

R. P. GRANT



Give postdocs a career, not empty promises

To avoid throwing talent on the scrap heap and to boost prospects, a new type of scientific post for researchers is needed, says **Jennifer Rohn**.

The career structure for scientific research in universities is broken, particularly in the life sciences, my own overcrowded field. In coffee rooms across the world, postdocs commiserate with each other amid rising anxiety about biology's dirty little secret: dwindling opportunity. Fellowships are few, every advertised academic post draws a flood of candidates, and grants fund only a tiny fraction of applicants.

The scientific job market has been tight for decades, but the recent global recession and accompanying austerity measures have brought it into sudden focus for young — and some not so young — researchers, who face a widening chasm between their cycles of contract work and a coveted lab-head position.

This is a familiar lament, but I also propose a solution: we should professionalize the postdoc role and turn it into a career rather than a scientific stepping stone.

Consider the scientific community as an ecosystem, and it is easy to see why postdocs need another path. The system needs only one replacement per lab-head position, but over the course of a 30–40-year career, a typical biologist will train dozens of suitable candidates for the position. The academic opportunities for a mature postdoc some ten years after completing his or her PhD are few and far between.

Most fellowships are earmarked for youth and not applicable to experienced postdocs. Landing a lab-head position requires a strong publication record, which can be as much about luck as skill and hard work. Rare ancillary research positions, such as technicians and scientific officers, are frequently junior — or also on short-term contracts linked to a grant. Competition for senior positions in industry is just as fierce.

Beyond research, there are science-related jobs, such as in publishing, grants administration and public engagement. But these positions seldom require more than a doctorate, if that. And to force a highly trained postdoc from research is a terrible waste of time and public expense. The ageing postdoc may well struggle to make up for those lost ten years when starting again in a different career. Meanwhile, after many years of relatively low pay, they can be years behind in terms of savings and pensions.

The scientific enterprise is run on what economists call the 'tournament' model, with practitioners pitted against one another in bitter pursuit of a very rare prize. Given that cheap and disposable trainees — PhD students and postdocs — fuel the entire scientific research enterprise, it is not surprising that few inside the system seem interested in change. A system complicit in this sort of exploitation is at best indifferent and at worst cruel. I have no doubt

that most lab heads want the best for their many apprentices, but at the system level, the practice continues. Few academics could afford to warn trainees against entering the ring — if they frightened away their labour force, research would grind to a halt.

An alternative career structure within science that professionalizes mature postdocs would be better. Permanent research staff positions could be generated and filled with talented and experienced postdocs who do not want to, or cannot, lead a research team — a job that, after all, requires a different skill set. Every academic lab could employ a few of these staff along with a reduced number of trainees. Although the permanent staff would cost more, there would be fewer needed: a researcher with 10–20 years experience is probably at least twice as efficient as a green trainee. Academic labs could thus become smaller, streamlined and more efficient. The slightly fewer trainees in the pool

would work in the knowledge that their career prospects are brighter, and that the system that trains them wants to nurture them, not suck them dry and spit them out.

An added benefit would be that instead of labs completely turning over every 4–5 years, with precious lore and knowledge lost along the way, they would have continuity. Fresh blood in a lab is useful, but so too are experienced people who can train others more efficiently, who are in touch with the latest techniques and who have first-hand knowledge of the lab's carefully amassed treasure-trove of materials.

Where should the cut-off be made to allow for the smaller number of trainees admitted? People with PhDs are useful to society, and are eminently employable in non-research fields. I would not necessarily advocate restricting their numbers, but every candidate should be given

a realistic assessment of their chances of becoming a lab head. The model I propose would reduce the number of trainee postdocs infused into the system, and then apply market forces — much as medical schools in many countries regulate the number of trainees by using the principles of supply and demand.

It won't be easy. Staff positions are typically attached to a lab head's temporary grant, not to the institutes that house them. Finance and numbers will need to be carefully balanced. Universities would have to create new permanent positions, and be willing to fund them long term. But the first step is to admit we have a problem, and that the problem is worth tackling. ■

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