

Notes for potential applicants and new arrivals in the Department of Computer Science and Technology: version 0.1

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These notes are intended to address some of the most frequently asked questions that I have seen over the years from people who are interested in joining the department or who are new to it. They are also intended to give some idea of what the Department is like. They are informal and written from my own perspective. They are intended to supplement the information in our job adverts and further particulars. To some extent, they are written for people coming from outside the UK - the UK systems are very different from North America and other parts of Europe (and I'm sure from other parts of the world too, but my own personal experience is mostly from the US and other European countries).

I've done my best to avoid errors, and will update to remove any factual errors (with notes of changes at the end of the document if the changes are significant). But some of this is personal opinion, rather than factual information.

Quite a lot of this document is written specifically for people applying for permanent academic positions: i.e., faculty. Faculty are formally referred to in Cambridge as University Teaching Officers (UTOs), even though the position involves both research and teaching - in fact, considerably more research than teaching, at least in terms of time commitment. I've used the term faculty in places below, to make this more readable to a non-Cambridge audience, but please be aware that in Cambridge, membership of a Faculty is much broader than the permanent academic staff.

There is a document available on our webpages that was prepared for the recent Research Excellence Framework and gives a lot more detail about many of the things discussed here: [REF environment statement](#). There is also a [document](#) written by a senior member of our Department who is a relative newcomer to Cambridge. We felt it important to give different perspectives and, of course, are happy to discuss topics with applicants.

Introduction

While members of the Department generally feel that there is something very distinctive about it, we find it extremely difficult to explain what this might be. Our REF environment statement says that we aim to be

“a world-class research facility combining theory with practical activities, and significantly advancing both the field and computing in the wider world”

This is true, but no doubt many departments say something like this. So the following is just my own attempt at listing some factors I personally think are most important. We have exceptional staff and exceptional students. We benefit hugely from being part of a University with a world-class reputation, including the colleges (not discussed in this document, but see the discussion of colleges [here](#)), but we also benefit from being a modern subject within that University, which has been able to develop relatively freely from some of the more constraining aspects of tradition. We are able and willing to adapt to change rapidly. Most of our faculty have quite broad research interests, often spread across two or three of the research themes in the Department. Furthermore, there are a number of substantial collaborations on applications that combine very different expertise within Computer Science (CS) and outside CS. This means that there is a lot of collaboration going on inside the Department as well as outside. The aim is for research to be facilitated by the Department administration, including the relatively new Research Strategy Team, but not directed by it.

The University's structures allow a huge amount of flexibility in research, both topic and in the way it is carried out, and the Department as a whole takes full advantage of the flexibility on offer. This helps us to ensure that our work has broad impact, discussed further below.

Impact

As a Department, a broad notion of impact is part of the culture. Most members of Department want their work to make a difference in the world and don't care too much about disciplinary boundaries.

Our [REF environment statement](#) has a lot of information about impact (see section 4.1 in particular) and the way that it is facilitated by the University's IP policy (see section 1.4). The impact case studies submitted to the REF are listed in the Environment Statement.¹ However, we're interested in impact in a broader sense, and different members of faculty work in ways which have very different forms of impact. Many people seek active involvement in the development of their ideas to a form where they can really make a difference, whether by working with large or small companies, founding start-ups, working with not-for-profit organisations or other groups, entering large-scale collaborations or working with different academic fields. Departmental structures and policies have sufficient flexibility to support such activities.

PhD students and how they are funded

¹ A note about the REF, probably mainly for UK readers. Our Raspberry Pi impact case study was disallowed by the REF sub-panel because it was judged not to be adequately linked to research. We respect their interpretation of the REF rules while being sad that such a significant achievement could not be recognised in the REF. Unfortunately, this had quite a severe effect on the unofficial rankings that some publications use since these merge the different aspects of the REF into a single figure. The other case studies we submitted obtained the top ranking, as did our environment statement - more detailed information can be downloaded from the REF website.

A large proportion of research in the Department is done by or with PhD students, although compared to the usual situation in the US, post-doctoral researchers are also extremely important. There is support for PhD student funding from a diverse range of sources, most of which are based on the student as an applicant rather than on the faculty member who supervises them. The amount of financial support for PhD students has increased in the last few years, and numbers in the Department have grown considerably. Some PhD students are associated with Centres for Doctoral Training, such as [AI4ER](#).

While faculty members are welcome to make funding applications which include PhD studentships where possible, on the whole UK funders do not fund studentships as part of normal grant applications. PhD students must have their own distinct research project, although in some cases this will be carried out as part of a larger project.

Support for new faculty members (start up funds)

If you interview for positions in the US, you are likely to be offered eye-catching amounts of start-up funding (maybe half a million dollars or so). We don't operate in the same way, but I believe that we're actually competitive. The main reason is simply that PhD funding is not something that you have to apply for personally, as discussed above. In the US, startup funds for CS are typically mainly used so that new faculty can get a number of PhD students (perhaps five) before they have to start focussing on making funding applications to keep their team going. In our system, if you can persuade good students that you're going to be a good supervisor for them, the chances are good that you'll get a steady stream of funded students throughout your career. This offers more flexibility, which is especially important if you want to change research direction or take leave for an extended period.

Salary

There is little room for negotiation of salary, unlike the practice in the US, for instance. Positions have to be filled at the advertised grade. Applicants who apply for an Assistant/Associate Professor position cannot be appointed as Professors, for instance. In exceptional cases, we have appointed people to positions which are lower than the level they currently hold, on the basis that they will apply for promotion. The complexities are too great to cover in a general document of this type, but I am very happy to discuss this with suitable applicants.

Probation

Positions which are advertised as Assistant or Associate Professor are subject to a probation period. The probation requirement is straightforward compared to the tenure process at many US institutions. It is very unusual for someone to fail to pass probation. Although the full official probation period is five years, if all is going well, we would expect probation to be completed before that. The intention of the University rules is that someone

who has some serious difficulty (e.g., health problems) can take longer over probation and still be successful.

Once probation is passed, positions are permanent. While it is difficult to compare across different systems and institutions, the conditions under which someone in a permanent academic role can be fired are extremely limited. Again, details are much too complex to explain here - they are laid out in the University Statutes and Ordinances.

Teaching requirement

Teaching is an important part of a faculty position, but should not be the main activity in terms of time. For most people, it occupies less than 25% of their time across the academic year, although there is a lot of variability.

As stated in the Further Particulars, the average teaching load is less than 30 hours scheduled time per annum: for instance, a UTO might lecture one 12 lecture undergraduate course (nominal 12 hours) and lead one Master's module, with 16 scheduled hours. However, teaching in Cambridge is very intense (because there are three 8-week terms, with the third term having less scheduled teaching). This also tends to mean that preparation of teaching material is intensive. For instance, when developing an entirely new undergraduate course, I calculated that I needed about 20 hours to develop a one-hour lecture (which is actually a 50-minute lecture). Wherever possible, we avoid asking new faculty to teach a full load in their first year.

We also expect faculty to supervise Master's students research projects and/or third-year undergraduate projects. Master's student projects, although very short in duration (about three months), often lead to publications.

Change Notes

Version 0.1 - first version: several sections need to be expanded.