A momentous shift has occurred in the career choices of students and postdocs. Only a minority are choosing academic research careers compared with what were formerly called “alternative” careers, such as research in industry, science writing/editing, education, intellectual property, and science policy.\(^1\)\(^2\) There are many reasons for this shift, including the smaller number of research-intensive academic positions available (especially in the current funding climate) and an increasing desire among students and postdocs to pursue other careers.\(^3\)\(^4\)

Indeed, many other science-related careers can fulfill the passion that we have for science. And hiring PhD scientists can greatly benefit employers because scientists are trained to be analytical, critical thinkers. (Some recent WICB columns offer information about various scientific careers for those with PhD training.\(^5\)\(^6\))

But how do students and postdocs choose a career? Many go to graduate school with the idea that they will become researchers\(^3\)\(^4\) and then become bewildered and confused when trying to make sensible decisions about their future careers. Most trainees have no experience in any other career culture outside of academe. Moreover, their academic advisors and mentors may not have particularly helpful advice, because many of them have experience only as academic scientists.

A second and related issue is that graduate school and postdoctoral programs focus on training students and postdocs to be academic researchers—a narrow view of the scientific career pipeline that offers little or no preparation for other careers. Our training programs need to include skills that are important for a branching career pipeline: writing, communication, business, education, and leadership/management. We strongly suggest that trainees create an Individual Development Plan (IDP) to encourage them to think ahead to their future careers, and to begin developing the skills and experience they need to succeed in those careers.

Individual Development Plans

An IDP is an essential tool in any student/postdoc toolbox—it offers trainees the opportunity to apply their critical thinking skills to take control of their scientific destiny. IDPs existed for years in other industries as a way to help employees consider potential areas of growth and progress toward their developmental goals. In 2002, the Federation of American Societies for Experimental Biology (FASEB) brought the IDP concept to science, suggesting IDPs as a way to help trainees with the career planning process while enhancing communication with their mentors.\(^7\) This idea caught fire, and many institutions linked to FASEB’s IDP (or posted their own IDP forms) to encourage postdocs to use this process. Funding agencies are also taking notice; recently, the National Institutes of Health (NIH) released an announcement strongly encouraging institutions to require IDPs for all NIH-sponsored students and postdocs.\(^8\)

Creating an IDP can be challenging; trainees report that it would be easier if they had information about career opportunities and the skills needed to pursue those careers, self-assessment tools, and professional development resources.\(^9\) Now there is myIDP, an online tool and collection of resources available to guide trainees through this process (http://myIDP.sciencecareers.org). Designed by scientists and science career...
specialists, this free interactive website was launched by the American Association for the Advancement of Science and Science Careers last year and was recently recognized with an innovation award from the Association of American Medical Colleges.

How Students and Postdocs Can Get the Most out of myIDP
Creating an IDP pushes you to consider what you want and need to accomplish in the coming years. Your development plan should focus not only on what you need for success as a student/postdoc, but also position you for success in your future career path. myIDP walks you through this entire process, from identifying a long-term career goal to setting short-term goals for the current year. First, myIDP provides exercises to help you identify your strongest (and weakest) skills, favorite (and least favorite) work-related tasks, and most important values. It then offers a list of 20 career path categories ranked according to your responses and links you to articles, books, and websites to help you learn more deeply about these career paths. Even if you already feel confident about where you want your career to lead, you can use these resources to develop strategies to prepare for that career.

Next, set achievable goals for the coming year. What research milestones do you hope to meet? What career advancement goals should be your priorities? What skills do you need to develop to succeed in your current position and to prepare you for success in the future? After you enter your goals into myIDP, the website will generate a chronological list of your goals by month and send you optional monthly email reminders to help you stay on track. At the end of the myIDP process, you can print a copy of your IDP. Post the goals list at your desk to serve as a reminder of your major goals for each month.

Involve your mentor(s) throughout this process. As described below, they can help in a variety of ways, from career exploration to goal setting. Discuss your IDP in a meeting specific to this purpose. This type of periodic big-picture discussion can be invaluable in facilitating your development, giving you feedback, and clarifying expectations related to your progress.

Take Advantage of Career Development Opportunities through ASCB

- Attend events at the ASCB Annual Meeting: Multiple career-related events are offered, including career panels, a career coach and onsite CV review at the Career Center, professional development workshops, and the WICB Career Discussion and Mentoring Roundtables and Mentoring Theater (www.ascb.org/pro-dev-programs).
- Network at the ASCB Annual Meeting: Browse the abstract list before attending to find scientists in your future field or career of interest. (You can do this on the ASCB website, or better yet use the Annual Meeting app that will be available two to three weeks before the meeting.) During the meeting is a great time to meet people face-to-face. Meet them at their poster, talk about science, then ask if you might talk further during a 15- or 30-minute break in their conference schedule. Follow-up with a thank you email after the conference, to maintain the relationship.
- Get involved! Increasingly, employers seek candidates who have demonstrated experience in leadership or team-oriented roles. Contact an ASCB committee (www.ascb.org/membership-committee) about opportunities to participate in its activities.
- You can also demonstrate leadership by organizing a local meeting. ASCB provides funds to young scientists (graduate students and postdocs) for this purpose. See p. 12.
- Numerous career development resources are available on the ASCB website and in WICB columns (www.ascb.org/career-dev).
How Mentors Can Best Guide Their Trainees through the IDP Process

The goal of myIDP is to empower trainees to create their own IDPs. Your role as mentor, then, is to support them, answer questions, help them be accountable for achieving their goals, and periodically provide feedback.

Schedule a meeting with each trainee to discuss the IDP that she or he developed. For example, you can use the myIDP skills self-assessment form\(^{12}\) to give each trainee your own perspective of his or her strengths (areas the trainee may want to focus on for his or her future career) and weaknesses (skills the trainee may want to develop further). You can also use your own professional network (e.g., check your LinkedIn contacts list) to connect your trainees with scientists in their top-choice career path or field. This can be invaluable to help trainees learn about that career path through informational interviews\(^7\) and start to build their own professional network. Help your trainee assess whether the goals she or he has set in the IDP are realistic and achievable. Finally, in the initial meeting you can set a date (a few months in the future) to check back with the trainee on his or her IDP, to discuss progress and offer advice on achieving goals.

Graduate and postdoctoral training should focus primarily on research, but this is also a key time for trainees to develop professional skills and position themselves strategically for their future career advancement. The process of creating and periodically revising annual IDPs—in close partnership with their mentors—will empower trainees to plan ahead, work efficiently, and make the best choices for both their research and their future scientific career.

—Mary Munson and Cynthia Fuhrmann, University of Massachusetts Medical School

References and Footnotes


9Hobin JA, Clifford PS, Dunn BM, Rich S, Justement LB: personal communication describing results from a survey of 260 postdoctoral scholars; manuscript under review for publication.


