Uncle Sam (and Specifically the NSF) Wants You!

Are you excited about research and innovation? Do you want to be a scientific voyeur? Do you want to experience science from a completely new perspective? Then consider a position as a rotating program director (PD) in the Molecular and Cellular Biosciences (MCB) division at the National Science Foundation (NSF).

You might not know that about half of all PD positions in the MCB are "rotating" and are filled with scientists recruited from academic positions for a period of one to two years. This article is inspired by my experiences as a one-year "rotator" in MCB.

Elizabeth Sztul (right) and Alison Beason

How I Decided to Become a Rotating PD, and the Fun of Balancing Two Full-Time Jobs

I am a professor of cell biology at the University of Alabama at Birmingham and have an active, productive laboratory. So, why did I decide to do a stint at NSF? I thought that after 30 years in a laboratory setting, it would be interesting to contribute to science in a different way. The appeal of NSF was that it is possible to go there for only a year and that NSF will cover 100% of the rotator's salary and benefits. That means that your time at NSF doesn't count against a future sabbatical. Also, bringing in 100% of your salary ensures that your chair and your dean will love you! Importantly, you can return to your home institution at NSF's expense for a week every month and a half or two months to maintain an active laboratory.

After 11 months at NSF, I can say that it has been a great experience, and I recommend it to every ASCB member. A few obvious benefits are:

- Being at NSF widens the scope of science that you can understand and evaluate. At NSF I have learned many things outside the field of my immediate expertise. Will this knowledge directly influence my own research? Perhaps not, but it lets me understand the bigger picture and make connections that help in remaining competitive in my own work.
- NSF exposes you to new technologies and breakthroughs. Some of these might be appropriate for projects in your lab.
- Being a PD trains you in scientific administration, including handling hundreds of proposals, organizing reviews, ensuring confidentiality, and managing a complex budget of tens of millions of dollars. This knowledge is extremely useful in the context of administrative positions you might be contemplating in the future at a university or research foundation or in industry.
- Working at a federal agency illuminates the politics of science in Washington, DC. There are many government, lobbying, and congressional components that influence how decisions are made to allocate scientific dollars. Knowing the process makes you a better advocate for scientific funding.
- You get to live in Washington, DC, for a year, and NSF provides a per diem supplement to offset your cost of living!

Being a PD at NSF: Managing Peer Review

Being a PD means that you are in charge of proposal review and funding. Most of us are familiar with the NIH model, but things are done differently at the NSF. NSF utilizes "the whole enchilada" model in which PDs manage the peer-review process *and* make funding recommendations. PDs at NSF decide what science is funded and thus what science gets done.

PDs do different things at different stages of the grant cycle. Each cycle starts with the arrival of new proposals in January and July (NSF has two target dates). PDs start the review process by asking experts worldwide to provide ad hoc evaluations of proposals by mail. Ad hoc critiques together with the critiques of the panelists and panel discussion affect the rating of each proposal. Asking for ad hoc reviews is like playing the lottery—you never know how you will do. Some scientists enthusiastically agree to evaluate a proposal, some decline but

Women in Cell Biology

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provide names of alternative reviewers, and some don't even respond.

Simultaneously with securing ad hoc reviews, PDs start assembling review panels. Usually approximately 50% of a panel is composed of returning panelists to ensure continuity. Assembling panels can be a tortuous process that involves significant pleading, sweet-talking, arm-twisting, or plain good luck. Each panel of 12–16 scientists will review 60–80 proposals over two-and-a half-days. Panels meet in April or May (for proposals submitted in January) and in October (for proposals submitted in July). All submitted proposals are evaluated; none is triaged. Panelists consider their evaluations in conjunction with the ad hoc reviews. Proposals at NSF do not receive numerical scores, but instead are ranked based on quality into categories.

Making Funding Decisions

After panels have met, PDs start making funding decisions. This is difficult because we would like to fund significantly more proposals than can be funded. PDs must choose which proposals are most meritorious in terms of intellectual content, breadth of impact, and transformative potential. In addition, proposals are chosen to balance the MCB portfolio of awards. Funding recommendations from PDs are discussed with the division director and the deputy division director. (See www.nsf.gov/about for the organizational scheme of the NSF and its directorates.) After consensus is reached, PDs release the decisions to the PIs.

More Than Proposals

Dealing with proposals constitutes the major time commitment for PDs, but we do much more than that. We do outreach activities, go to meetings, interact with students and PIs, and participate in teaching and training workshops. PDs also serve as a liaison to other federal programs, other NSF programs, and the scientific community to define and promote new trends in science. This is a key aspect of our work: We join work groups and committees that cross divisions, directorates, and agencies to define the emerging trends, to identify the infrastructure and technologies that will be needed to realize that science, and to come up with ideas of how to support and promote leading-edge science. Many of these initiatives result in real programs and allocations.

It is fascinating to think about the global scientific picture and know that you can influence its progress. And in case you think you would miss science while you are away from the bench, we have a myriad of seminars every week that range from "Projectile Spores in Moss" to "Black Energy in the Universe"!

How to Become a PD

All PDs in MCB are, or have been, in tenured faculty positions and have demonstrated research accomplishment. Preference is given to candidates who are also involved in teaching and outreach activities. The strongest candidates will also have experience with reviewing proposals either for NSF or for other funding agencies. Information about PD opportunities in biology is posted on the NSF website (www.nsf.gov/bio/outreach/bio_opportunities.jsp). You can also contact the division director or the deputy division director to discuss your interest in a position. ■

—Elizabeth Sztul, National Science Foundation and University of Alabama at Birmingham

Note

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