Climbing the Greasy Pole.

COSMOS Talk
Prof Leslie Smith: 29 Nov 2017: incorporating some comments from Prof Carron Shankland.

Postgraduate transition: or where now that my PhD is coming to an end (and where now, that my RA/RF contract is coming to an end, or how do I get up the greasy pole[1] of academia?).

There's no simple answer: each person who has achieved a measure of success (counting success as getting the RA/RF post, the lectureship (assistant professorship), the SL (associate professorship), the Readership, the full professorship as success: certainly, not *financial* success!) has done it in a different way. But there are some things in common, and perhaps some things to avoid.

PhD to RA/RF

So: you are coming to the end of your PhD, perhaps you've submitted it, or are at least writing up your results. And you want to stay in academia. How do you maximize your chances of landing *that* research post?

- Be visible.
    - Publications: Ensure that you are publishing in conferences and journals. While journals are, in the end probably more important, you can get notices from conferences, and conference publications.
    - Talks: start by giving a seminar in your own department: the audience there will be supportive, and it provides good practice. Here: talk to PG Tips, COSMOS, and even give a Departmental seminar. Also give talks at PhD level conferences, e.g. SICSA. But probably more importantly *go* to some conferences, and present your work, whether as a poster or as a (short) talk.
        - Firstly, this will help you to find out who else is working in your field, or in related fields (and that's probably useful for your PhD as well).
        - Secondly: consider the plight of someone a little further on in their career – they have a research assistant post, and they are looking for someone. You are more likely to hear about upcoming opportunities at conferences than anywhere else.
    - Impact: more and more, Universities are concerned about the take-up of research outside of academia. Is there any evidence that your work might lead to new products, or (any) other form a take-up beyond the academy?
    - Social media: I am told that you can become visible this way as well. You probably know more than me about this.
- Be the right person: When you come to apply for a post (and in general, these posts *are* advertised, as this is often a legal requirement – look at jobs.ac.uk, but also be part of appropriate mailing lists), make sure your application really targets the post.

---

[1] The greasy pole: Benjamin Disraeli (1804-1881, "I have climbed to the top of the greasy pole", a remark to a friend after being named prime minister.

Read the papers from the researcher and from their group, make sure you understand how and where your skill-set can fit in.

- Be aware of the overall discipline. What's going on in it? And not just in your particular PhD-corner of the field. What are the areas that are ripe for expansion (and *you* are probably in as good a position as anyone else to know that)?
- Avoid:
    - Making the PhD your life's work: yes, mine it for papers etc., but be willing to move onwards to something new (though possibly related)
    - Mass-producing applications for posts. *Don't* send the same CV and letter to every different post: make sure that they are well targeted.
    - Under-selling yourself. You've got the PhD: you are now *officially* an expert in something.

Moving from RA/RF to that first Lecturer (Assistant Professor) position.

OK: so now you've got the PhD, and you are currently and research associate or research fellow. Maybe you changed field a bit between the PhD and the research post (and maybe not – perhaps your supervisory team had an opening on the same project): maybe you're 1 year into the two-year post, or 2 years into the three-year post, (or perhaps there's just 6 months or less left to run) and suddenly you realize that you need a job…

How do you maximize your chances? Quite a lot (nearly all!) of what I said above still applies. But what else?

Universities at this point are mad keen on publications and grants. So you need to be able to sell yourself that way. You need to be an author on some good papers (and if the research fellowship, or PhD went well, you should be). Try to be first author if possible.

An aside on multi-authored papers.
This can be a major bone of contention. Few papers are single author these days, but if you have a paper directly from your PhD, you should be first author, and your supervisor (or supervisory team) come later. Generally, the person in charge of the group comes last, but the order of the importance of the authors starts with the first, unless specifically stated on the paper (Smith and Jones contributed equally to this paper). Some greedy supervisors want to be first author on everything, in order to further their careers at the expense of their students. Some group leaders want to be named on everything that comes out of their group: this may be OK, particularly if there really is good joint discussion led by them, but sometimes it's a rubber stamp, and their names really shouldn't be there.
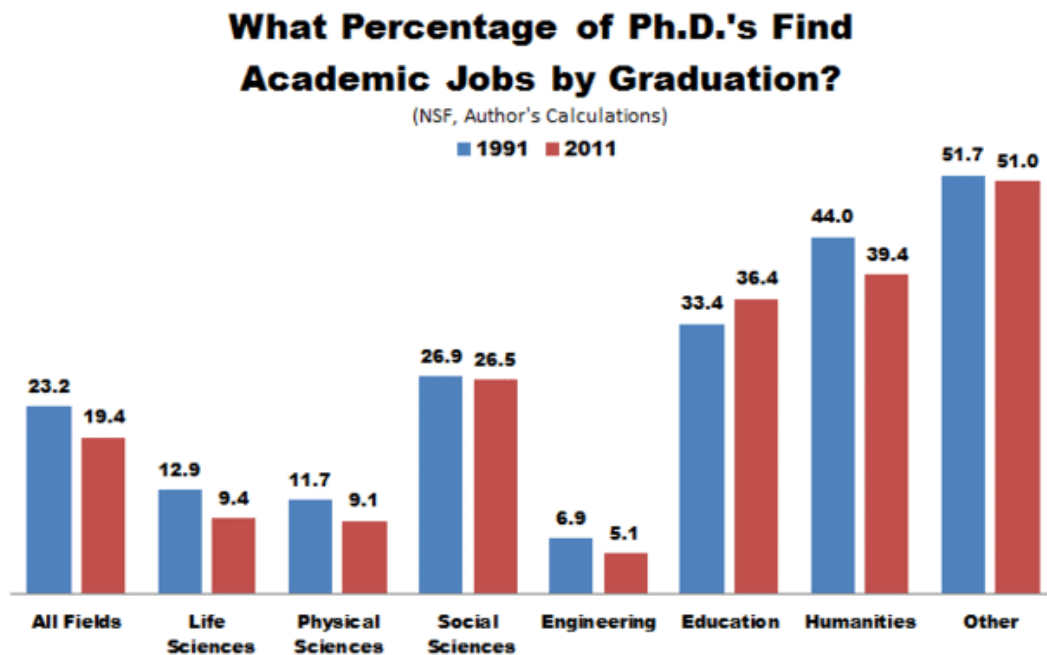
And remember: Universities are not monolithic, and ideas change. Some Universities are starting to care about teaching as well (!), and certainly, if you are applying for a position that includes teaching, it's good to have some experience of this. Don't, as one interviewee once did in an interview I was chairing, say "I don't like students, and I'd want to do all my teaching over the web". Do, however:

- Try to get some *good* experience of teaching. At the lowest level this consist of running labs and tutorials, at a higher level, giving a number of lectures, or even a whole module: but
- Make sure that you don't spend too much time on teaching at the expense of writing papers: negotiate what suits you and the Department.

Clearly this is a balancing act. However, when you come to write an application for a lecturer/assistant professor post, it is good to have something useful to say about your teaching experience.

One difficult issue is whether to apply for a further research fellow post after a research assistant/fellow post, or whether to try to seek permanent employment as a lecturer. How many years post-doctoral should one expect do to. This is hard to answer: it depends on (amongst other things!) how well your post-doc career is progressing, (is the new position a good extension of where you are currently, or are you panicking and applying because you can't see any alternative?), are there any suitable lecturing posts, what sort of experience are you gaining?

Note: I tried to find information about percentages of PhD graduates that move on the RA/RF, and more permanent teaching/research positions. This is hard: I have one table from 2011, for the US:

What Percentage of Ph.D.'s Find Academic Jobs by Graduation?
(NSF, Author's Calculations)
■ 1991 ■ 2011

	All Fields	Life Sciences	Physical Sciences	Social Sciences	Engineering	Education	Humanities	Other
1991	23.2	12.9	11.7	26.9	6.9	33.4	44.0	51.7
2011	19.4	9.4	9.1	26.5	5.1	36.4	39.4	51.0

Source: https://www.theatlantic.com/business/archive/2013/02/how-many-phds-actually-get-to-become-college-professors/273434/

Firstly, this is out of date, secondly, it's US oriented, and thirdly, it doesn't separate out CS or Mathematics from Physical sciences or Engineering. Other web sites, suggest a mixture of figures from 0.45% to about 16%, again, across disciplines. A great deal of the discussion in this area relates to Life Sciences, which is not surprising, because a very large number of PhD places are in Life Sciences. From personal experience, I'd suggest for Computing, the figure is about 30-40%, but that includes people who went into industry, and then went into

academia, and people who went into academia and then went into industry. I believe the figures for mathematics are higher. By no means do all PhD students want to stay in academia: many end up in interesting work in industry.

Moving further up the greasy pole, to Senior Lecturer/Reader/Professor/Dean/Vice-principal/Principal?

I've some experience of the first few of these, but not of the others[2]! Sometimes I think that the Lecturer to Senior Lecturer is the hardest of these. Lecturers have so many commitments (research papers, research grants, UG teaching, PG teaching, PhD students, … plus whatever specific administrative commitments are piled on to them, examining, UG welfare, seminars, advising, personal tutoring …) that it is very hard to consider furthering one's career as such. And it is not usual for advancement beyond lecturer to take place until a staff member has undertaken the position of lecturer for several years. Indeed, quite a few staff members remain lecturers until retirement. There's nothing wrong with this, but others set their sights higher.

So how does one achieve this advancement? It's not just a case of being a good citizen and doing what's required for a lecturer. One should:
- Teach, and perhaps devise/rewrite modules and even degree programmes
- Research, and write good journal papers.
- See at least one PhD student through their whole degree successfully
- Get some external finance in (preferably a full-scale research council grant)
- Do some administrative tasks
- Be visible externally.

All in all, that's a big ask. Yet these tasks are all expected (to a greater or lesser degree) to be carried out by a lecturer by the University.

Some staff members take a very positive view of their achievements, and expect promotion quickly, while other staff take a much more negative view of their achievements, and don't apply for promotion: often this is linked to gender. It's part of the role of the Department Head (and indeed, of the more senior staff) to encourage/discourage staff from applying for promotion. One way of helping yourself further up the career ladder is through receiving mentoring: there is support for this at the University.

Lastly: there is an interesting useful web page and book entitled "Marketing for Scientists" to be found at http://marketingforscientists.com . This contains some articles, plus links to useful information. It's (obviously) not specifically targeted at mathematicians or computer scientists, but still…

---

[2] I was interviewed for the post of Dean of Faculty once, but not appointed. This was a fortunate escape both for me, and for the University.