2 pages each) that you can read fairly quickly.

The primary assumption that I have made is that we wish computing at Lancaster to continue and flourish into the foreseeable future as a separate department with a focus on excellence in computer science research and teaching. I have not considered alternatives such as merging the department with other departments such as Communication Systems nor have I considered the possibility of splitting the department into sub-departments or of focusing exclusively on either research or teaching. These assumptions can of course (and perhaps should) be challenged.

I am deliberately circulating these documents to everyone in the department (and to no-one else) because I think there is a need for as many people as possible to engage in a debate about our future. The documents are not *in any way*, policy documents nor are they intended to support or contest current policies and extant decisions. The documents reflect *my opinions only* .

We do not currently have a good mechanism for conducting on-line discussions – e-mailing comp-all will generate too much traffic so please don't respond in this way. If you have comments, please mail me personally. If the documents stimulate a sufficient response then I will arrange some mechanism for future discussions on the topics raised.

1. Challenges

There seem to me to be several key challenges that we have to face:

1. An increasing number of students who wish to study computer science are not interested in programming and do not seem to have any aptitude for it.

2. For financial reasons, we will be put under pressure to take an increased number of undergraduate students. The University as a whole will have to increase the number of students from less-advantaged backgrounds and this will be reflected in the expectations for Computing.

3. If the RAE is to continue, then we should be assessing how we can attain a 5* grade. This must be done under the pressure of normal grade inflation so that the 5* barrier will inevitably be higher than it was in 2001.

4. We will be increasingly expected to take a regional role and to engage in discussions with regional organisations.

5. There will be pressures to improve 'teaching quality' (whatever that means and however it is measured).

All of these have to be addressed in a context where we have significant teaching loads, have to plan a new building, cope with space pressures until this is available, seek new research grants and maintain existing groups etc. Of course, these problems are neither unique to computer science or to Lancaster – they reflect the changing nature of universities and the educational system.

It would be all too easy to let everyday demands take over and to ignore the broader challenges that we face. However, I am convinced that this would be a serious mistake – the above challenges are real and will have to be faced sometime. If we fail to address these longer-term challenges until the last minute our options will be limited to whatever can be implemented in the remaining limited time.

I strongly believe that radical change is now essential if we are both to maintain quality in teaching and research and provide a working environment that supports individual initiative and personal development. At the same time, there is no need to be alarmist about things – I believe that we are in good shape and can maintain this position so long as we start to face the future now.

 We must accept the short-term overheads of making these radical changes in order to avoid a future where our research strengths are compromised by creeping increases in teaching loads, external pressures to do things that we don't want to do and decreasing quality of both teaching and research.