

Description

Being a postdoc isn't easy. Despite their doctoral training and valuable research skills, these highly qualified scientists are often poorly paid and only have limited perspectives of progressing in academia. Many of them withstand several years of uncertainty—going from one postdoc position to the next and depend on outside grants to secure their job—before moving on to a more independent and rewarding career.

Too Many Postdocs

During the last few years, the number of postdocs in science has kept growing, whereas the number of permanent faculty positions has remained almost the same. In the United States alone, the number of scientists working as postdocs increased by 150% between 2000 and 2012. In 2013, around 10% of all US postdocs had been so for more than six years.

However, this problem is global and postdocs in other countries face similar problems (the European situation seems even more competitive). While many academics decide to advance their careers elsewhere, those wishing to continue in research may find themselves in an impasse and end up trapped as "*permadocs"*. Fortunately, some countries and institutions have already started to address this problem. They have introduced time limits for postdocs or moving permadocs into stable and better-paid positions.

The "Invisible" People

Two reports published independently in the United States and the UK in 2014 concluded that research is a brutal business, at least for those who want to pursue an academic career. According to the UK report, about 30 science PhD graduates (from 100) take on a postdoc position. However, only four of them secure a permanent post with an important research component. The US report pointed out that young scientists are commonly treated as cheap labor. Moreover, postdocs working in the United States consistently call themselves "the invisible people".

Project Porting

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Indeed, the rights of postdocs and their contributions to science must be discussed more openly. Ben A. Barres, a professor of neurobiology at Stanford University, believes that postdocs should be able to take their research projects with them when they set up their own labs—and that they should be free from direct competition on those projects with their former mentors. He says that this kind of *project porting* is crucial for the success of young investigators. He also states that this should be a fundamental right for postdocs.

Therefore, it is important that graduates looking for a postdoc position inform themselves well about the policies on research ownership of potential mentors before joining their lab. Some principal investigators (PIs) will not want postdocs to take their projects with them when they leave. Others might allow it, but then directly compete on the same work.

Who Owns It?

Although PIs cannot block their postdocs from doing research in any field, not following their wishes could have severe consequences. This could result in younger scientists losing their mentors' support. This support is usually essential for starting a successful independent career in science.

However, do PIs "own" the topics they work on? In many cases, they have indeed developed significant ideas and made important contributions to the field. However, postdocs have usually earned some kind of co-ownership by pushing the project forward with hard work and further ideas.

A possible solution is to allow postdocs to start a project in their final year, which can then be taken with them when they leave. However, implementing this might not be that easy. There is also an urgent need to gather and communicate data about what careers past postdocs have followed so that current postdocs can benefit from this experience.

Finding a Good Mentor

Selecting a good postdoctoral mentor is the best way to start a successful independent career. In addition to being a great scientist, a suitable postdoc adviser should be a generous person. They should be willing to give their trainees academic freedom and continued support, even after they have left their lab. These are some of the most important qualities that graduate students should look for in their future mentors. Good advisers should help trainees to gain skills that are valuable to the industry as many might eventually leave academia.

Considering an individual's training track record—in addition to his or her scientific achievements—when deciding about funding or prestigious science prizes would be an excellent way to support good mentorship and promote the success of young scientists after their postdoc.

Category

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