

Climbing the ladder

Simon Perks gets some tips to help early career chemists survive in academia

As the funding cuts start to bite and ivory towers across the land shudder on their foundations, life in academia is becoming less secure and more competitive. The challenges facing aspiring and early career academic chemists are a world away from those experienced by their older peers. So what skills are needed in today's academia, not just to survive, but to thrive?

Money talks

'The most important thing is to be enthusiastic about the science that you are doing,' says Susan Perkin, lecturer in physical chemistry at the University of Oxford, UK. But enthusiasm alone won't secure funding - the challenge is to convert enthusiasm into research ideas. In today's environment, bringing in the money can make the difference between a successful academic and an ex-academic.

There is also an increasing emphasis on the economic value of research. Academics who develop relationships with industry have a distinct advantage when demonstrating the impact of their work to funding agencies. But as with all relationships, it needs to be meaningful to count. 'Industry is a source of really interesting problems,' says David Lathbury, vice president of chemical development at Albany Molecular Research, 'not just a funder for your research.'



Surviving and succeeding in academia is a mix of good science and hard work

Of course, proposals get rejected as well as accepted so you need perseverance, perhaps even stubbornness. And a thick skin helps to deal with less than sympathetic referee comments.

The numbers game

However, doing good science is just the beginning. You need to work to build your reputation, says Geoff Cloke, professor of chemistry at the University of Sussex, UK. And that means publications. In the most prestigious journals you can find. A paper in *Nature* or *Science* can be like having a reference from Linus Pauling himself. The ability to write your findings clearly - and quickly - is invaluable. It also helps if you're willing to engage in a little self-promotion to get other people enthusiastic about your work.

Conferences present the ideal opportunity to meet other researchers in your field and to promote your work. Even better, says Cloke, is being invited as a speaker, although this is easier

said than done. And for this you do need to be confident speaking in public and be able to deal with questions and 'feedback' from your peers.

It's not all about research, though. Being an academic means you'll be teaching too, which demands a different set of skills. But research and teaching are not mutually exclusive, says Janet De Wilde, head of STEM subjects at the Higher Education Academy. 'Academics can be leaders in teaching and research,' she explains. 'You don't have to choose one over the other.' Indeed, communication is at the heart of academic life, from communicating concepts to students to working with people outside your discipline and collaborating with other researchers at home and abroad.

Peopleskills

As an academic, you're the boss. This means working independently and motivating yourself to get things done. It requires ambition, drive,

confidence and the ability, at least sometimes, to put yourself first. 'The ones that become academics are the ones that are most ruthless,' says Thomas McGlone, a research fellow at the University of Strathclyde.

But once your first PhD student or postdoc walks through the door, you're a manager, too. And that comes with a responsibility to those who work for you. The secret? 'Go and talk to them in the lab and actually see what they are doing. Maybe even help them with their experiment!' says Cloke with a wry smile. A team needs a leader: that's you. And when it comes to undergraduates, you may well find that you need to be a counsellor, careers advisor, mediator, confidant and nutritionist as well.

Academic overload

The good news is that these skills can be learned and developed over time. Start by identifying the areas where you would like to improve - be honest about your strengths and weaknesses. Compare yourself with your peers or ask a trusted colleague.

Then identify specific things that you can do to improve. Your institution or learned society may offer courses that could help. Or hit the library and see what you can pick up from the popular (and academic) literature. Seek out a colleague with the skills that you're trying to develop and find out what they do differently. And remember that you don't need to be great at everything. Focus on the skills that will help you to achieve your own career goals.

The greatest challenge may be in fitting everything in, says Perkin. 'Any aspect of teaching, research or scholarship could be a full time job. But you have to be able to do them all at the same time. It's wonderful fun, but you do have to work very hard.'

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