

Driving Force

Career planning for scientists

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How can scientists fit career planning into their already packed schedules? Sharon Milgram, director of the NIH's Office of Intramural Training and Education, has some ideas for you.

Recently I attended a seminar by Milgram where she presented several pieces of advice as well as some resources that I think are worth sharing. Milgram peppered her presentation with stories from her own career trajectory— she has had jobs as a physical therapist, a faculty member, and now an NIH director— and she acknowledges that her career is still evolving. While her advice was geared to grad students and postdocs, it is useful for scientists at any stage and with any career aspirations, given that the typical scientist will change jobs four or five times.

Career planning framework

Milgram says the major steps in finding a new job are:

- 1a. Know yourself
- 1b. Know your options
2. Try it on/gain credentials
3. Conduct a job search
4. Get a job

Each step feeds forward and backward to other steps (e.g., by trying something new, you will learn more about yourself). Developing your career is an ongoing, lifelong process.

Know yourself

Know your skills (and the skills you need to work on). According to Dr. Milgram, most science jobs (and most jobs in general) require skills in these three areas:

1. Analytical and problem-solving skills
2. Interpersonal skills
3. Communication skills

Technical and analytical skills rarely hold scientists back from getting or succeeding in new careers, but the other two skill sets can be lacking in graduate and postdoctoral training. Employers may be concerned that a scientist doesn't have the necessary interpersonal and communication skills to succeed in a new environment. The best way to combat this view is to do an honest self assessment and make demonstrative progress toward addressing any weaknesses (or perceived weaknesses). Define your skills with tangible examples. Whenever possible, document formal recognition that confirms you have particular skills.

Know your values

What is your ideal work environment like? Do you like working by yourself or with others? How important is recognition to you? What parts of your current job do you love or hate? Make a list but realize that the perfect job might not exist. Pick your top 2-3 values and focus on trying to find a match for these (and know if you have any absolute dealbreakers).

Know your options

What careers are out there, and which could be a good fit for you? In order to answer these questions, you need detailed information about potential careers, including the responsibilities of a job position (both specific job demands and unspoken "rules of the trade"), salary, benefits, advancement potential, downsides, risks, typical ways that people get derailed, and the qualifications and experience you would need to get the job.

You can gather this knowledge by reading career articles, talking to people, and going to career workshops. [Another great resource is the NIH's set of career videos, which are available to anyone via the OITE website.](#) Scientific conferences, like [Experimental Biology](#), often have career panels. There are even entire meetings devoted to career exploration like NYU's [What Can You Be with a PhD?](#) and the [NIH's annual career symposium.](#)

However, the absolute best way to gain information about careers is by doing informational interviews. Since there's no job on the line in these conversations, you can learn a great deal about a potential career path and how you may or may not be suited for it. These low pressure interviews also give you a chance to feel comfortable talking about yourself and to learn whether you need more experience to be competitive for a particular position. Best of all is that informational interviewing taps you into the underground job network. In fact, Milgram said one in twelve informational interviews leads to a job (compared to a 1 in 4000 chance of getting a job from an online posting). Friends of friends, friends of family members, and college/grad school alumni are all good bets for informational interviews (although cold-emailing often works too).

Try it on/gain credentials

You may need to try something out to see if it's a good fit. Or perhaps an informational interview told you that you need to get more experience to be competitive for a certain position. This is the time to "try it on." That may mean joining a policy group in a professional society if you're interested in science policy, or writing a newsletter or blog if you're interested in science writing. Or it could mean doing an online course about drug development or a short internship with a tech transfer office or company. Fitting this in with graduate school or a postdoc may be tough, but it will likely save you time in the long run. Milgram suggests working with your advisor or supervisor to find a situation that works well for both of you (and to ask your advisor at a strategic time— not before a big grant needs to be submitted).

Job search

When it's time to begin an active job search, use your network (including your informational interview contacts) to find out about jobs before they're posted and to help you prepare a strong application. Continue to gain knowledge about yourself and your chosen career path(s). [The OITE Careers Blog has helpful information about resumes, interviewing, negotiating, and other parts of the job search process.](#)

Track your progress

Because it is a lifelong and iterative process, career planning can feel like a gargantuan task. In order to make it seem more reasonable, try setting smaller goals for yourself. [MyIDP is a wonderful resource for this and for science career planning in general.](#) Remember that career transitions are almost always difficult, and give yourself a pat on the back for taking the time to explore your options and think about the future.

For more detailed information about career planning, you can watch a version of Dr. Milgram's seminar [here](#).