

Starting a career in science: the interview

Kristin H. Kain

Interdisciplinary science offers new approaches to unsolved problems. Think about creative ways that your talents and experience might mesh with work in fields outside of your own

Nice clothes, people guiding you from one office to another, a fancy dinner, and established scientists hanging on your every word; the scenario paints a dreamy picture, if only it were not in the context of a stomach-churning job interview.

Many resources offer advice for the interview process. These discuss appropriate dress and hygiene and the expected professional conduct. The source for these types of 'how to' articles is usually from inside the ivory tower – the human resources (HR) or upper level people involved in hiring. We offer a different perspective and discuss what recent interviewees – who are now successful Assistant or Associate Professors at noteworthy research institutions – found most surprising, interesting and ultimately valuable, during their experience in the academic interview process.

You might think, 'the nerve of an editor to write such an article', but I own this article because this format gives would-be authors the freedom to speak candidly about their experience. From my 'objective' position as an editor, I spoke with and surveyed many admired junior faculty and these suggestions stem from their collective knowledge. The hope is that their real experience with the inner workings of academia might facilitate the success of other new scientists to successfully climb aboard.

On your mark

Landing an interview assumes the conclusion of a successful postdoctoral position. The problem is that there is no real defined measure for this period of training. The transition from postdoc to faculty is a murky divide. There is no final board exam or completed curriculum to mark its end. Good mentors facilitate the transition and bad ones impede it. Unfortunately, there are not many positive incentives to encourage mentors to let go of their most experienced and productive lab members, and to help them find success along their new path. Help from a mentor can be a real boost, but the responsibility to orchestrate this leap is yours.

Success begets success in the eyes of academia, so finding a job is definitely facilitated both by working for people who are well known and respected within their scientific spheres, and by your own healthy publication record. The new faculty members who took our recent survey indicated that the importance of who their postdoc mentor was and where they worked was second only to their publication record in securing their academic position. Clearly, positioning yourself for success starts long before the faculty interview.

People have to know about you and your work to want to hire you. Toward the end of your postdoc, get out there and talk about your work. Giving a talk at a meeting is a great way to put you on the radar of people who are interested in your field. One person I spoke with was recruited for an interview following a talk at a meeting, before the position was even advertised. Talk about your work as often as you can and really think about the message that you want to send about your research and career goals.

Get set

There may be more faculty positions available to you than you think. Science can be categorized in a variety of ways depending on your perspective. An expertise in cancer

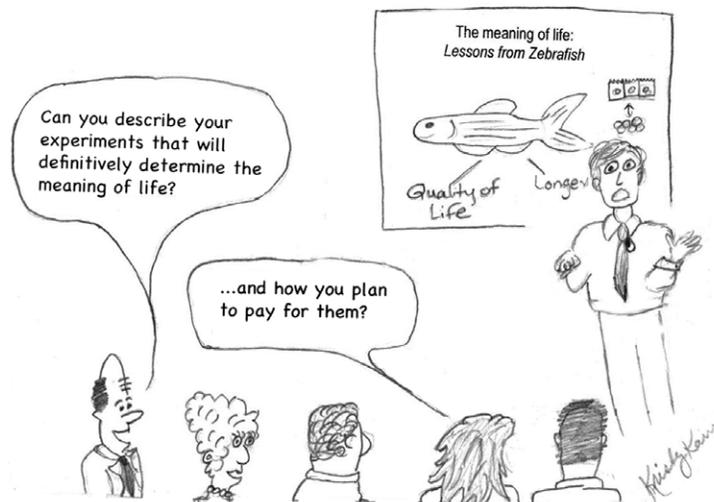
Kristin H. Kain is the Associate Reviews Editor and is based at Vanderbilt University, Nashville, TN, USA
(dmmreviews@biologists.com)

would fit well into a cancer center, but might also be a good fit for an immunology, developmental biology or pathology department, depending on the type of cancer studied. The breadth of your potential is amplified by the increasingly common practice of institutions to engage a variety of approaches on many of their research agendas. Interdisciplinary science offers new approaches to unsolved problems. Think about creative ways that your talents and experience might mesh with work in fields outside of your own.

Some junior faculty candidates cross a divide and bring areas of research together through their technological expertise. For example, an imaging expert might bring that technology to a cancer department so that researchers might better visualize cell migration or the tumor microenvironment. Or, perhaps a strong background in zebrafish genetics might bolster the screening potential of a pharmacology department. Recognizing the diverse potential for your expertise also expands the possibility of future joint appointments, which are often given to inspire interdisciplinary initiatives. Think about how your technical skills might influence and broaden other fields in exciting but realistic ways.

It is not enough to have a vision for your work; it also needs a payment plan. The strongest candidates will already have money that can transfer with them. This is certainly not a requirement to interview, but at the very least you should have a good idea about where you will apply for independent funding. One new faculty member I spoke with found that having a copy of the aims from a recently accepted K01 grant proposal was a useful talking point with the interviewing department chair. Another faculty member had outlines from a few recently submitted start-up grants, including one from the Burroughs Wellcome Fund. It is a good idea to start looking at early career funding about a year before starting the interview process.

The Faculty Interview



My information comes from young faculty who are primarily from institutions with a strong research focus, but faculty members with biomedical PhDs are a diverse group. Whether you emerge from a prominent lab or a smaller university, it is important to highlight your unique skill set. If it is research, this is probably evident in your publication list. If teaching is your forte, make sure that you have experience in it and that there are people to speak about your abilities and innovation. If your skill is writing, there are many opportunities to submit reviews or journal club articles to a variety of journals. Likewise, if you have a unique technical ability, make sure that it shines through in your CV, posters and talks.

And... go

Possibly the most important preparation for an interview is to know where your work and expertise fits into the philosophy and structure of the department where you interview. This means knowing the institution, the work of some of its most productive people, and specifically the work of the people that you will meet with individually on your interview. Academic research depends greatly on collaboration and something about you piqued their interest to request an interview. How might you influence their work? How might they influence yours? Why did you choose this field or department out of so many choices?

Make sure you can tell them very clearly why you are a good match for them. Listen closely to what this pool of potential future colleagues have to say about their work and their opinion of yours. You should be able to predict some of their interests and what kind of rapport you might have with them later as colleagues. Each of the people you meet on an interview are probably looking for different qualities and have different hopes for how a new faculty member might impact their work experience. Picturing yourself within the university community will also help you to define pertinent questions about how you will fit into it and whether it is a place where you are likely to be happy and successful.

Knowing how you fit into a department means having a research plan in mind so that you can imagine how you and your new colleagues might synergize. After years of focused work on one all-consuming problem, it might be challenging to step into a broader view of your field and ask how you want to influence it in a greater sense. This means having a vision for where you think the field is going and where your work might help take it 10 years from now. Once you have a working model for your long-range plan, you can define the first few experiments that will breathe life into it. You might also spend some time imagining how your goals might be divided into unique and focused graduate student or postdoc projects. With a long-term and short-term plan solid in your mind, you will be able to engage in thoughtful conversations with an impressive range of interests.

The clearer your broad vision is to you, the better you will be able to communicate it to others. This can take the form of a long and short version, and you need both. The short version should be about a 3-minute summary of your work that puts it into the context of a larger issue with an importance that is clear to almost anyone. Consider that the audience for this might be very diverse so that it is appropriate for graduate students or the university president. It is difficult to anticipate whom you may have an opportunity to meet only briefly, and this general summary will be appropriate for almost anyone.

The long version of your work and research plan is the presentation. This is where your confidence, presentation, professional style, eloquence and charisma take center stage. It must be comprehensible and to the point. Graduate students and people outside of the field must at least understand the significance of your work and your proposals and get excited about them. It should engage the audience's imagination. The focal point should be the problems that you want to address rather than the technical details of how you will do it. Put the biggest problem you are addressing at the start of your presentation to capture their interest, and bring your work back to it at the end. Thus, your work should tell a nice, rounded story.

Universities focus heavily on research but have other important interests too. Faculty members find themselves teaching, caring for patients or running core facilities. A university is part of a community. Where do you fit into their community? Imagine where you can contribute to the goals of the university. Think about what classes you would want to teach, or the types of clinical obligations that you might have. Does the university have a core facility that they might want you to run, or do you have an interest in starting one?

These aspects of a faculty position are usually secondary to research, but asking questions along these lines show that you intend to become a valuable member of the team. Involvement with activities outside of your immediate research also gives you an opportunity to expand your experience and interests.

My sources admit that the first few interviews went a long way to prepare them for the ones that followed, despite considerable preparation. You might not want to schedule an interview at your most exciting prospect first. It is also possible that places that interview you early in your search may press you to respond to a job offer before you are ready, so exercise what power you have to group places of your greatest interest together.

When someone requests you for an interview, it is because they recognize your promise. Believe in yourself and the hard work that you have done. Your sense for how the environment will influence your career is important. Make sure that the lab space is sufficient and allows you to grow appropriately. Determine whether the demands on your time are manageable and make sure that you have a starting budget that works with your goals. Getting a faculty job in academia is not the end: it is the beginning. Set yourself up to succeed in it.

The faculty interview

Know how to talk about your research and communicate your research goals with people who have a variety of expertise:

Know the literature in your field well

Be ready to give a presentation that is convincing and that should get people excited. Because your audience will probably be very diverse, everyone from graduate students to senior faculty should be able to recognize the significance of your work. Have a 3-minute version of your research in mind that is appropriate for people of various expertise. You may be able to talk with some people only briefly.

Be able to discuss funding your research project. One idea is to have aims for a recently submitted or future grant application with you.

Have an overall vision for your work:

What is the exciting problem that you want to address?

What are the first few experiments that you would do as new faculty?

What will your first paper after your move look like?

How will your long-term project produce unique graduate student and postdoc projects?

Thank you to the more than 20 junior faculty from Cold Spring Harbor, Iwate Medical University Japan, Massachusetts Institute of Technology, MRC National Institute for Medical Research, Stanford University, University of British Columbia, University of California at San Francisco, University of North Carolina at Chapel Hill, University of Pennsylvania, and Vanderbilt University who provided many of the ideas presented in this article.

This is part of a series of articles that discuss the hurdles faced by developing scientists and ways to address them. Let us know your comments or suggestions at dmmreviews@biologists.com