

How to Get a Teaching Job at a Primarily Undergraduate Institution

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Introduction

In the fall of 1994, I (AMC) began my tenure-track faculty position in the biology department of an undergraduate institution. For the second year of my Pew Teacher-Scholar Postdoctoral Fellowship, I visited eight colleges in search of a host institution. During these interviews, I had the rare opportunity to interview for a job while not being considered for a tenure-track position. Through these campus visits, I was able to get a feel for the interview process and insights into the special qualities sought by undergraduate institutions without all the pressures of a real job interview. Over the last 18 years, I have been involved with eight tenure-track search committees in biology and many more visiting faculty searches. Having been on both sides of the search process, I want to offer some perspective on effectively preparing for a job where your primary responsibility is teaching undergraduates.

To share what I learned during my time on these campuses, I published an article in the Council on Undergraduate Research (CUR) Newsletter.¹ Several others have described the job search process at research institutions²⁻⁴ and others have focused on primarily undergraduate institutions (PUIs).⁵ Although there is more acceptance of a teaching career now than in the 1990s, many Ph.D. candidates and postdocs are still chastised for any interest they have in teaching. These budding scientists get little support from research mentors for their career choices. To assist those who want

teaching to be their primary role as a faculty member, I have updated my 1996 publication to provide more current advice. To help me in the revision process, I invited two others to offer their insights as well. Dr. Quintero recently secured a tenure-track position and Dr. Frederick held tenure-track positions at two teaching-intensive institutions before moving to her current position in science education where she specializes in professional development programs for graduate students, postdocs, and faculty.

A Wide Range of Teaching-Related Job Opportunities

It should be noted that tenure-track professor positions at PUIs are not the only employment opportunities available to those with a strong interest in teaching. There are tenure-track and non-tenure track teaching-focused positions available at institutions including community colleges, PUIs, and larger research-focused institutions. These positions are often (but not always) advertised in the same locations as tenure-track PUI positions. However, job titles can vary from the expected. Some larger PUIs and high-enrollment institutions might hire staff specifically to develop and manage laboratory courses. Some research-focused departments have permanent, Ph.D.-level positions where the entire responsibility of that position is teaching courses and/or advising undergraduate majors within the department. Such positions may be titled “Instructor,” “Lecturer,” or “Professor of the

Practice”—the title is completely dependent on the institutional culture. One should not assume that a non-traditional title is indicative of a lesser value being placed on that position; it will depend on the specifics of each institution. Such positions rarely have any research expectations associated with them. If you find yourself very much drawn to teaching and mentoring with less of an interest in research, then such positions might fit your goals nicely. Although these forms of teaching positions might not require postdoctoral experience, the professional skills gained from a postdoc (budgeting, experimental skills, writing, organizational skills, and time-management skills) would likely be seen as beneficial characteristics to look for in an applicant, and it might be worth saying so in your application materials. Although this document is written with tenure-track PUI positions in mind, much of the guidance is applicable to other teaching-focused positions as well.

Those seeking jobs that emphasize teaching should know that in the United States, there are many options to consider. Some PUIs require no research and offer summers with no required teaching. If you want to conduct research with undergraduates and are interested in securing extramural funding, some PUIs expect this level of productivity in order for an assistant professor to be granted tenure. Postdocs and Ph.D. candidates should match their training to meet the needs of their target institutions. This How-To guide focuses on institutions that want their faculty to conduct research with undergraduates. Advice for all possible PUIs is beyond the scope of this guide.

Position Yourself Appropriately

If you know you want to work at a PUI, then you want to think about the

implications of choosing a particular lab for your thesis work. If you choose a lab that does only one technique and your project requires you to work with live Ebola virus, then you are not setting yourself up for a teaching job. Most PUIs want a person who is versatile and can conduct student-based research.



Proficiency with a single technique is too limited a repertoire, and Ebola is not conducive to inexpensive and short-term research projects with

inexperienced undergraduates. If you are still keen to choose this project, then accept the necessity of a postdoctoral fellowship in order to add breadth to your training.

The biggest question in the minds of most graduate students who want to teach is, “Do I have to do a postdoc?” The answer is yes and no. I have met a few recent hires who had no postdoctoral training, but nearly all tenure-track faculty in the sciences have postdoctoral experience. Unlike postdocs who want to be faculty at major research universities, those interested in teaching typically complete their postdocs in two to three years. Postdoctoral training is beneficial for several reasons: 1) since so many applicants have postdoc experience, those without are at a disadvantage; 2) additional training allows you to broaden your knowledge and gain sufficient experience to teach at least one additional course; 3) postdocs should gain more experience writing grants and publishing peer-reviewed papers; and 4) you will develop a degree of maturity that comes from having to adapt to a new area of research in a short amount of time.

Success in your career will be determined by what you know and your ability to think

and communicate. A successful postdoctoral fellowship is usually determined by good mentoring and a stimulating environment. Don't focus on the "name brand" of your postdoctoral PI. Choose a mentor who supports your career goals and whose lab does good science. With a few Nobel Prize winning exceptions, name recognition of your postdoctoral mentor is insignificant since most members of the search committee only recognize the names within their field and will not recognize your mentor's name. However, you might find that the name of the institution where you postdoc has a greater impact. The quality of training may not be any better at a name brand institution, but some members of the search committee might be impressed, which may, in some small way, help you get an interview. A much more important consideration is whether you will be able to take your postdoc research with you. Some PIs do not let go of their projects for any postdocs, or maybe your research is too difficult to conduct at a PUI with its limited resources. For example, if your research requires a Level 4 biohazard lab, you will never get a teaching job where you are expected to maintain a research program. The ideal project for a PUI is one that is cheap, easy to learn, safe, and not subject to intense competition. If you want to teach molecular biology and use it in your research, most schools will have standard equipment, but you could help yourself by using an inexpensive system like *Chlamydomonas* or *Drosophila* instead of more expensive ones like mammals or tissue culture.

Another common question is whether a postdoc should tell his or her mentor that teaching is their long-term interest. Yes, you should be honest up front because, in the end, you will want a letter of recommendation from the PI so he or she will find out eventually. If you are considering a lab where the PI is hostile to

teaching as a career, it is better to find this out before you commit yourself to this lab. Do not subject yourself to a lab where the PI resents his or her "wasting time" on someone who will "just wind up teaching anyway." There are plenty of PIs who view teaching as an admirable career. If you find your PI is less supportive, you can seek out informal mentoring from other faculty. Look at the CVs of faculty in your program to see who got their undergraduate degree from a PUI and talk to them as a starting place. Ask other graduate students which PIs are supportive of teaching and seek out their advice.

A lack of teaching experience is a concern for many who have followed traditional graduate student and postdoctoral training. Most Ph.D. candidates have to teach for at least two semesters. Often, the sections are huge and allow little room for personal input and control of the course. If you know that teaching at a PUI is your objective, try to teach more than the bare minimum. Offer to guest lecture for your mentor (very few mentors object to this). You might be able to teach a course for someone on sabbatical at a local college (either a 2-year or 4-year institution). As you gain more teaching experience, ask yourself again if you enjoyed the process. Is this what you want to do for the next 30 years? However, keep in mind your research should be your top priority in graduate school and as a postdoc. Learning to balance teaching and research duties is valuable preparation for a faculty position, but without solid research training and a reasonable publication record, you cannot get a job. Some current PUI faculty taught for a year between graduate school and postdoctoral training. After a typical postdoc position, PUI faculty have taught for a year or two in temporary positions until they could secure a tenure-track position. As is often the case, obtaining the position of your dreams does

not require you follow one formulaic pathway, so use your judgment as you balance training in research and teaching.

Some graduate schools offer preparing future faculty (PFF) programs to help those interested in pedagogy as well as research. In recent years, a number of postdoctoral opportunities with a partial focus on teaching have arisen.⁶ These range from internally funded positions at PUIs to federally funded postdoctoral programs at R1 institutions with a dual focus on research and pedagogy. Although these teaching postdoc positions can provide training and experience in teaching, just as with a more traditional postdoctoral position, it is essential to establish a solid track record in research. You will not be able to get a job where both research and teaching are expected without research publications.

Where are teaching jobs advertised? This is the easiest part of the entire process; all jobs are listed either in *Science* and/or in *The Chronicle of Higher Education*. In *Science*, most jobs appear between late August and early January, but some gems can be found outside this peak time due to unexpected changes in faculty because of death, retirement, or relocation. *The Chronicle* tends to list jobs later than those advertised in *Science*. Also, *The Chronicle* ads tend to emphasize teaching more and research less. There will be some overlap between listings found in *Science* and *The Chronicle* but you should check both sources to be sure you see all of them. Other websites such as HigherEdJobs.com, Academicjobsonline.org, and Academickeys.org also have job postings. Specialized websites such as the HERCjobs.org (Higher Education Recruitment Consortium), SENCER.org (Science Education for New Civic Engagement and Responsibilities), and professional society web pages also list openings. Often these listings also appear in

more traditional locations such as *Science* and *The Chronicle of Higher Education*.

Things to Do before Applying

There are a number of things any candidate should do before applying for a position.

- Contact local colleges or your *alma mater* and offer to present a seminar of your research, then make the time to do it. There is never a good time in your schedule to do this, but the practice is invaluable and most colleges would be happy to have a free seminar speaker. While there, show them your CV, teaching philosophy, and research interests (see below). Ask for constructive criticism and suggestions for your job search.
- Once you have seen an ad that is tempting, do a little homework and soul searching. Ask yourself how far you really want to stretch yourself. For example, if the ad is for a geneticist and you are a biochemist who happens to use *Drosophila* tissue, could you really teach genetics? Even if you think you could manage that “stretch,” do your application materials indicate that you could cover the teaching responsibilities effectively?
- Consult Science Citation Index’s year-end report, which has a state-by-state listing of that year’s publications from each department of every institution in the country. Compare the school in question to others with which you are familiar. This will give you an idea of the level of research at the school in question.
- Use the Council on Undergraduate Research’s Directory of Biology Departments. It is a very impressive list of most of the top PUIs in the country and it gives a great deal of information

about the available equipment and research interests of the faculty.

- Use any college guide to learn about their students in areas such as geographic and ethnic diversity, average SAT scores, *etc.* Peterson's Guide (<http://www.petersons.com/college-search/college-guide-four-year.aspx>) also lists the school's endowment (under School Facilities), which will give you a sense of how deep the school's pockets may be when it comes time for negotiations of salary and set-up money.
- Call the chair of the department, or the chair of the search committee, to ask some general questions. The fact that you called will probably be recorded in your file. You can try to get a better understanding of the job: how many contact hours you would be expected to maintain; is there research space available or in the planning stage; how many students are in a typical course; will there be any set-up money; how many majors the department has, *etc.* However, you should avoid asking questions that are easily answered by doing some investigation on their web site.
- Find the college's catalog online to learn what courses are offered, who teaches them, and how often. Find the department to which you are applying and pay attention to any aspects of the educational experience that are being emphasized by that institution. Have they recently been funded to revamp a component of the curriculum in a way that you could contribute? You can also get a feeling for the history of the college, and any areas of special pride. Be sure to track down and read the school's mission statement and strategic plan (if it has one). This background information gives you a sense of the school's personality and comes in handy

when you are writing your cover letter. This knowledge can also equip you to converse with administrators such as deans and provosts during interviews (who may not be scientists and will appreciate a candidate's ability to talk about broad institutional issues).

The Application Format

You will need to submit four documents for any teaching position where there is an interest in research-active faculty: 1) a cover letter; 2) your CV; 3) a statement of your teaching philosophy; and 4) a description of your research interests. Even if the ad does not ask for all of them, you should send them. If they really don't want one of the documents you send, they will not read it. However, some institutions will not list all four required documents to save space (*i.e.*, money) or as a quick way to eliminate those "who don't know better." Some PUIs ask for transcripts, which you might want to have in your files so you can send them copies directly, if this is acceptable. Of the four standard documents, here is a list of their relative importance: 1) cover letter, 2) cover letter, 3) cover letter, 4) cover letter.

Cover Letter

Although your CV, teaching statement, and research interests/plan are important documents for a job that expects both teaching and research, the first round of cuts will be heavily influenced by your cover letter. The cover letter is incredibly important for the following reasons. There is no one in the department who does exactly what you do (if they did, they wouldn't want to hire another one), so no one will understand fully your research or appreciate who has written your letters of recommendation. You are writing to an audience of administrators and a collection of biologists from every subdiscipline, so your cover letter should be general in nature

in order to appeal to everyone while sufficiently distinct and not generic. At some institutions, the older faculty may not conduct research at all, and may not be familiar with the latest techniques. They may have as many as 150 applications to read, so everyone is looking initially for those that folders can be eliminated easily rather than trying to identify the best applicant. With this in mind, the first document most faculty read is the cover letter, so yours should not contain any reasons to justify putting it in the stack of excluded applications, though it is unwise to hide important information in hopes the search committee won't find out. Rather than burying obviously relevant information, it might be better to present the information and diffuse it up front. Once again, use others as sounding boards if you think you might have a delicate situation to address.

Now that you know which document needs to be perfect, what should it look like? It should be about 1.5 pages long, explain why you are interested in teaching as your primary focus, demonstrate you are familiar with this particular school, and make it clear that you want to work with their undergraduates. (Be sure to use the term “*undergraduates*” since some applicants send the same cover letter to research institutions and PUIs—a guaranteed way to be excluded from the PUI search.) If you determined from your phone call or the job advertisement that there is an interest in hiring a research-active faculty member, you want to describe your intention to conduct student-based research. The cover letter should be well written, easy to read, and reveal enough of your personality that your application stands out from the others. You should address all of the specific position requirements from the job ad, especially for things your CV might not contain (*e.g.*, being prepared to teach large intro classes or courses for non-majors). Once you have a

document in a presentable format, have several colleagues critically read your cover letter in order to see how you look on paper. Ideally, you could ask the local college where you gave a practice talk to look at your cover letter since they are in a better position to evaluate it than a typical research institution.

Curriculum Vitae

Your CV should be written as if you were trolling for fish—put out as many hooks as possible to snag as many fish along the way as possible. Of course, you need all the basic facts, but they should be presented in the best possible light. For example, let's say your Ph.D. thesis is on a molecule in the right ear of the tsetse fly and you got your degree with Dr. X at University Y. You could list yourself as:

Ph.D., 1995, University Y.

Or you could say:

Ph.D., 1995, University Y.

Thesis title: “A big and novel molecule in the right ear of the tsetse fly”

Thesis advisor: Dr. X.

Comprehensive exams in Entomology and Neurobiology

By listing all this information, you have put out four hooks instead of one. You never know who is interested in some obscure aspect of your training and, by providing the details, you have allowed one more person to get hooked. Perhaps someone actually knows your former thesis advisor, likes insects, or likes the idea of hiring an insect neurobiologist. The year of your Ph.D. may indicate your “scientific age” and the name of your university may also carry some implications. At the top of your CV, you may want to put some biographical information, but you may not. Your name will probably indicate your gender so that is not an issue. But do you want to give your birth date? your birthplace? marital status?

These are issues that should not be factored into hiring decisions but frequently are (at least subconsciously) by some faculty. So if you think it might help, add it; but when in doubt, leave it out. If you decide to include personal information, do not give names or ages of family members.

You might want to include some of the following sections in your CV:

Education

List your degrees (with as many hooks as possible) beginning with the most recent. Some people like to include postdoctoral training under education. Also, non-degree experiences could be added here (*e.g.*, Cold Spring Harbor courses).

Academic Appointments

You can list any temporary teaching positions, postdocs, research associates, *etc.*

Honors

Cum laude, Phi Beta Kappa, undergraduate scholarships, fellowships, awards (especially “TA of the year” or other teaching awards), *etc.* At this stage in your career, you can let go of high school accomplishments.

Teaching Experience

Beginning with the most recent, list all your teaching experiences, even if you did volunteer teaching for public school kids, a single guest lecture for undergrads or grad students, as well as all TA positions. The key point is to establish a long-term interest in teaching. Search committees are on the lookout for a postdoc who could not find “a real job” and has reluctantly decided to settle for a teaching position. Likewise, you do not want to appear to be running from the demands of research in search of an “easy” teaching job. Include experiences where you mentored students in research projects as this will likely be part of the job as well.

Mentoring undergraduate research could include independent study projects or summer research projects. If your undergraduates won research awards, it would be appropriate to mention this as evidence of your mentoring capacity. You might include a very brief annotation of each experience so your specific role and responsibilities are clear (a TA can be a grading automaton or a valued co-instructor).

Professional Activities

List your memberships in professional societies (give dates of membership), editorial consulting for X journals or funding agency when you reviewed a paper or grant proposal for them, including those your mentor farmed out to you. Include committee memberships at the university or professional society level, any invited talks (*e.g.*, your *alma mater* practice talk), and funded grants.

*Publications (* denotes undergraduates as co-authors)*

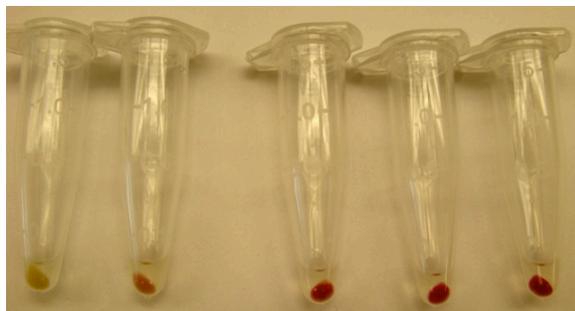
If you have any undergraduates as co-authors, set another hook by drawing attention to this fact by placing an asterisk (*) next to their names. If your name has changed, help the readers out by noting this where appropriate.

Articles

Begin with the most recent including those *in press*. If you have both research and review papers, you might want to list them under separate headings to enhance your professional appearance. If you need to, you can add manuscripts in progress but this should probably be done if you have only two or fewer publications. Listing projects as works in progress draws attention to a weak publication record.

Abstracts

Begin with the most recent, and indicate where the abstract was published or where you presented the work. You may want to distinguish between oral and poster presentations, if you are keen to do so. It is helpful to put your name in bold font if multiple authors are listed. Presentations at “in-house” formats should not be included in this list.



References

These are the people who will write your letters of recommendation. You should provide their title, name, mailing address, phone number, and email address. Choose a panel of people who have different perspectives of you, especially if they can comment on your teaching ability and/or your desire to teach. Your graduate and postdoctoral advisor are both expected to be on this list. If they are not, you will be raising red flags for the search committee and you will need to explain their absence. One of your undergraduate teachers might be appropriate if you were close to this person and have maintained contact. To facilitate the letter writing process for your references, notify them well in advance and send them a list of addresses and brief descriptions of the positions. It is appropriate to tell these references that you would appreciate their highlighting different aspects of your background. For example, one might emphasize your teaching experience and desire to teach while a different letter writer might emphasize the quality of your research. The third letter writer might highlight how you have

mentored undergraduates in the lab and sought additional training in pedagogy, *etc.* You want the collection of letters to support the different aspects of your training as you have described them in your documents.

Teaching Philosophy

Writing a teaching philosophy is like trying to photograph a dense fog. As with your cover letter, the ideal length is about 1.5 pages. With 150 applications to read, no one wants to read epic statements. Keep in mind that you need to hook someone from the beginning, so aim for an intriguing story or example that draws the reader in and demonstrates something about your teaching ability. The most common misconception about teaching statements is that they should be philosophical. Vague, abstract language describing your perspective on good teaching is not as helpful as concrete points backed up by discipline-specific examples. In this document you can explain more about the basis for your desire to teach; what courses you could teach in addition to the ones advertised (based on what you learned from reading the catalog, although this could be a touchy subject if someone on the search committee feels threatened, so use the phone call to help figure this one out); what teaching goals you might have; what constitutes good teaching; what you might do in the lab sections that deserves special mention. When possible, support your statements with specific examples of what you have done or what you intend to do. The definition of a good teaching philosophy is open to interpretation, so ask faculty at nearby colleges to critique your statement in exchange for a free seminar. I have found that even faculty I had never met were willing to help out a budding young teacher.

Research Statement

The research statement should also be about 1.5 pages and should be in balance

with your teaching philosophy; do not present a lopsided picture of yourself. You cannot go into too much detail since there is not enough room and no one will fully appreciate its significance since no one else publishes in your field. Make sure to cover three areas of particular importance: the nature of your research, undergraduate student involvement, and the potential of funding your research. If you want to brag a bit, you can add appendices under the appropriate area (*e.g.*, reprints, examples of student work, *etc.*). Appendices allow you to set more hooks but the material is optional reading. The 1.5 pages of your research statement should stand alone, but if the committee gets serious about you, they can access more material in an appendix to make a more informed decision. If you have submitted a grant or had one funded, you could include portions in another appendix under the fundability section. Keep in mind that PUI search committees often include a variety of scientists, and may include faculty from outside the department who are non-scientists. You should avoid jargon and don't assume that your readers know the field as well as you do. Figures and diagrams are appropriate when they clearly represent the nature of your research inquiry, but keep the number to a minimum (no more than two).

The Phone Call

If you get a call from a school requesting an interview, find out who will be in the audience, the preferred length of your talk, and whether a completed story (your thesis) or ongoing and future work is preferred. In addition to examining the fit of your research approach for their institution, the search committee is also using your seminar as a gauge for how you might present new material to an audience of non-experts—just as you would in a classroom full of undergraduates. Ask to meet with students

without any faculty present, perhaps over a meal. Some schools automatically schedule this but, if not, request this time with students. Meeting biology majors is very important since they will be your research colleagues and the people with whom you will work the most. Many PUIs will ask you to present a lecture to a class or teach a mock class in addition to your research seminar. If this is not required, you may want to volunteer to give a lecture. A guest lecture might give you better insight into the caliber of students and enable the faculty to evaluate you more completely. It may also be worthwhile to have an opportunity to see how members of the department interact with their students. You might want to ask to visit a class, or sit in on a lab meeting. If those situations are not scheduled or you do not feel comfortable requesting them, then pay attention when you are in situations involving both students and faculty. Knowing something about the current student-faculty dynamic will be important since most of your time will be spent with students as well.

Preparing for the Interview

From this point on, think of yourself not so much as competing against two or three other candidates but as a prospective employee looking for the best fit. At the interview stage, the departmental search committee is also looking for the best fit among a small number of qualified candidates. You want to find your niche in the broad spectrum of approaches to answering the question, "How do we teach biology?" Some schools have created "research colleges" where most of the faculty receive extramural funding and have large research labs but do not stress curriculum innovations. Other departments send their students away for summer research experiences and put most of their resources into the curriculum and intensive

student contact. These dichotomous models, and all those in between, can be successful only with the right combination of faculty members.

Now it is time to get more serious about your homework. Familiarize yourself with the department members and the courses offered. Look in the most recent March issue of a journal called *Academe* (<http://www.aaup.org/AAUP/pubsres/academe/>), which lists the average salaries for assistant, associate, and full professor for nearly every school in the country. The salary listed for an assistant professor includes those with 6 years of teaching experience so your starting salary probably will be lower than the average. At some institutions, however, science faculty are paid larger salaries than faculty in other disciplines. The annual report from *Academe* will tell you what to expect as a reasonable salary offer. You can use an online tool to compare the cost of living between where you live now and where you might move. An online comparison will help you see the relative buying power of the starting salary offer. Do a little digging into the benefits provided to faculty. For example, a faculty salary might be on the low end for a given location but some institutions provide assistance with housing (whether on campus housing or mortgage programs for faculty). Read all the papers published by department members during the last five years. Some people keep their online CV up to date, but others do not. Therefore, start with their online list of publications but you should search for more recent ones to be sure you have found all of them. Prepare a five-year research plan with an explanation of how it involves students. Also compile a list of equipment (with prices) that you will need to teach and conduct research. Figure out what is already included in common departmental facilities and whether sharing

equipment is the norm at schools you are considering.

The Interview

The average interview has the following basic format. You'll meet students, faculty, the dean (and maybe the provost or president), give a seminar, go out to eat (and drink, but watch yourself), and generally be kept very, very busy. This process can be exhausting so don't let down your guard; mind what you say to everyone from the time you arrive until after you have left, including those delegated to transport you to and from the airport. Some places forget to schedule bathroom breaks so you may have to request them as needed.

The interview provides your best chance to get answers to all your questions, so make the most of your visit. During your time on campus, there are a few things you should try to do. Go to the department and the library after hours to see who and how many are working. While in the library, look for the journals you will need and find out which journals are available online. Ask to look at some housing options, and get a feel for the quality and cost of living in the area (compare what you hear with what you found out online). Make sure you get a good tour of all the facilities and equipment in the department, as well as the rest of the campus.

Other points to keep in mind during your stay:

- Note any differences between responses of tenured and non-tenured faculty; try to detect if this is an embattled department (*e.g.*, animal vs. plant, molecular/cell vs. organismal/field, research active vs. non-active).
- Make sure that you meet everyone in the department and there are no hidden skeletons.
- Bring a small notebook and take notes during your meetings with everyone—

faculty and administration—because by the end, it will be hard to remember all the details; this notebook is a good place to keep a list of all the questions you want to ask, because you are expected to have a lot of them. It might also be worthwhile to write down some information about each person that you are interviewing in the notebook prior to your visit (research field, educational history, *etc.*), so that you can tailor each conversation to the specific person interviewing you.

- During your facilities tour, take note of what available equipment may be of use to you. Be aware that your tour guide might not be familiar with every piece of equipment in their department, so it may be worthwhile to take notes on manufacturer and model number so that you can be sure the equipment has the capabilities that you think it has. You could take photos with a phone to save time during the tour.
- If the occasion presents itself, casually mention the other schools considering you, because this makes you appear more attractive.
- Be on your best and most courteous behavior with everyone, including administrative assistants who may have helped you arrange travel and scheduling. No matter what anyone says, you are always being evaluated, and the interview is not over until you are out of sight.

If no one in the department conducts research, beware of the potential for unrealistic expectations of your research from both the department and the administration. Ask about the possibility of a reduced teaching load in exchange for student-based research or extramurally funded grants. Find out how reappointments and tenure decisions are made, who is

involved in these decisions, and what percentage of faculty are denied tenure. Faculty handbooks typically describe the requirements for tenure as clearly as any document produced by your potential employer. Be prepared to be asked illegal questions concerning age, sexual preference, marital status, and children. (Questions concerning religion are legal at church-related schools that advertised as such.) You have three options in response to illegal questions: 1) refuse to answer directly or by changing the subject, 2) note the impropriety (either overtly or subtly) of the questions but answer them anyway, 3) anticipate the questions by inquiring about schools, benefits plans, or job opportunities for significant others. Interview meals are more informal and this is often the time when personal questions come up. Being willing to talk a bit about yourself and your interests will help potential colleagues get to know you.

The Dean

Some questions are best asked of the dean. Ask him or her about:

- The salary range offered for this position (this may not be their final offer, but negotiations should wait until after you have been offered the job) and the benefits package including annuity, health insurance, moving expenses, occasional free classes for family members, tuition remission for your children. Sometimes these details are left to someone in human resources so don't be offended if you get such a response.
- Set-up funds.
- The standard for research productivity for promotion and tenure. Ask this question of everyone you can, since it can be a moving target and the earlier you begin to gauge this the better you will position yourself for advancement.

- Perceptions of the department's strengths, weaknesses, and areas for growth.

Sometimes you will be asked open-ended questions concerning set-up money. Dean: "How much were you thinking?" Candidate: "That depends on the institution's commitment to research." This is where your ability to bargain will be useful. Remind the dean that 1X funding gets 1X results and 10X funding gets 10X results. However, aggressive negotiation puts reasonable expectations on you to perform. Ask the dean to define "scholarly activity" in regards to tenure. It is a good idea to present the dean with a list of equipment that should be prioritized as equipment needed versus wanted, with potential funding sources for the latter. Your equipment list should include everything you can justify since you can look very generous as you compromise during the negotiations. It may also be important to note instances where the equipment you are requesting can directly benefit other faculty on campus, especially if that equipment has a large price tag. Although the culture varies from institution to institution, it is common for some equipment to be shared. It might be worth pointing out that time spent on applications for funds to purchase essential equipment is time not spent on teaching or research. Again, the final negotiations will come later, after the job offer is made.

The Chair

The chair has information and/or control over limited aspects of the department. Ask the chair how long he or she has held this position and whether this is a rotating position or an open-ended one. Have "scholarly activity" defined in the chair's own words and compare this with the dean's response.

- Does the definition include:

- attending national meetings (with or without posters and/or students)
- publications (is there any weight given to one article in *Nature* vs. three in obscure journals)
- publication of textbooks and lab manuals
- national society committee participation
- grants applied for versus funded
- research with students (with or without resulting publications)
- What, if any, consideration is given to publications about teaching (such as scholarship of teaching and learning)?
- What does the chair see as the department's strengths and weaknesses?
Talk to the chair about teaching loads and course rotations (some departments pass around courses for non-majors). It is also good to find out whether the department offers courses in the summer and how that staffing is handled. Find out who in the department has received grants lately and from which agencies. Ask to see your potential office and research space in addition to the classrooms and teaching labs. Beware of vague responses and promises of a newly renovated lab space that seems too good to be true. If they discuss a space that is not currently available, ask about the budget for renovations, the blueprints, and a timeline for when the renovations will be completed.

Questions for Every Faculty Member

It might prove informative to ask these questions of each member in the department. You might uncover some factions within the department that you might not notice otherwise.

- What percent time does he or she spend on teaching, research, and service?
Compare their responses to what you know about their publications and when they were hired, since expectations at

most schools have changed in recent years.

- What is the average size of classes, labs, and overall workload?
- How does each member see the new position? The new physiologist position, for example, is it for a plant physiologist, human physiologist/anatomist, or someone who does patch clamping? Is everyone in agreement, or are there opposing ideas being presented?
- How are departmental decisions made (*e.g.*, course schedules, space allotment, equipment purchases, classroom and lab assignments, *etc.*)?

Questions for Any Faculty Member

Some general questions can be asked of any department member.

- What is the policy concerning sabbaticals for both tenured and pre-tenured faculty? You might follow up with questions about the nature of someone's recent sabbatical project to get a sense of the scope of work expected.
- Does the department use TAs and work-study students? If so, how are they funded and how are they assigned?
- Who is responsible for setting up equipment and washing glassware used for teaching labs?
- Does the college have a license to work with radioactive isotopes?
- Are biology majors required to do research? Do they have to submit a thesis? What does a thesis look like at this institution?
- Are there any curriculum changes in the works?
- Are there any collaborations currently underway within the department, with other departments, or other schools?
- Are the sciences coordinated and unified, or split and possibly hostile?

- Who pays for photocopying, phone calls, interlibrary loans, faxes?
- Does the administration support travel to scientific meetings?
- Is there financial support for research expenses or sabbaticals?
- How are subscriptions to vital journals requested?
- Do you have access to the nearest large university research library?
- Is there a formal department seminar series, and who is responsible for inviting and hosting the speakers?

Questions for Students

Often, students will tell you the way they see their school and department without "politically correct" filters. Ask them:

- What courses do they like and hate?
- Do they read journal articles?
- What are the strengths and weaknesses of the department and school?
- Do all the faculty get along?
- What do they have to do to get good grades?
- How do they view their relationships with the faculty?
- With hindsight, would they choose the same school again?
- Do they control any aspect of the department (speakers, clubs)?
- Have any alumni returned to talk with them about life after graduation?
- Do they have any future plans?

If you feel your student interaction was too controlled or monitored by a faculty member, considering inviting some students for a more informal discussion over coffee or soda if there is time during the evening.

The Job Offer

The job offer usually comes via a phone call from the dean. If you have asked all these questions and they still want to hire

you, don't jump at the offer right away, especially if you have additional questions and are considering competing offers. Tell the caller you would like some time to consider the offer. You could ask to come visit again in order to finalize details and let your significant other see the area, though you may have to pay for this trip yourself. You might want to call other places you are considering and update them to see where they are in their selection process. Establish a date by which you will be able to provide a definite answer (a couple of weeks is reasonable under most circumstances).



Once you have signed the contract, never again will you have the ability to directly affect your salary. After you sign the contract, your annual wage increases will be percentages of your starting salary. It is worth reminding yourself that you have been selected with much pain and expense and that the first offer may not be as high as they are willing to go. It's like buying a car; some places offer fixed prices while others like to haggle. You will have to deduce this distinction on a case-by-case basis. One cautionary note: most PUIs are not accustomed to hardball negotiation tactics so be firm but not pushy. You do not want to spend all of your political capital with the dean during the negotiations because the dean may extract his or her revenge by providing a smaller percentage salary increase for the second year in order to recoup the PUI's losses in your high starting salary.

After you have the final offer, write down what you understand to be the complete package (*e.g.*, teaching load, set-up money, lab space, salary, moving expenses, and benefits) and send it to the dean and ask for his or her response. Explain to the dean that this unwieldy procedure is designed to make sure everyone is in agreement on what the offer included.

Once all the legalities are out of the way, you want to think about the timing of your move. When can you leave your current situation and when could you move into a new home? Set some reasonable goals for wrapping up loose ends in your postdoc lab or other current situation and avoid adding things like one last paper, taking on a rotation student, *etc.* PIs typically expect that productivity will change due to an impending move. There is a big difference in your ability to make a smooth transition if you move in June versus August. You should try to move early enough that you can settle in and get organized for your first classes. You will have one chance to make a good first impression on your new colleagues as well as your students. Give yourself enough time to get off to a good start, and enjoy your new career.

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Additional Resources

General resource for the academic job search:

<http://www.yale.edu/graduateschool/careers/forms/Academic%20Job%20Search%20guide.pdf>

Sample resources for academic job search:

<http://www.yale.edu/graduateschool/careers/resources.html>

A very good concise guide for writing an effective teaching statement:

<http://www.princeton.edu/mcgraw/library/for-grad-students/teaching-statement/>

And another from Princeton on teaching in interviews:

<http://www.princeton.edu/mcgraw/library/for-grad-students/teaching-in-interviews/>

From Carnegie Mellon's teaching center, a well-done guide to designing and teaching a course:

<http://www.cmu.edu/teaching/designteach/index.html>

Postdoctoral Services at Duke University has a YouTube channel with a series of videos covering a number of relevant topics including advice on writing job applications, the interview process, and running a research group. These resources are directed more toward applicants headed to more research-focused positions, but some of the

advice applies more broadly. It can also serve as a useful tool to help you to identify the differences if you are also applying to positions with more of a research focus.

<http://www.youtube.com/user/DukePostdocServices#p/u>

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