

Private Funders Have a Role in the Training of Life Scientists

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The authors of the recent National Research Council (NRC) report *Trends in the Early Careers of Life Scientists* deserve kudos for their honest, unsentimental view of life science graduate student and postdoctoral experiences. What is unfortunate is that it took so long for the truth to win out. The report contained recommendations to freeze graduate school enrollment to prevent a flood of researcher applicants on a tightening job market (P. Smaglik, E. Russo, *The Scientist*, 12[19]:6, Sept. 28, 1998).

At least since the early 1980s, biomedical graduate students, primarily training at academic medical centers, could expect to spend six to eight years completing their Ph.D. degrees. What then awaited them was four to five years of postdoctoral positions, sometimes euphemistically called "training." For more than a few, the reward--finally at age 30 plus--was "promotion" to a research faculty position (translation: no hope of tenure; you get to stay as long as you raise your own salary and all your research expenses from grants). Some new Ph.D.s may have found these positions satisfactory; most found they simply had no other options.

In light of the NRC report, life science funders have the opportunity to carefully review their funding policies and consider how these policies might be contributing to a system gone awry. Then there needs to be some thoughtful decisions about how to contribute to a solution. This exercise might be particularly important for private funding organizations who must carefully consider how best to disburse their limited resources. The James S. McDonnell Foundation (JSMF), as a result of our own informal study over the past two years, has developed funding policies that we believe are consistent with the spirit of organized private philanthropy and the foundation's philosophy.

The new funding guidelines, described in detail on the foundation's Web site (www.jsmf.org), discourage applicants from requesting support for graduate students and postdoctoral scientists primarily filling research assistant positions. JSMF's policies also appear to be consistent with the recommendations of the NRC report.

Private funders are traditionally strong supporters of education, training, and career development. One way to continue this commitment, while addressing the recommendations of the NRC panel, is by limiting support for pre-doctoral students to stipends. This would encourage universities to limit the number of students accepted for doctoral training to those to whom the university commits and supports via tuition waivers, research assistantships, or teaching assistantships. This diminishes the likelihood of students being accepted into graduate programs to serve as laborers supported solely by research grants. It is unfortunate that the National Institutes of Health's (NIH) preference for supporting students over technicians contributed to the current overproduction of life science Ph.D.s.

Another way is by discouraging requests for funding for "to be named" postdoctoral positions. Postdoctoral support for bona fide training opportunities can be awarded through individual postdoctoral fellowships with the fellow named as principal investigator (PI). The merit of applications primarily requesting salary for Ph.D. research associates who are not also named as PIs should be carefully scrutinized to make certain that funding the application will not help lock junior scientists into low-paying, dead-end jobs. Private funders could encourage researchers to hire technical support staff, when appropriate, by supporting such positions.

The new funding guidelines adopted by one foundation will not, nor should they, fit the goals of all private funding organizations. American science has been and is strengthened by a diversity of private and public support. But organizations should carefully consider this idea: the way research is funded determines, to some extent, the way research is done. Private donors should not respond to the "needs" articulated by the research community without carefully considering what is driving those needs at the moment and what the long-term consequences of fulfilling those needs will be. We, just like the universities who sponsor them and the scientists who mentor them, have responsibilities to the individuals whose careers our policies directly affect.

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