

Providing a setup and opportunities for better training of postdoctoral research fellows in an academic environment

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ABSTRACT

Thousands of young researchers come from different parts of the world every year to take up postdoctoral (postdoc) research fellowship positions in the developed countries. In the US alone, there were 48,601 postdocs in the year 2005 working in different labs in the fields of science, health and engineering. Many pursue this option for lack of other alternatives. Expectedly, these individuals face a lot of difficulties in making this transition from being a student to becoming an employee of an institution. Many institutions are prepared to make this transition and period of stay easy for their fellows while others are not equipped at all. The presence of a postdoc office (established by an institution) or an association (formed by the fellows) can be of immense help to postdocs. Additionally, the availability of institutional professional development and leadership programs can also help to nurture and polish postdoc fellows into future faculty members and valuable members of the community at large. To name a few, these professional development programs can focus on communication and presentation skills, medical education, teaching and learning, bioethics and mentorship. There is an urgent need to address some or all of these issues so that better training environment and opportunities are available to this group of postdoc fellows.

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A postdoctoral fellow or 'postdoc' (as he/she is also known) is described by the National Postdoctoral Association (NPA) of the US^[1] as: "an individual holding a doctoral degree who is engaged in a temporary period of mentored research and/or scholarly training for the purpose of acquiring the professional skills needed to pursue a career path of his or her choosing"

Postdoctoral Fellowship Trends

Every year thousands of people from the developing countries move to the west to pursue postdoctoral fellowships in North America, Europe and Australia. In the US alone, in the year 2005, there were 48,601 postdocs working in different labs in the fields of science, health and engineering.^[2] Out of all these postdocs, an estimated 55% were non-US citizens/temporary visa holders.^[2] The trend to pursue a postdoc fellowship has increased over the past many years. In the early 1970s, around 15% of fresh doctoral graduates wanted to do a postdoc, while in late 1990s, this figure had increased to about 30%.^[3] There are different reasons why young PhDs want to do a postdoc fellowship. Most believe that this is a logical follow-up to PhD, some prefer additional training, yet others feel that lack of more employment opportunities is a reason to pursue a postdoc fellowship.^[4]

Problems Faced by Postdocs and their Solution

Many of the foreign postdocs who come to a western country face a lot of difficulties; 69% of these postdocs are married while 34% have children,^[1] further compounding their transition. Fortunately, some get assistance and guidance from their supervisors. In case where fellows have to do most of the hunting themselves, a postdoc affairs office (usually working under the university administration) or association (formed by the fellows themselves) at a university can make things easier. Not all universities in North America have a postdoc office or association. Postdoc offices or associations serve to unite the postdocs by facilitating discussions of their problems, helping them network, informing them about work taken up at the universities and helping them with career issues. A study done by NPA in 2003 found that out of the 60 institutions surveyed only 12 had both a postdoc office and association. When the survey was repeated again in 2006 with 120 institutions, this number had risen to 87 institutions with an office, 68 with an association and 47 with both.^[5]

The US has a postdoc association at a national level too. However, such an association doesn't exist in Canada. Because of the absence of such a body in Canada, not all universities there have a postdoc office or association. As an example, the

Universities of Toronto and Alberta have a postdoc office and in 2007, a postdoc association was also formed at the latter. Europe, like the US, also has a group representing postdocs working in the European Union (minus UK), called EURODOC.^[6] In 2006, a group of aware and determined postdocs in the UK formed the UK National Research Staff Association with help from the UK Research Council.^[6,7]

People who finish their doctoral degrees and start as a postdoc know that doing a fellowship feels like being in a state of limbo. Many find it difficult to carve out the right path that leads to their desired future. Hence it is imperative that institutions have a postdoc office and/or association, just like the different undergraduate and graduate student associations or even clinical resident associations that are found in many universities. Such a forum can help make the transition period easier. Postdoc office details can be posted on a separate webpage on the university's website. Such a website can provide information such as: university policies on postdocs, information about the city where that university is located, housing taxation issues, healthcare and health insurance details, funding and fellowship issues, career resources, applying for a social security card, applying for a driver's license and other petty issues like opening a bank account, applying for a credit card, buying a car, shopping for home furniture, places to buy grocery, etc.

Need for Professional Development Opportunities

Apart from setting up postdoc offices, proper grooming and professional development of postdocs is also imperative. The nurturing process helps in polishing postdocs in respect of research methodologies and techniques. After all, postdocs are the pillars and the most important component of a successful research lab. They are not only responsible for spearheading research, but are also major contributors in writing research grants,^[8] producing results and training undergraduate and graduate students.^[1] A survey of research articles published in 'Science' showed that 43% of all first authors in publications were postdocs.^[9] Additionally, it is important to facilitate acquiring of leadership skills and professional behavior. Many universities have mechanisms in place that allow postdocs to attend leadership and professional development courses. This helps the fellows to shape up for the long road ahead when they take up academic and industrial positions after their fellowship. The 'Professional Development Program' at the University of Alberta in Canada is particularly designed for postdoc fellows. It aims at improving communication skills, informing about ways of networking and fostering collaborations. Similarly, if someone is interested in teaching, they can register for courses offered through the teaching and learning divisions of a particular university. McMaster University in Canada for example, offers a number of teaching and learning programs, to insiders and outsiders alike, ranging from one-day workshops to advanced level certification in education for existing faculty members, graduate students and postdocs. The course topics vary from presentation skills, teaching technologies and basics of problem-based learning to theory and philosophy of learning,

clinical teaching, mentorship and ethics in education. Usually these courses are very flexible and can easily be managed in addition to the primary research responsibilities of a fellow. Not to mention that by completing these and other courses, one can gradually build up a strong CV.

Apart from these teaching-specific departments in a university, many times the Career Services Department of an institution also organizes workshops related to writing CVs, hunting for a job, giving successful job interviews, etc which can also be of use to fellows. It is always advisable to attend sessions organized by the university on grant writing and paper writing skills. Fellows can always join other functional forums in a university such as those on bioethics and public health if they please. Apart from all these extra-research activities and commitments, it is always good to be in touch with technical courses offered on molecular biology and microscopy techniques that are related to one's research area.

Modern day universities believe in the concept of continuing education of their employees. Most universities have centers for continuing education that offer programs that can be related to areas of research or areas where a fellow might need to go in the future. At many universities, postdocs are entitled to attend courses in a year without any charge. Mostly, courses available under continuing education are offered in the evenings or on weekends, again making it easy for fellows to combine with their research activities. While balancing the time available for one's fellowship, it is also useful to volunteer some time to committee work. Usually academic positions come loaded with administrative work while serving on different institutional committees. Knowing this kind of work beforehand can help to cope with faculty-related responsibilities.

The time spent and experience gained during postdoc fellowship are of vital importance for those aspiring for a faculty position. Awards won and publications done are important; equally important are other skills such as communication, networking skills, presentation and writing skills.

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