Academic Scientists at Work: The Job Talk

By Jeremy M. Boss, Susan H. Eckert | Dec. 10, 2004 , 10:00 AM

"That new Assistant Professor candidate with the curly red hair had some interesting data, but I am not sure he really got his main point across," you say to your tenured colleague just after the candidate's job seminar. Your colleague, Dr. Ben Harawhyle, responds: "Yeah, I think he may he may have a nice system, too, but he ran out of time and ended just when he was getting to the cool results. Also, his slides were hard to read, especially from where I was sitting." "Well," you respond, "we have some more candidates- I'm sure one will be better." That casual exchange adds up to a job-talk disaster for the candidate with the curly red hair. Don't let it be you!

If you want to win the race, you need to present what the search committee, department chair, and *all* the department faculty need to see and hear to motivate them to offer you a position. Chances are the position will be in a department with faculty members who have varied research interests, all of whom have some stake in the hire. Hence, your audience will be a complex mix of scientists with distinct and diverse standards. While this sounds challenging, good organization and a clear idea of what is expected will help you in your quest for the dream position.

This article will discuss what you need to present in your job talk, how to organize it, and how to prepare your slides. *Dos and Don'ts* of job talks are included for good measure. **This link** contains a PDF of a PowerPoint slide presentation that expands the discussion as well as provides some examples of color combinations that work, and some that don't!

One way to get a handle on the problem of gauging your job talk for the whole audience is to give consideration to the different interests of the group. Get to know your audience ahead of time. Learn something about the members of the department, especially the chair and members of the search committee. Get to know their work. This will help you, not just in preparing your job talk, but in the one-on-one interviews once you arrive on campus.

Once you've got a fix on the likely audience, divide it up into several groups: those who are interested in your field; the search committee and the department chair; and, finally, those who are not in your field and who therefore need to be convinced of the importance of your work.

It's obvious that you have to impress the search committee, and it's always a good idea to impress the chair of the department. What may not be so obvious is that you also have to impress the faculty who are *not* especially interested in your research. This group has an interest in the hire because it will affect the department's chemistry, and because they want a candidate that's a good "fit" in a broad sense. They also can have an important influence on the decision; if several candidates are relatively equal, the influence of this group may give you the edge. Convincing this latter group of the value of your work while providing the details the experts require is the challenge.

What Do You Need To Present?

You need to tell an intriguing story about your research. Everyone in the audience has to understand it, each at a level appropriate to them. This means that the background and introduction to the problem should be simple and your description of the questions being investigated should be more general than specific. The methodology should be explained in such a way that everyone can follow along and see the logic and the beauty of your approach. You need to present beautiful, crisp data that are well controlled and support your conclusions. Finally, you need to tell your audience where the work is likely to take you ? or you to take it ?over the next 2-3 years.

Organizing the Talk

Job talks have a specific order. Everyone begins with a thank you to the people who invited them and perhaps a joke or short humorous anecdote that doesn't offend anyone or anything ? living or dead. If you are not funny ? really funny ? skip this part. When this is done, you need to get on to the introduction and objectives. Some people ? us included ? like the idea of having a brief general introduction to the field, followed by a narrower (but still general) account of the area of study you are working in. This allows you to then state the objectives of the talk as they relate to the field's broader issues.

Objectives can be presented many different ways; we'll mention the two ways that we think have

regulatory regions; 2) loop formation is dependent on induced sequence specific transcription factors; and 3) loop formation is required for gene expression," and so on. The second way is to present a set of questions that you intend to address ... which amounts to the same thing, since it's easy to change the above statements into questions. For example, "1) *are* long distance chromatin loops formed between distal and proximal gene regulatory regions?" and so forth. Take the approach that makes you most comfortable.

After the objectives and the introduction comes the meat of the talk, the presentation of the data and conclusions. Our advice is to make sure that your audience continues to see the connection between the results you're describing and your research objectives. Never let them forget why you did what you did, and why you're telling them about it. Since most of us have had lots of practice presenting data and results to a variety of audiences, further discussion here is not necessary.

Before we get on to the end of your job talk, let's present some Dos and Don'ts.

The ASAW top ten DO list for a job talk:

- Dress professionally ? appearance is important everywhere, especially when you are the center of attention.

- Practice and time your talk so that it concludes without interruption after 50 minutes ? this means you must limit the number of slides. Decide ahead of time what parts can be cut if you find yourself interrupted frequently and the talk runs long. But you don't want to design your talk to be too short; if you don't get many questions, it may seem like you don't have enough results to fill up an hour's presentation.
- Try to relax during your talk and show everyone that you are really enthusiastic about the science you are presenting. You care about your work; don't keep that a secret. If you get nervous presenting to strangers, it may be helpful to: a) increase your confidence by practicing your talk a lot; b) memorize your opening sentences so that you are confident in your start; and c) have planned and memorized segues to link the sections of your talk.
- Slides must emphasize content, not form. If the slide is distracting, no one will follow the data.
- Fancy-dancy animation or movies and other visual effects *must* work the first time on your laptop or whatever hardware you end up using; are you sure that the presentation you prepared on a PC will work properly on a MacIntosh, even if it's running OS9.236? So, find out what the video set up is before you leave home. If you can't be sure, don't use the fancy-dancy technique at all.

- Data slides should be neat, orderly, and error free.
- Slides that contain the data of others should be acknowledged clearly on the bottom of the slide, and noted in your talk. You must not appear to be taking credit for the work of others, even inadvertently.
- You must reserve time in your talk for your best results and coolest data.
- Appropriately and briefly acknowledge your colleagues and collaborators.

The ASAW top ten DON'T list for a job talk:

- Do not speak too quickly, softly, or unclearly. You *really* want your audience to follow your talk.
- Do not use red lettering on blue or black backgrounds, even if your boss does. See the accompanying **examples** of PowerPoint slides. Check out all of your slides in a conference room with most of the lights on so you can see how clearly they project.
- Do not lose control of the time because of questions from your audience. If you will get to a question later, say so, politely. If not, try to answer the question clearly and briefly. If the questioning continues, politely let the audience members know that you will be happy to discuss these terrific ideas at the end because you have limited time and a lot more to

present. If the inquisition doesn't end there, you might try something like, "Many of these issues have already been published by our group and Dr. Doitright's group." Do your best to focus on answering the questions without providing Dr. Inquisition with loose ends or speculation to ask more. Sometimes a response that involves a "we haven't, but need to do an experiment to test your point" will quiet Dr. I.

- Do not forget that you are on stage and need to keep everyone focused on the science. Do not fidget, gulp down water, pause at length, gaze at the floor, or keep your back to the audience the entire time.
- Do not wave the laser pointer all over the place; keep it steady on the result of interest. If you are nervous and your hand shakes, rest your laser hand on the podium edge to steady it.
- Do not ignore your controls or other data on a slide. Remember, proper controls convince everyone that your experimental interpretation and results are correct. If you have data on a slide you are not going to talk about, remove it. It is a distraction.
- Do not get carried away with wild speculation or over-interpretation unless you have data to back it up (in which case it's not wild speculation or over-interpretation...).
- Do not patronize the audience. Don't answer questions with "that's a really interesting

- Do not use unnecessary jargon in your talk. If you must use some jargon, define it and keep it to a minimum.
- Do not say anything negative about your lab, lab mates, mentor, institution, collaborators, or other scientists (even if they refused to provide you with reagents). This admonition extends, by the way, to one-on-one interviews.

Ending the Talk

As the talk nears its end, you will need to spend some time on what you plan to do once you accept the job offer. Your new department will want to know what lines of research you can bring with you and what you will have to leave to your mentor. If all the cool stuff is staying and you are moving on to a new field, this will not look good, especially if your "job talk" was on your previous work and not on what you intend to do next. You will need to discuss this with your mentor before the job talk, so that you can address this issue if it comes up. It probably will, either in the job talk or in one-on-one interviews.

At the end of the talk, it's a good idea to present your future goals in the form of specific aims. This provides the audience with a glimpse of what your first grant application will look like. The aims should be distinct, yet related, but not necessarily dependent on each other. There should

be no more than four, with three being ideal. The aims, like your objectives, can be in the form of statements or questions. Alternatively, if you set up your talk in a manner that allows you to state your future objectives as hypotheses, this approach can be very effective as well.

One area of concern for your audience is what *you* did and what everyone else in the research group did. This is especially true if you come from a large lab group. To make it clear, use the first person ("I" and "me") where it's appropriate, and acknowledge your colleague's/collaborator's work throughout the talk and/or have their names on the slides where their data were presented. The list of acknowledgements at the end needs to include *only* those that contributed to the work. If your work was supported by a grant that you procured, you should acknowledge their support. This reminds the faculty that you are capable of getting funded.

Finally, take advantage of opportunities to listen to job candidate talks at your institution. Instead of just listening to the science being presented, pay particular attention to the structure of the talk, how the candidate presents her future goals, how he managed his time and answered questions. Mistakes you notice are mistakes you can avoid in your own talks.

In summary, the job talk is the most important part of the interview process. You were chosen for the interview because of your science and experience, so there is little reason to be very nervous. Practice your talk in front of your advisor, other faculty, and/or fellow fellows so that you can get

good luck. Knock 'em dead.

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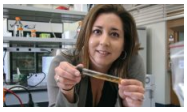

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