

CAREERS

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IZABELA HABUR

Classes and seminars help trainees to get the most out of career-development tools.

CAREER PLANNING

Question time

Career-development plans can point researchers in directions they might not have expected, but they take commitment.

BY PAUL SMAGLIK

In 2014, Michael Burel completed an online workbook that asked about his scientific competencies and interests. When he indicated that he was skilled in statistical analysis and enjoyed presenting research to a non-scientific audience, the programme suggested that he work in public policy, a field that didn't interest him. He tossed the results aside.

But last year, the doctoral student, who is studying stem cells at New York University, revisited the tool as part of a course on building career options. This time it led him to science writing, a path that resonated, and the instructor

and guest speakers helped him to identify ways in which he could train for a career in the field.

Since then, he has attended a science-writing seminar, talked to science journalists about how they trained for and landed their jobs and attended a science-writers conference. He now interns as a science writer for the Albert and Mary Lasker Foundation in New York City, which supports medical research. He says that the career workbook and related course have been some of the most useful aspects of his graduate education: together, they helped him to identify a viable career and guided him to the workshops, classes and internships that provided a starting point for his success.

Burel's experience illustrates both the promise and problems of the career-development programmes known as individual development plans (IDPs) in the United States and researcher development frameworks (RDFs) in the United Kingdom and mainland Europe. The programmes, available in hard copy and online, aim to help trainees to identify what aspects of science they like best, match them with careers that incorporate their interests and skills and identify gaps in their competencies.

Versions of the programmes can be as elaborate as the multi-question workbook that Burel initially turned to, or as simple as a short conversation with an adviser followed up by a written training plan. Either way, IDPs and RDFs can lead users in wrong directions and to dead ends when completed on their own or without follow-up. Junior scientists who hope to exploit the value of a career-development plan should complete them as part of a career-building course, discuss them with peers and an adviser and revisit them often (see 'Career planner').

Although IDPs are commonplace in the private sector, the scientific workforce has adopted them fairly recently. Vitae, a UK-based organization that trains and develops researchers around the world, developed an RDF in 2009. In 2013, the US National Institutes of Health (NIH) recommended that principal investigators (PIs) use them with their postdocs and graduate students. The Federation of American Societies for Experimental Biology (FASEB) later created a template for the hard-copy version, and the American Association for the Advancement of Science (AAAS) launched an online version called myIDP. Many institutions have developed their own version.

BREAK OUT OF BIAS

Some trainees say that their institution's IDP programme is written to aim users towards academia. And, they warn, if a PI or adviser is not on board with other career choices, it can be tricky to get effective results from the programme. Gary McDowell, a postdoc at Tufts University in Medford, Massachusetts, completes an IDP every year and discusses it with his PI. He says that both the programme and his PI are academically oriented, so he tries to be realistic about the plan's empirical value. "It's helpful to figure out conferences to go to, papers to plan, skills I need to be developing," he says. "Ultimately, I think any reflection on your career goals, identifying successes in the past year and planning what you need in the next year is helpful, regardless of how you ►

CAREER PLANNER

How to get started on finding the right path.

If you are a student or a postdoc and your mentor is unwilling or unable to help you with an individual development plan (IDP) or researcher development framework (RDF), here are some tips to help you get started and to follow through.

- Use an online tool such as myIDP (<http://myidp.sciencecareers.org>) or RDF Planner (<https://rdfplanner.vitae.ac.uk>). These programmes work best with follow-up from a mentor, but the software can still help to identify scientific strengths and professional preferences and suggest possible careers, and it offers articles on how to train for them.
- Meet regularly with peers to collectively discuss your IDPs. Peers can often identify and offer suggestions about each other's interests and transferable skills and may be able to point to training resources.

- Develop and tap into a broader network. This can help when students and postdocs suspect that their supervisor or mentor might be biased towards an academic career path. Attend local and regional meetings of professional organizations in your desired career area. Find alumni from your institution who work in the field (the university alumni office can help), and contact them.
- Commit to your plan. An IDP is useless if it sits on a shelf or in your digital device. Take the steps it identifies — building skills and expanding training through courses, seminars and workshops — to fill in gaps.
- Return to your plan regularly. Check on your progress and update any skills or experiences you've gained that could help in your career search. Set new goals and create deadlines for them. **P.S.**

► feel about your career path. But people may fall through the cracks.”

There is little formal incentive to complete an IDP or RDF. The NIH does not follow up on its recommendation, and not all institutions require trainees to use one. Nor is there a mandate for its use in any nation. Just 47% of the postdoctoral offices that participated in a survey by the US National Postdoctoral Association said that they require their postdocs to complete an IDP, according to a 2014 report ([see go.nature.com/awsupm](http://go.nature.com/awsupm)). And another 37% encourage their use, the report said.

Ultimately, the trainee should not just create, but also follow through on their career-development plan, says Philip Clifford, associate dean for research at the University of Illinois at Chicago, who helped to develop both the FASEB and AAAS versions. The biggest mistake users make is to consider it an endpoint rather than a launch pad, he adds. He has run some 200 career-building courses and workshops that incorporate the plan and build on its use and results.

Lina Dimberg, who participated in one of Clifford's courses, followed the instructions with care and found the programme fruitful. As a postdoc in cancer research at the University of Colorado Denver, she knew that she did not want to stay in academia but was unsure of her options. She completed an IDP with Clifford's guidance and immediately learned that her strongest skills — writing grant proposals and papers, reading the literature and discussing research — gave her a solid foundation for several science-related careers, one of which was medical writing.

Clifford's curriculum required her to set up meetings with scientists in occupations that

the IDP had pinpointed as career possibilities. One of those chats led to a job as a writer at a medical-device company after her postdoc ended; today, she works there as a senior scientist. Dimberg credits the IDP process and the workshop that supported it for helping her to define her career objectives and to develop the necessary confidence to market herself for the position. “The IDP opens your eyes to careers where you can combine your science interest with other interests and skills,” she says.

ALL IN THE TIMING

Sometimes, the programme might identify a good direction, but the user might not be quite ready at that point in time. When Nathan Vanderford was a graduate student and postdoc, his PIs encouraged him to complete an IDP that highlighted a tenure-track position — even though he wasn't sure that was the right route. “I ended up with a plan that I felt was not true to my desired career path,” he says. He then spent years in other careers, including science communications and research operations.

Today, he has come almost full circle and is now a faculty member at the University of Kentucky in Lexington, where he has a faculty-administrator post that his IDP results from so long ago did not quite predict. He teaches a career-development class that incorporates the programme's best principles. “The IDP I was forced to do has little to do with my current position,” he says. “I want to give students a mechanism that allows them to explore freely any career option they want to pursue.” ■

Paul Smaglik is a freelance writer in Milwaukee, Wisconsin.

TRADE TALK

Funding fixer



After a PhD and postdoc in cardiovascular biology, Christina Papke moved into research development. She works at Texas A&M University in College Station, where she assists biomedical

faculty members with grant proposals and helps them to form collaborations and identify funding opportunities.

MONICA HOLDER

When did you start exploring careers beyond running a lab?

The first and most difficult step was to realize that I did not want to be a principal investigator. In summer 2014, a series of both difficult and good events — a grandparent's death, a friend's wedding, a crime in my apartment complex — left me feeling like a rubber bouncy ball emotionally. It caused me to think, pray — and re-evaluate the direction of my career. I realized that although I enjoyed thinking about science, I could not see myself working in a lab for the next 30-plus years.

How did you learn about your current job?

What was extremely helpful for me was joining the American Medical Writers Association (AMWA) and being willing to put myself out there at a conference, not knowing who I might meet. Two people presented on being a grant-writing professional. That required a solid research background, as well as understanding how grants work, communicating with scientists, coordinating events and being an information resource. That was the combination I didn't know I was looking for. I realized that I could take my favourite aspects of research with me.

So the session clinched it for you?

I wouldn't have found this job if I hadn't talked to the presenters. One of them said, “I know a place.” It was a city I hadn't been looking in. I joined AMWA in February 2015, went to the conference in April and was hired in July.

That sounds almost preordained.

One of my mentors said to me, it's like putting out a lot of fishing lines. I was also doing informational interviews and a variety of other things. But during the process, it looked quite messy. My advice is, sometimes you don't know what you're looking for. And that's okay. ■

INTERVIEW BY MONYA BAKER

This interview has been edited for length and clarity. See go.nature.com/kbvz2q for more.