Making the Right Moves

A Practical Guide to Scientific Management for Postdocs and New Faculty

Chapter 1

OBTAINING AND NEGOTIATING A FACULTY POSITION AND PLANNING FOR TENURE

Burroughs Wellcome Fund
Howard Hughes Medical Institute

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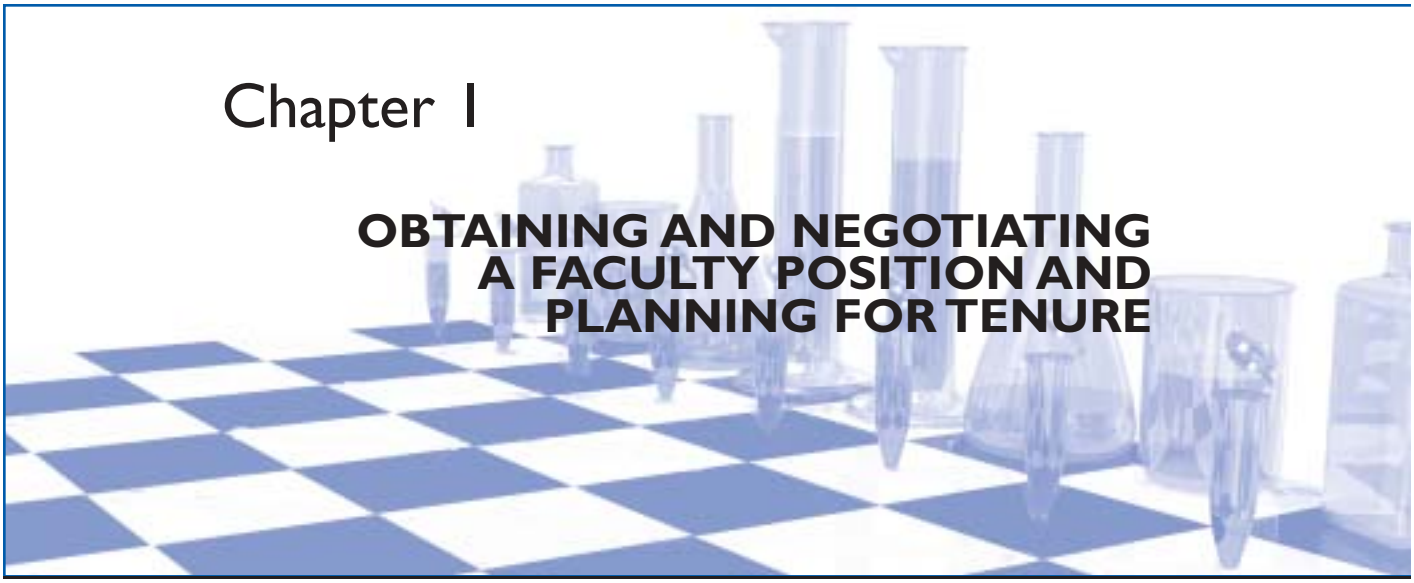

Chapter 1

OBTAINING AND NEGOTIATING A FACULTY POSITION AND PLANNING FOR TENURE

This chapter is based on the session "Obtaining and Negotiating a Faculty Position" that was held at the BWF-HHMI Course in Scientific Management. The session was organized by Rolly L. Simpson, Burroughs Wellcome Fund, with presentations by Chris M. Golde, Ph.D., Carnegie Foundation for the Advancement of Teaching; Johannes Walter, Ph.D., Harvard Medical School; and Christopher Wylie, Ph.D., Cincinnati Children's Hospital Research Foundation. Additional information was obtained from Peter J. Bruns, Ph.D., Howard Hughes Medical Institute (HHMI); Milton W. Datta, M.D., Medical College of Wisconsin; Todd R. Golub, M.D., Dana-Farber Cancer Institute (also HHMI associate investigator); Carl Rhodes, Ph.D., HHMI; Tony G. Waldrop, Ph.D., University of North Carolina–Chapel Hill; and some of the resources noted in this chapter.

As you complete your postdoctoral training, you are probably starting to think about the next step in your research career. For some of you, this may mean a position as an investigator in an industry or government laboratory. For others, this may mean a faculty position at a university or medical center. If you pursue the latter, you will have to decide whether a tenured or nontenured position is better suited to your personal goals and ambitions. Although all these career options are rewarding, this chapter focuses on the tenure-track faculty appointment.

As you embark on your search, you will face a series of challenging questions:

- What do I want and need from my job?
- How do I go about finding a job?
- How can I ensure that my achievements and capabilities will be recognized?
- How will I choose among the offers I receive?
- How can I ensure that the resources I need to launch my career are included in the job package?
- How can I increase my chances of getting promoted and obtaining tenure?

There are no universally right answers to these questions, but there are well-tested strategies for finding and obtaining the right academic appointment and for obtaining tenure. This chapter discusses some of them.

OBTAINING A FACULTY POSITION

The Job Search

Once you decide to launch your search, make it a concentrated effort. Ideally, doing so will bring multiple offers your way at about the same time. Making the job hunt a flat-out effort also makes the labor-intensive process of gathering credentials and references much more worthwhile. Keep in mind that most academic positions are advertised in the fall, with the assumption that the job will start in summer or fall of the following year.

Knowing what you want. Your chances of finding the right job will be greater if you have your own needs and wants firmly in mind. For example, consider the following questions:

- Do you need to be working at a top-rated institution, or would a less-intense atmosphere be acceptable or even preferable, given your talents and ambitions?
- Do you want to devote yourself exclusively to research, or would you prefer some combination of research and teaching or clinical practice?
- Do you want or need to be in a particular area of the country? Do you prefer an urban, rural, or suburban location?
- Will personal responsibilities, or your spouse's or partner's professional needs, set limits on your search?

In addition, if you are a physician-scientist, you will have to decide whether you want to be more of a researcher or more of a clinician.

A Few Career-Related Web Sites for Scientists

Science magazine's Next Wave Web site contains a Career Development Center for postdocs and beginning faculty (*http://nextwave.sciencemag.org/cdc/*).

The Chronicle of Higher Education's online newsletter *Career Network* has career news and advice and publishes new scientific faculty and research jobs every day (*http://chronicle.com/jobs*).

The University of Washington's *Re-envisioning the Ph.D.* provides Web resources related to job hunting for doctoral students, postdocs, and academics (*http://www.grad.washington.edu/envision/phd/employment_index.html*).

Learning what is out there. Use all available formal and informal sources of information. Formal sources of information include the following:

- Job announcement letters sent to your department
- Announcements (print and online) in major scientific journals such as *Cell*, *Science*, and *Nature* and in publications devoted to your subspecialty
- Web sites of academic institutions
- Employment bulletins published by professional associations

Informal sources can be even more valuable—for example, the supervisor of your postdoctoral research; other scientists with whom you have a relationship, especially those with whom you have collaborated; and your peers. So, get the word out that you are looking.

Narrowing your search. Measure each job opportunity against your list of priorities. Find out about

- The institution's mission, values, political and social climate, and quality (e.g., national or regional ranking)
- The department's mission, research activities, curriculum, and collegial atmosphere
- The parameters and expectations of the position, including whether it is tenure track

There's no easy way to tell how many positions to apply for. Remember, though, job hunting is not wasted time; the process has valuable spin-offs. For example, you will get a chance to make presentations about your work. Your ideas are sharpened in the process, and the research itself benefits. You are practicing skills you will use throughout your career. You also get better at the job-hunting process as you go along. Your self-confidence builds, and your sense of what you want develops as you are introduced to various research environments.

However, don't apply for a job that you are clearly not qualified for or that really does not interest you. You don't want to waste people's time and perhaps damage your own credibility.

The Job Application

Once you have found one or several positions that you would like to apply for, you want your application to stand out sufficiently so that you will be invited for an interview. Here are some guidelines.

First impressions. Your application is likely to be one of hundreds that an overworked search committee must sift through. Follow the application instructions, and make sure your application is concise and free of factual, grammatical, and spelling errors. You don't want it eliminated at the outset because it makes a bad impression.

Get your application in on time. However, if you learn about the position after the application deadline has passed, still send in your application; many departments are willing to consider late applications.

> *While a nicely prepared application will obviously not get you a job, a poorly prepared one makes a bad impression no matter how many papers you have published.*
>
> —Johannes Walter, Harvard Medical School

The cover letter. This letter, which should be limited to one page, is extremely important and should be written with great care. It should give the search committee a quick but informative picture of your background and interests relevant to the job. Include the following items in your letter:

- Brief self-introduction
- Statement specifying the position for which you are applying
- Statement about your research accomplishments, indicating why the work is novel and interesting
- Brief description of your research plans, indicating what is important or creative about what you propose
- Brief description of your teaching (or clinical) experience, if the position emphasizes these activities
- Any special circumstances you believe the committee should know about up front

Two-Academic-Career Couples

"Partner hire" packages, in which a job is found for the accompanying spouse or partner, take considerable work. You should put this item on the table early in the interview process—certainly before you receive an offer. You will learn whether the university, and your prospective department, views two-career appointments positively or as a nuisance.

The last item may be a difficult judgment call. It is hard to know whether to reveal information that could eliminate you as a candidate before you've even had an interview but that will need to be addressed should you receive an offer. The classic example of such a situation is that your spouse is also a scientist looking for a faculty appointment. If you decide not to mention such a circumstance in your cover letter, inform the search committee of your special needs early in the interview process.

If you have the names of your references, include them in your letter and be sure to describe how they know you.

The curriculum vitae (CV). This career summary should contain:

- Your name and address
- All higher education, with degrees obtained and dates
- All professional positions held, with dates and brief descriptions of the work performed
- Awards and honors, including pre- and postdoctoral fellowships
- Major sources of independent funding
- Publications
- Teaching experience and interests
- References, including names, titles, and addresses and other contact information

Highlight your name in bold type in your publications list. If you are listed as an equal author on a paper, use an asterisk next to your name and all other authors who are equal and note "*equal authorship" immediately below the relevant reference. *Do not rearrange the published order of authors to show that you have equal first authorship.* List manuscripts in preparation under a separate category. Indicate accompanying *News & Views* articles or other reviews of your publications. Do not include posters exhibited at scientific meetings.

The research proposal. This is the core of your application. It will describe your research plans to a search committee composed of people from several scientific areas outside your subspecialty.

Many successful applicants write two (or possibly three) research proposals, the first of which is closely related to their current postdoctoral work. The second and third proposals show the applicant's ability to think beyond his or her current work. These proposals are typically more creative and demonstrate a bit more risk. Include the following items in your proposals:

- A statement about the problem you intend to work on, indicating the key unanswered questions you will tackle. State how this research is expected to contribute to your general area.
- A description of your research plans. This section should comprise 50 to 70 percent of the proposal. Put forward three or four specific aims that address a range of fundamental questions within your discipline. Demonstrate that you have the necessary background to achieve what you propose. Be both creative and realistic.
- A few figures (perhaps one per proposal). These can help make your proposal more interesting to the search committee, which will be wading through perhaps hundreds of proposals from the other applicants. Remember, figures are most useful when they're embedded in the text and not tacked on at the end.
- A detailed description of your postdoctoral research, with an emphasis on what is novel and important and how it is the basis for your research proposal. Describe your predoctoral graduate research only if it is critical to your current interests.
- A list of references that includes your publications and manuscripts submitted or in press, as well as pertinent publications by others.

Reprints. Follow the directions for each application. Send along any important papers that are not yet published; otherwise, the committee will not have access to them.

Statement of teaching. If the job has a teaching component, add a separate section describing your interest in and approach to teaching and your experience.

Letters of recommendation. Depending on the application instructions, letters of recommendation can be included in the application package or submitted subsequently to the search committee. Typically, these letters are written by your graduate and postdoctoral advisers. It is also perfectly acceptable to submit one or two more references than the number asked for in the application. When you approach someone other than an adviser for a letter of recommendation, use the conversation as an opportunity to get a sense of how they judge your work. If you encounter any

Question: What if I don't get along with my adviser?

Answer: If you do not have a good relationship with your adviser and cannot ask for a letter of recommendation, make sure you explain *why* in your cover letter. Be completely candid about the situation. Not having a recommendation from your adviser is a red flag to the search committee and will not be ignored. The committee may even contact your adviser anyway. A letter from another faculty member from the same institution may be critical in this case.

hesitation at all, or an indication that the person does not have time to write a letter or does not know you well enough to do so, ask others. You should ask someone who really knows you and your work, not just someone with an important title.

Give those who are writing you a letter of recommendation plenty of time to prepare the letter. Give them your application package. If they suggest, prepare a draft of the letter of recommendation for them. Point out strengths you have that they may not be fully aware of. But be careful—do not appear to be dictating your letter to them. Provide them with stamped, addressed envelopes. Tell them when each letter to each of your potential employers will be needed, and then remind them until they send your letters. Check to verify that each letter has been received.

The Job Interview

A formal interview for a faculty position typically takes the form of a daylong or overnight visit to the campus. Normally, the institution inviting you for an interview pays your expenses for travel and accommodations. You can expect to meet with several faculty members, as well as others who may be asked to provide feedback about you to the search committee, and to give talks about your research. It will be your task to do the following:

- Convince the department that your work is exciting and that you will be a leader in your field.
- Convince each member of the department that you will be a good colleague.
- Find out if the institution and the department are right for you.

Be prepared for a demanding and exhausting experience. You will be on display at all stages of the visit, from the moment you are picked up at the airport until you are sent on your way again.

Advance preparation. Come well prepared by doing the following before your visit:

- Organize the logistics of your trip, including travel tickets, hotel accommodations, arrangements for pick up, and the schedule of events on interview day. Be conservative about your estimates of travel time: You don't need the added stress of missing a connection and being late.
- Find out about the academic interests of the people you are likely to meet. Read a few of their papers or at least skim the abstracts. Be ready to ask them about their work. You can probably find this information on the department's Web site.

- Learn as much as possible about the institution and the surrounding area. Knowing something about the city or town will give you a starting point for small talk.

Dress code. Dress neatly and in keeping with scientific custom as you know it. Avoid dressing at a level of formality that will make you and your hosts uncomfortable.

Preparing your job talk. During your interview visit, you will be asked to give a "job talk"—a formal presentation on your current research. A job talk generally lasts about an hour, including 10 to 15 minutes for questions. You have probably given this kind of talk before, and you know what works for you, but here are a few guidelines on how to prepare your talk.

First, write out the entire talk, thinking of your audience as you write. Remember, a talk is not presented in the same way as a scientific paper. You must get your main ideas across to listeners who have had little opportunity to study the details, as well as to those whose research interests and backgrounds are very different from yours. You can assume that your audience will be composed of intelligent people who are uninformed about your chosen scientific field. To help your audience follow your talk, divide it into several clear and concise sections, and give an overview of the talk at the beginning. At the end, restate your conclusions and offer an outline of your future research plans. At the outset or at the conclusion of your talk, include a brief statement acknowledging those who helped you in your research.

Next, translate your talk into a slide presentation. Most researchers use PowerPoint presentations to deliver their talks. Remember, however, to bring along a backup disk. Be sure to inform your hosts ahead of time about your audiovisual needs. Try to vary the design of your slides, alternating between text and figures. Resist the temptation to use only bulleted points, but also avoid long sentences. Be sure that your slides are readable and that the order of your slides matches your written presentation. (The American Society for Biochemistry and Molecular Biology and other professional societies publish guidelines for preparing these presentations.)

Finally, practice your talk in front of a mirror. Doing so allows you to time your presentation while getting used to the sound of your own voice. Keep repeating the talk until you can deliver it easily, using your slides as your only memory aid. If necessary, edit the talk down until it can be delivered comfortably within 50 minutes. Remember that a talk that is slightly too short is much better than one that is too long. It may be better to focus on only one aspect of your research, so you can give sufficient detail within the time you have. Save the rest for the question-and-answer session.

When you feel comfortable giving your talk, enlist your adviser, your postdoctoral colleagues, and any graduate students you work with as an audience for a practice talk. Encourage them to ask questions and offer frank criticism. Ask them for suggestions to improve your PowerPoint slides, and leave enough time to edit your slides accordingly.

Delivering the talk. Experienced speakers resort to a variety of techniques to control nervousness. Here are a few of them:

- Arrive early enough to set up equipment and become comfortable with the room. You may have to ask your host to get you to the room with enough time to prepare.

- Plant your feet firmly on the floor. Feeling balanced is important to your self-confidence.
- Know what you intend to do with your hands. A computer mouse and a pointer may be enough to keep you from fidgeting—but be careful not to play with either of them.
- Greet your audience and tell them you are glad to be with them. Make eye contact with a few audience members who seem eager to hear what you have to say. Then plunge in.
- Don't worry if some people nod off or seem uninterested; just continue to give your talk as you practiced it, making eye contact with those who are listening closely.
- Let it show that you are excited about your work. Demonstrate confidence by using "I" wherever it seems appropriate to do so.

> *Some fraction of the audience is always asleep during any talk, no matter how exciting the subject. Find a few people who are listening attentively and give your talk to them.*
>
> —Johannes Walter, Harvard Medical School

Answering questions during a talk can be especially difficult. Several ways for handling this are noted here:

- Repeat the question for the audience. Then take your time answering. If you need to, buy some more time by asking for a restatement of the question. In a pinch, give an interpretation of what you think the questioner wants to know. Then give your best answer and stop. Rambling on only conveys uncertainty.
- If questions are slow in coming, take the initiative by pointing out some aspect of your work that you passed over quickly but that you believe warrants the audience's attention. This gives you a chance to use some of the material you edited out of your talk. You may generate a whole new line of questioning. In case you need to go back through your slides to a particular one in order to clarify a point, arrange to have your computer presentation accessible during the discussion period.
- If challenged, listen to the criticism and give a judicious response. Don't become defensive. If the criticism seems unfair, stand your ground politely. You might suggest a follow-up discussion later.

Giving a chalk talk. During your interview visit, you will likely have an opportunity to give a less formal presentation—a chalk talk—during which you can offer detailed information about the direction of your future research. It should not be a polished slide presentation, but it should be prepared carefully.

Give a brief overview of your research agenda, including your short- and long-term objectives. Then state several specific problems you want to work on, and explain in detail how you plan to proceed. Bring along an overhead or two of preliminary data that will demonstrate the feasibility of your plan. Show that you are familiar with the details of any new techniques you may need to master.

Expect to be interrupted. The chalk talk is a chance to show that you can think on your feet and that you will be an interactive research colleague.

Meeting other faculty members. Typically, part of the interview process will include one-on-one conversations with members of the department. It is important to show interest in their work and ask lots of questions. In addition, assume that you will be taken out to dinner by some of the faculty. This is a chance for them to evaluate you as a future colleague and for you to determine whether you would enjoy working with them. Afterward, they will probably share their impressions of you among themselves.

> *When you're talking to the faculty, it's important to appear interested in everybody's work. You don't have to be an expert on the topic. If you know something about it, it's good to chime in with a suggestion or a question. If you're clueless, it's fine to say, "This is really fascinating, but could you give me a bit more background?" It's also very important to give a dynamite seminar so that the people who didn't get a chance to meet with you privately will have a chance to hear about your work, how you express yourself, and what kind of a context you put your research in.*
>
> —Thomas Cech, HHMI

Meeting with students, postdocs, residents, or other trainees. This is essential for someone who expects to conduct research in any department. A candidate should be concerned if a department doesn't offer ample opportunities (over lunch or in the lab) to meet with students and postdocs in the absence of faculty.

Concluding your visit and following up. Typically, your visit will conclude with a conversation with the chair of the search committee, in which you might expect to learn when a decision will be reached. As soon as you return home, write a formal letter addressed to the chair of the committee, thanking everyone for their hospitality and reiterating your interest in the position. If during your one-on-one interviews, you have promised to share data, be sure to follow up on your commitment. Now it's time to play the waiting game because the committee will undoubtedly be charged with arranging interviews for several candidates.

Be sure to inform the search committee chair if you decide to take another job before the committee extends an offer to you or if for some other reason you decide to withdraw your candidacy.

NEGOTIATING YOUR POSITION

The chair of the search committee or the department chair has given you a tentative offer or at least let you know that you are the top candidate. You are now in a position of maximum strength for obtaining what you want. The search committee has invested time and effort in choosing you, and the last thing its members want is to come up empty or to have to start over. They have decided they want you and will be disappointed if you don't come, and they want you to be happy once you are on board.

Evaluating the Offer

Before making a decision, you will need to find out as much information as possible about the position. If you are not satisfied with some aspects of the offer, try to negotiate better terms. You will have to do the following:

- Learn the details of the offer.
- Reread the list of priorities you made at the outset of your search to evaluate how the job stacks up against that list.
- Calculate precisely what you are worth in salary and other benefits to determine whether the offer measures up. For example, can you afford to live in the community? Does the institution provide housing allowances or low-interest loans to help?
- Enumerate in detail the other resources you believe you need to succeed in your scientific career (decide what is absolutely necessary and what you can live without). In some cases, it may be satisfactory for the department to guarantee you access to shared equipment, rather than buying you your own.
- Make your wishes known to the institution representatives and engage them in the process of negotiating with you.
- Get *everything* spelled out in writing.

> *In theory, everything is negotiable. That said, every department and institution has constraints.*
>
> —Chris M. Golde, from *"Be Honorable and Strategic," Science*'s Next Wave (November 2001)

The search committee is your natural source for basic information about the terms of the appointment and about university-wide benefits and policies. Ask for a copy of the university's faculty handbook and any other personnel policy manuals. Read them over thoroughly, check them against the recommended standards of the American Association of University Professors (AAUP), and prepare a list of questions for the committee.

You may need to do some homework to rule out problems that may not be revealed in response to direct questions or that you simply cannot ask the search committee about. For example, it would be helpful to know whether the department has experi-

enced internal personal conflicts recently, whether the university has financial problems, whether the chair is retiring or stepping down soon, and whether key faculty members are about to leave or retire. You also want to know whether people who have worked in the department have been happy, well supported, and successful. Use the grapevine: Call people you met during your interview visit, and talk with postdocs or others recently affiliated with your potential department and institution. Be discreet, but be straightforward. You don't want to be surprised.

When you are contacted with an offer, you might be asked for a second interview. This time, you will be able to ask more detailed questions about the position. You might also visit the human resources office, talk with key people in your prospective department, and have a preliminary look at available housing. A second interview visit is an excellent time to start the discussion about what you will need in terms of laboratory space, materials and equipment, and staff.

What You Need to Find Out

Here are some of the details that you will need to ask about.

The appointment. You need to know the following:

- Your job title and what it means
- The length of your initial contract
- The terms under which the contract will be renewed

Verify that you are indeed being offered a full-time tenure-track position. For example, several California schools have offered positions that appear to be full time yet are only half time or less than full time as far as a state-sponsored faculty position is concerned. In these cases, a faculty member is expected to rely on other funds for a significant part of salary and other support. You also need to find out about the process for obtaining tenure (see "Planning for Promotion and Tenure," page 20). Research faculty appointments are often

Question: What if I'm offered an appointment to more than one department?

Answer: Insist on clarification in writing of where your "tenure home" will be, what the performance criteria for tenure will be, who will be making the tenure decision, the percentage of your salary paid by each department, where your office will be located, what your teaching responsibilities will be, and who will serve as your mentor. Seek advice from others who have worked in similar situations. For example, one experienced academic scientist cautions against accepting an appointment that is split 50-50 between departments.

> *If you have a dual appointment, it's important to clarify which department will be paying the bulk of your salary, because that department will have the biggest right to your time. For example, if your secondary department wants you to increase your teaching load, you could request that they negotiate with your primary department to reduce the teaching load there in exchange for picking up more of your salary.*
>
> —Milton Datta, Medical College of Wisconsin

"at-will" appointments, offering no tenure protection if, for example, the position is eliminated or grant funding is lost.

The salary. You need to pin down the following:

- The amount of your base pay (this will determine the level of other benefits and future raises).
- Whether the salary is guaranteed, and if so, for how long—in other words, you need to know whether part of your salary and other support must eventually be obtained from research grants or other nondepartmental or institutional sources.
- The department's history of salary increases.
- Whether you will be paid on a 9-month or 12-month basis (if you are paid on a 9-month basis, find out whether your paychecks can be prorated over 12 months).
- If paid on a 9-month basis, does the institution allow you to pay yourself a summer salary from a research grant? Is there an institutional pool of money that will provide a summer salary for a year or two until you can obtain grant funding?
- Your institution's policies on outside consulting, including how much consulting is permitted, what approvals are required, and what limitations apply.

Hard Money Versus Soft Money

"Hard money" refers to any guaranteed funds that you receive from the university where you are employed. When you are offered a faculty position, you typically receive salary and start-up funds—hard money—to cover the costs of starting your laboratory during the first one or two years of your employment. After the start-up period ends, you may continue to receive hard money support for at least a portion of your salary and perhaps for a technician's salary. However, you will also need to obtain grant support (i.e., "soft money") to pay for your research and, at some universities, all or part of your salary as well. Soft money therefore refers to funds that you receive from grants—for which you will most likely have to compete.

Knowing what you are worth. There are many sources of information that you can use to evaluate your starting salary. Salaries differ widely depending on degree, geographical location, type of institution (public versus private), and scientific discipline. To evaluate the salary offered, you need comparative information on starting faculty salaries at the institution offering you the job and in your field elsewhere as well as on costs of living. Try the following resources:

- The AAUP publishes an annual salary survey in the March-April issue of *Academe* (http://www.aaup.org).
- The American Chemical Society publishes a detailed annual salary survey, with data broken down by employment sector, geographic region, and professional specialty, in the magazine *Chemical and Engineering News* (http://pubs.acs.org).
- The Association of American Medical Colleges publishes an annual salary survey that contains data for professors at U.S. medical schools (http://www.aamc.org).

Figure 1.1 gives starting salaries for BWF Career Award recipients who began faculty positions in 2002 and 2003. These individuals had about 42 months of postdoctoral experience at the time they began their appointments.

Figure 1.1. University starting salaries and start-up packages for junior faculty who received Burroughs Welcome Fund Career Awards in Biomedical Sciences (CABS)

Faculty Appointments, 2002–2003*	
Ph.D.s (n = 21)	
Average 12-month salary	$79,190 ($60,000–$100,000)
Median 12-month salary	$80,000
Average start-up package (less salary)	$508,200 ($200,000–$1,075,000)
Median start-up package (less salary)	$470,000
Physician-Scientists (n = 10)	
Average 12-month salary	$119,000 ($93,000–$150,000)
Median 12-month salary	$117,500
Average start-up package (less salary)	$331,500 ($90,00–$600,00)
Median start-up package (less salary)	$336,000

*Data are for CABS awardees who advanced from postdoctoral to faculty positions. The positions ranged across the basic biomedical sciences, public and private institutions, and U.S. geographic areas. Although sample sizes are small, data are consistent with cost-corrected data for the 110 CABS recipients who received faculty positions between 1998 and 2001.

Source: Rolly L. Simpson

Other forms of compensation. Get the details of the following:

- Health coverage, life insurance, disability insurance, and retirement benefits
- Other family-related benefits, such as tuition support for family members and access to university recreational facilities
- Whether moving expenses will be paid
- Availability of a housing subsidy or at least assistance in obtaining housing

Start-up package. Find out what resources the university will make available to support your research until you can obtain grant support. Specifically, ask about office and lab space, equipment, computers and software, a technician and other support staff, the principal investigator's contributions to graduate student stipends, help in obtaining grants, and support for travel to conferences and meetings.

Service within the university. Ask how many committees and other projects you will be expected to become involved with.

Teaching responsibilities. Although rewarding, teaching can be the most time-consuming activity for new faculty. You will want a clear statement about the following:

- Your teaching load (the number of classes each term, typical enrollments, and levels and types of students)
- Teaching-related responsibilities (office hours, direction of student theses, advising students)
- Teaching-related responsibilities if you have an appointment in two different departments or if you will be a member of one or more departmental graduate faculty groups or of an interdepartmental graduate program

Ask for a reduction in teaching responsibilities if your appointment involves heavy service responsibilities or if the position entails an appointment in two departments.

Protected research time. Now is your best chance to maximize and codify in writing how much protected time you will have for research. You need to clarify as much as possible expectations and decrease, if necessary, the number of other obligations you have (also see box "The Challenge for Physician-Scientists," page 25). Remember, your research time is protected to the extent that *you* take steps to protect it. Once you have signed a contract it will be hard to make changes.

> *The issue of protected research time—not the compensation package and lab space—is the single most important negotiating point for junior faculty. If the institution is not willing to specify a time split in writing, you should worry.*
>
> —Todd Golub, HHMI and Dana-Farber Cancer Institute

Getting What You Need and Want

How to negotiate. Present your requests clearly. Give the institution's negotiator a complete list of things you need. Then give the department time to respond. The negotiator must present a coherent proposal to whoever holds the resources you want, so avoid making numerous requests.

When the institution responds and you begin to discuss the terms of employment, be prepared to make trade-offs. Knowing what is essential to you is crucial at this time.

The offer letter. The fruits of your negotiations should be reflected in an official letter from the institution offering you a job. Work with the institution to craft as comprehensive a letter as possible. The letter is usually your contract, so take it seriously. In addition to the basics (e.g., title, salary, and research support), the letter should detail the timing, schedule, process, and requirements for tenure.

> *I tell all of my postdocs who are negotiating for faculty positions: Once you sign on the dotted line, don't count on getting anything you haven't already been promised, no matter how reasonable it might seem.*
>
> —Thomas Cech, HHMI

Handling Multiple Offers

Multiple offers are gratifying, but they make life complicated. The important thing is to deal honorably. The following rules apply:

- Keep all parties informed of the status of your other applications.
- Use your leverage to ask an institution to match an offer but only if you intend to accept the offer.
- Be prompt to refuse, so that other candidates may be considered for a job you don't want. Keep in mind, however, that it can be risky to decline all your other offers before you've accepted your first choice in writing. There have been cases when firm verbal offers have been withdrawn because of a university-wide hiring freeze.
- Ask for an extension of a deadline if you need to, but don't miss a deadline.

> *Memories are long in academia, and dealing badly once will haunt you throughout your career.*
>
> —Chris Golde, Carnegie Foundation for the Advancement of Teaching

Making Your Decision

Discuss all the pros and cons with those you trust. Sleep on your decision. Once you make it, don't look back.

PLANNING FOR PROMOTION AND TENURE

You have accepted the job. In six years' time, your research program must be well under way. You must have solid grant support, several substantial papers published in high-quality peer-reviewed journals, a reputation among your colleagues as a scientist headed for success, a good track record in teaching and advising students and trainees, and relationships within the university that mark you as a desirable colleague.

You are more likely to succeed if you understand from the start how the decision regarding tenure and promotion is made at the institution you are joining. You can then start planning your strategy accordingly.

The Varieties of Tenure-Track Faculty Careers

A tenure-track position is one that leads to a permanent professorial appointment. In most institutions, tenure confers virtual lifetime job security because a tenured professor cannot be fired except for certain limited causes, such as gross misconduct or neglect of duty.

There are several subcategories of tenured professorship. The standard tenured position at a university combines research, teaching, and service to the university and the profession. Clinical professorships in a medical school may include responsibility for patient care in addition to the standard responsibilities.

Time Frame for Progress Along the Tenure Track

The exact time frame for tenure and promotion has been established by your institution. In general, if you are appointed as an assistant professor, you can expect to be considered for advancement within about six years.

Criteria for Tenure

The official criteria for tenure form a "three-legged stool." You will be judged on your research; teaching; and service to the university, your profession, and the public. Whether or not these criteria have been spelled out in detail, the following expectations are typical.

Research. Your research must be of a quality and quantity that contribute substantially to your scientific discipline. Publication in peer-reviewed journals in your specialty and statements from individuals in your field who can testify to the quality of your research are the principal pieces of evidence showing that you meet this standard. Publications in scientific magazines that reach a wider audience give you additional credit. Substantial, ongoing research grant support is required; for example, some institutions require that you have at least one NIH R01 grant. Additional evidence includes prizes and other recognitions of your work as well as invitations to present your work at conferences.

Teaching. You must have evidence that you are a competent teacher and that you fulfill your responsibilities to your students in a conscientious manner. Teaching is notoriously difficult to evaluate, but your department should have mechanisms to do so. Colleagues in your department may be assigned to supervise your teaching and offer guidance. Students' evaluations are another piece of evidence of your competence and rapport with your students. You may also be asked to report on your own teaching activities.

Medical Center Career Tracks

In general, a faculty member in a basic science department in a medical center holds a tenure-track appointment, with responsibilities for research, teaching, and service. Such appointments are regarded as the most desirable and stable types of academic appointments because the institution assumes some obligation for salary and other types of support. However, in some departments, there may be faculty appointments that are not on the tenure track. For these individuals, the primary responsibility is research, with limited responsibilities in teaching and service. In this case, the faculty member may be entirely responsible for raising funds for his or her salary and for all other expenses needed for scientific research. Such appointments are generally given for a limited period, subject to renewal at the discretion of the department chair.

Types of faculty appointments in clinical departments, such as medicine, pediatrics, or pathology, have evolved during the past few years. These are now commonly divided into three types of appointments: (traditional) tenure track, medical-clinical track, and clinician-educator track. The latter two types of appointments generally are not tenure based. Most senior, established faculty in a clinical department will hold tenure-track appointments that include research responsibilities in addition to patient care and teaching. These are regarded as the most desirable because they offer the greatest protected time for research (often 70 percent or more).

Medical-clinical and clinician-educator appointments are being made in increasing numbers. Their main benefit is job flexibility, but it's at the expense of tenure. Clinical departments that provide extensive and high-volume clinical services may appoint faculty to a medical-clinical position that includes both patient care and research in various proportions. Research time is often limited to 30 to 50 percent, and the remaining time is dedicated to clinical service. Typically, the research is expected to be translational in focus, either through administering core laboratories or managing research activities as a component of larger collaborative grants awarded to tenure-track investigators. Advancement is based on research or clinical productivity. If extramural research funding is not available, there is often room to negotiate increases in clinical service work in lieu of research. The clinician-educator track focuses on the teaching of medical students and residents and performing clinical care. As such, there is little expectation of research activity. Salaries and benefits for both medical-clinical and clinician-educator appointments are generally provided by the department through income from clinical services.

Pure research-based nontenured appointments may also be made in clinical departments for faculty who are engaged in basic or clinical research. The expectation is that these individuals will be able to raise their own salary and laboratory support through research grant or contract funding.

Service. You must demonstrate that you are willing to work for the betterment of the university, your profession, and the public at large. Service on departmental and other campus committees, on research ethics boards, on editorial boards of journals, and on grant study sections demonstrates your willingness to assume your share of responsibility. Work for professional associations and work as a consultant to government and industry also count as service.

The weight that will be given to each area by your tenure committee will depend on the mission of your institution and your department. In a premier research department or institution, research is primary, and it is the progress of your particular program that counts the most.

> *You build a research group by being in the lab as much as possible. The assistant professors who don't get tenure are the ones who spend all of their time in the office instead of in the lab.*
>
> —Thomas Cech, HHMI

The Review Process

The review processes for promotion from assistant to associate professor and tenure are intertwined. Tenure review entails a series of yes-or-no decisions by committees established at the department, school, college, and campus or university levels. The decision of the university-wide committee must be ratified by the president or provost of the university and governing board of the institution.

Universities vary as to whether the tenure process is open or closed—that is, whether you and anyone else will have access to the file containing the evidence for tenure and the record of the committees' deliberations. Regardless, a candidate usually has an opportunity to appeal a negative decision.

The process unfolds *roughly* as follows:

- During your second or third year of employment, your department chair creates your promotion and tenure dossier (see below for details about what it should contain).
- Before the end of your third year, the tenured faculty within your department vote on whether to recommend your reappointment for another three years.
- After the vote, your department chair meets with you to discuss any problems that may hinder your future prospects.
- During your fifth and sixth years, letters are solicited from both internal and external experts in your area and comments are solicited from your current and former trainees.
- The tenured faculty in your department review the materials and vote on whether you should receive tenure.
- If the department votes in your favor, your tenure dossier goes forward to the college's or university's appointments and promotions committee. Your department chair goes before this committee to discuss your qualifications.
- If this committee's decision is favorable, the package is sent to a university-level ad hoc or standing committee. The package is then sent to the provost and university president (or chancellor) and then on to the governing board for final approval.

Your Tenure Dossier

You should have the opportunity to contribute to your dossier. It should include the following:

- Your personal and professional history—essentially an extended CV detailing your education; academic positions and other professional employment; honors, prizes, and achievements; invited lectures and conference presentations; offices in professional societies; editorships of journals and other learned publications; grants received; and service on study sections
- A list of your publications and other creative works

> *Nothing is too trivial. If you were recognized in some way, make sure it appears in your dossier.*
>
> —Tony Waldrop, University of North Carolina–Chapel Hill

- A summary of your teaching activities, including courses you have taught, other contributions to the university's instructional program, the results of students' evaluations, and your own report of your teaching activities
- Details about the work and subsequent placement of graduate students supervised
- A description of your internal and external service to the university, your profession, and the public
- A statement of your research goals and accomplishments, expressed so that members of a campuswide tenure and promotion committee can appreciate the importance of your work
- Letters from outside reviewers, who should be leading experts in your field and aware of your work (you may be asked to suggest several of these scientists)

Question: What do I need to do every year to help me attain tenure?

Answer: Update your CV, network with professional colleagues, and keep in close touch with your department chair and your mentors to evaluate your progress. In addition to these ongoing tasks, review your objectives and update them if necessary.

Planning for Tenure: What You Can Do

Set specific, achievable objectives right at the outset of your career, with timelines that tell you what you need to accomplish each year. The whole process will seem more manageable, and you will be able to make realistic career decisions based on your progress.

Designing and Equipping Your New Lab

You probably discussed your space and equipment needs during your interview and the negotiation process. Before you move into your new laboratory, create a detailed plan for how you intend to work within the space allotted to you. This will help you hit the ground running once you start your position. The following is a list of things you should do:

- Envision the relationships between the various workstations, preparation areas, and offices.
- Arrange for and help supervise any renovations.
- Order equipment and supervise its installation.
- Acquire any licenses required by regulatory agencies.
- Put in place data management systems both for control of laboratory ordering and expenditures and for the documentation of your research.

A series of online articles, "The Art of Laboratory Feng Shui," at *Science*'s Next Wave (*http://nextwave.sciencemag.org*), will take you through these decisions. Another resource is a series of videos on laboratory safety, produced by the Howard Hughes Medical Institute and available at no charge from the Institute's online catalog (*http://www.hhmi.org*).

Year 1. You should

- Set up your lab as soon as possible. Try to remodel your lab space, order equipment, and hire technicians before you arrive. If, after you arrive, you encounter problems, you may need to revise your tenure schedule.
- Learn your institution's ground rules for tenure.
- Ask for a faculty mentor if you are not automatically matched with one. You need someone who is effective in helping you wade through department politics and protocol. You may need an unofficial mentor if the official one disappoints you. In this case, be tactful.
- Get to work. If appropriate, write up your postdoctoral research and submit it to a journal.
- Accept committee responsibilities, but avoid becoming bogged down. Think carefully about the workload of any committee you are asked to join. You also need to consider the nature of the work. Some committees may be too politically sensitive to be of much use so early in your career. (See chapter 6, "Time Management.")
- Enter the "grantsmanship" game. You may want to start by applying for small grants ($5,000 to $25,000) from your own institution or from other sources to test the waters as you begin work on your major R01 grant submission.

Year 2. You should

- Try to publish the research you did in your first year.
- Apply to NIH or the National Science Foundation for a basic research grant. (See chapter 9, "Getting Funded.") Ask your mentor and other colleagues to review your proposal.
- Teach with the tenure review process in mind. Have your chair, mentor, and other colleagues observe your teaching. Be sure your students fill out the evaluation forms at the end of each course. You may want to create your own simple essay-type evaluation form for your students as well as the trainees and other personnel who work in your lab. You want their feedback.

Year 3. This is the year the tenured faculty will vote on your reappointment. You should have been meeting regularly with your department chair to discuss your progress, so you should have a tenure file that will support your reappointment.

- Ask if you are on track for tenure. If not, take stock and consider adjusting your career goals at this point. If you are not doing well in a tenure-track position, and if you are a physician and want to stay in academia, this may be the time to think about moving into a research or clinical track.
- Ask your department chair for a checklist of the information to be included in the file.
- If your R01 was not funded, resubmit it and have a plan for backup funding. (See chapter 9, "Getting Funded.")

The Challenge for Physician-Scientists

If you are a physician, you will probably be expected to spend some time in income-generating patient care. Be sure this requirement does not engulf your research time. If you are serious about doing research, you should negotiate a written promise of a fixed percentage of "protected research time." Often, physician-scientists will have 20 to 30 percent of their time for patient care and 70 to 80 percent for research. Make sure you understand the true amount of protected research time you will receive, because your defined clinical time will not include time for teaching or for administrative duties.

There's a positive side to your situation. Your clinical responsibilities give you an advantage at tenure time because they count as an extra dimension of professional achievement.

Years 4, 5, and 6. You should begin to be recognized in your field for your research. The invitations that come your way to participate on panels or to serve on review committees are indications of success. If these opportunities are not occurring, take steps to gain exposure, perhaps by suggesting a session on your subspecialty at a national meeting. (See chapter 10, "Getting Published and Increasing Your Visibility.")

You need to address any issues that may hinder your bid for tenure. If you have not obtained funding, this should be your number one priority. Keep up your research, and continue your efforts to get the results into print.

Clearly, the road to a tenured faculty position is not an easy one. But if you think strategically—know what you want and need from your job, present yourself and your research to best advantage to obtain that job, and do what you should do each year to document your productivity—you will be well on your way to achieving your goal.

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