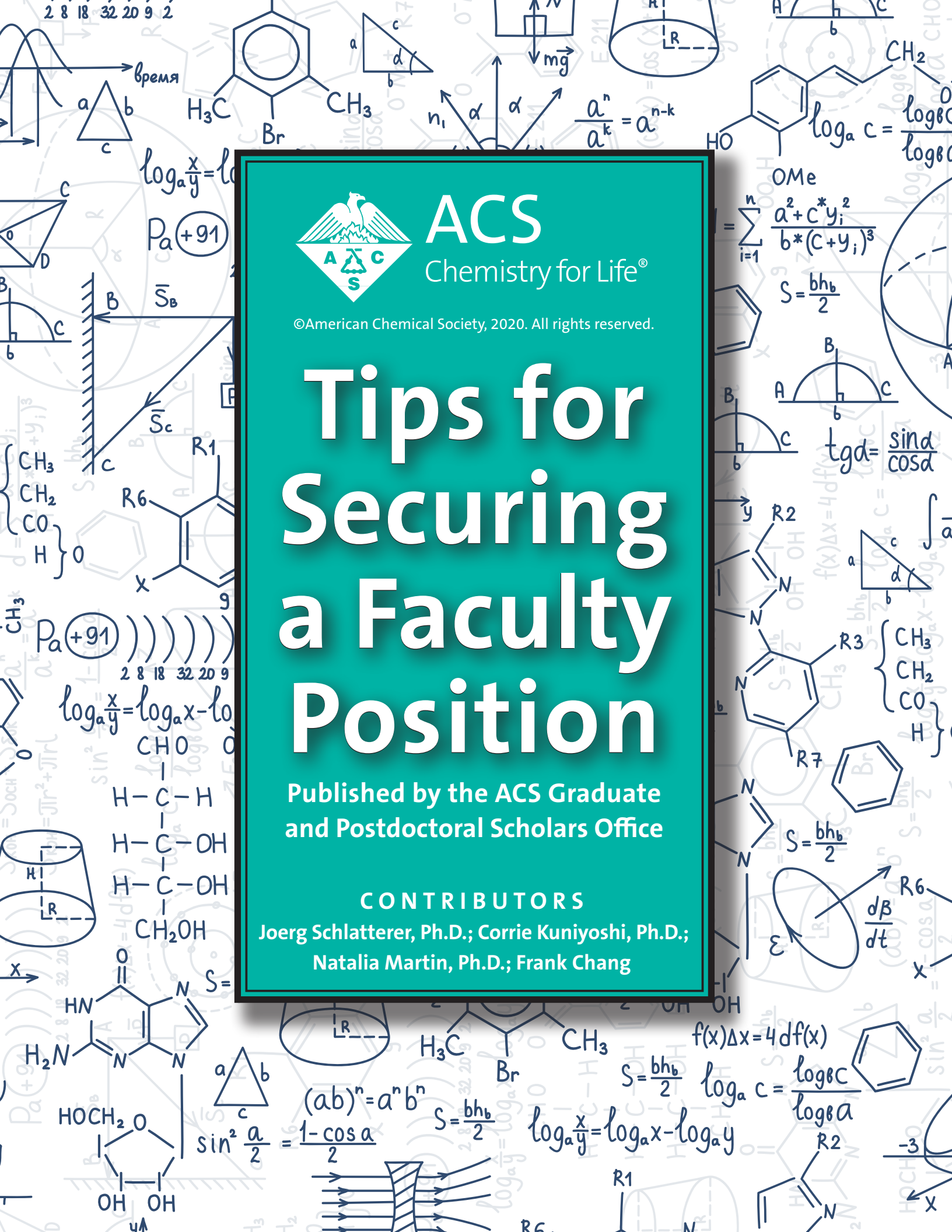


ACS Chemistry for Life®

Tips for Securing a Faculty Position

Published by the ACS Graduate and Postdoctoral Scholars Office

CONTRIBUTORS

Joerg Schlatterer, Ph.D.; Corrie Kuniyoshi, Ph.D.; Natalia Martin, Ph.D.; Frank Chang

This booklet is based on advice from a group of faculty members who facilitated two ACS "Postdoc to Faculty" workshops, 2018 P2F in Boston, MA and 2019 P2F in Atlanta, GA.

The annual Postdoc to Faculty (P2F) Workshop:

- compares and contrasts positions and expectations at teaching institutions, primarily undergraduate departments and research-intensive chemistry departments;
- provides assistance with and feedback on teaching philosophies and research statements written by participants;
- presents strategies for balancing scholarship, teaching, and service expectations with life outside academia;
- creates a network of mentors and early-career faculty who can guide newly-minted faculty members; and
- introduces interactive teaching models and provides resources to facilitate their incorporation.

For more information, please visit: www.acs.org/P2F.

The American Chemical Society thanks the following professors for sharing their experiences:

Baker, David, Ph.D. (Delta College)
Bandyopadhyay, Krisanu, Ph.D. (University of Michigan, Dearborn)
Beuning, Penny, Ph.D. (Northeastern University)
Burks, Raychelle, Ph.D. (St. Edward's University)
DeVore, Natasha, Ph.D. (Missouri State University)
El-Ashmawy, Amina, Ph.D. (Collin College)
Fleischer, Candace, Ph.D. (Emory University)
Goess, Brian, Ph.D. (Furman University)
Hyatt, Dempsey, Ph.D. (Adelphi University)
Jeffries-El, Malika, Ph.D. (Boston University)
Lanorio, Jocelyn, Ph.D. (Illinois College)
Lefurgy, Scott, Ph.D. (Hofstra University)
Loesgen, Sandra, Ph.D. (University of Florida)
Matson, Ellen, Ph.D. (University of Rochester)
Mihalick, Jennifer, Ph.D. (University of Wisconsin, Oshkosh)
Mullen, T.J., Ph.D. (University of North Florida)
Peaslee, Graham, Ph.D. (University of Notre Dame)
Quiñones, Rosalyn, Ph.D. (Marshall University)
Quirke, Martin, Ph.D. (Florida International University)
Rasche, Madeline, Ph.D. (California State University, Fullerton)
Swift, Jennifer, Ph.D. (Georgetown University)
Van Dyke, Aaron, Ph.D. (Fairfield Uni ersity)
Wachter, Joe, M.S. (Harper College)

CONTENTS

ONE | Job Announcements

Consider using the following tools to identify job openings for faculty positions in the chemical sciences.

1.1 Some Online Tools

- C&EN Jobs
- ACS Technical Division Job Boards (Please check each division's website for its discipline-specific job board)
- HigherEdJobs
- Science Careers
- Nature Careers
- Chronicle of Higher Education
- Higher Education Recruitment Consortium
- AcademicKeys
- Indeed.com
- ChemJobber
- ChemBark
- Chemistry Bumper Cars
- National Postdoctoral Association

1.2 Other Ways To Learn About Job Openings

Available positions can also be located through university websites, pushpin boards on campus, phone calls, word of mouth (networking), LinkedIn, Facebook, and Twitter.

1.3 Timeline

- Typically, faculty positions are announced in two waves. The main recruiting initiative takes place in late summer through early fall (August through October). These applications will be due in the fall and early winter (October through December).
- A smaller initiative takes place through announcements in the spring.
- Community colleges typically post opportunities in January.

TWO | Job Application Components

2.1 Curriculum Vitae (CV)

The free ACS Career Pathways Resume Preparation Guidebook provides recommendations for preparing CVs for Chemical Professionals (page 18).

2.2 Research Statement

- Do not write a full-length funding proposal; keep the statement to five pages unless you are told otherwise.
- Typically present only one to three separate ideas for research, including at least one that you can start right away and one that might materialize in a few years.
- Provide overview pictures and figures for clarity (think: Graphical Abstract).
- Avoid jargon—assume your readers are chemists, but that they are not necessarily all in your field
- Describe your goals clearly and specificall .
- If applying for a position at a primarily undergraduate institution, tell the readers how the research is feasible for undergraduate students.
- If applicable, mention partnerships and collaborators.
- Make sure your research direction will be distinct from your adviser's.

2.3 Cover Letter

- Tailor every letter to the specific position description.
- Make sure all the names mentioned (including the institution's) are correct.
- Keep the letter to one page.
- Tell a story. For instance, let them know how you have grown as a scientist.
- Explain why you want to be at this institution.
- If you have a relevant connection to the department, tell them.
- How does your research fit in to the department and university? (Readers want to be excited!)
- Demonstrate that you know the institution.
- Use your personal writing style. (In other words, make sure you sound like yourself.)
- An experienced hiring committee member shared this observation: Females often undersell themselves; males tend to oversell themselves. Do your best to avoid both.

2.4 Letters of Recommendation

- Three letters of recommendation are typically required (sometimes more).
- Choose your recommendation letter writers carefully.
- The letters should come from accomplished professionals, never a fellow postdoc or graduate student.
- Give the person writing your letter an indication of which areas of your training or expertise it would be helpful to address and a brief and clear description of the job you are applying for. (If your letter writer comes from a culture that handles references differently from what your readers would expect, you may need to explain your readers' expectations.)
- If someone has seen you teach, ask that individual to write a letter of recommendation.
- Writers of recommendation letters can help explain any gaps in your CV (e.g., maternity or paternity leave).
- Always have research mentors (Ph.D. and postdoc advisers) submit letters on your behalf. If you are unable to get a letter from one of them, have another letter writer explain why.
- If you ask your Ph.D. adviser to submit a letter, inform him or her about how you have progressed in the meantime.

2.5 Teaching Philosophy

- Aim for a maximum of one to two pages, unless you are told otherwise.
- Bring your personality out; put your heart into this statement.
- Keep in mind that everyone has teaching assistant experience. Think about how are you are different instead.
- Also, remember that everyone reading your teaching philosophy has more teaching experience than you do. Remain humble and eager to learn.
  Talking points to consider: office hours, recent publications written by experts about teaching methods, problem-solving sessions, research mentoring as teaching, any formal training in teaching methods you have received, and related topics.
- Good phrases seen in some essays include: "I teach this way because ...," "I value student inquiry," "I want to create a classroom space that lowers student fears and increases participation," and "I want to be a reflective evaluator."

2.6 Other

- Some institutions require a Diversity Statement.
- CHECK THE SPELLING in every document. It is not enough to have a computer do it; this would miss many types of errors. Also, do not rely on your own efforts, because your mind is so used to seeing your text that it may simply overlook errors it has seen many times before. Ask every friend you have to double-check your documents for errors. You only have one chance to make a good first impression.
- Make your application easy to read. Add you name to the header or footer on each page, because readers are scanning dozens of file and you want your name nearby if they read something they like. Number your pages; sometimes stacks of paper get scattered.
- Be aware of the method by which you have to submit your application and the date it is due.

THREE Interview

3.1 Skype or Phone Interview

Typically, Skype or phone interviews are used to identify candidates for on-campus interviews.

- Departments can call you any time as part of their screening interview process. Let the call go to voicemail if you are not sure who a caller is during the application season. Call back at a time that is good for you and when you are prepared, and do it from your own private space. Be aware that interviews can begin as soon as you start talking to set up an interview time.
- Use a landline or stable internet connection for the conversation.
- Dress professionally even for Skype interviews.
- Choose a quiet location.
- Show a neat, neutral background for Skype video interviews. Take a second to think about what the interviewers will be seeing in your video conference; a messy lab may be the wrong backdrop.
- Be ready with an answer for why you want to work for that particular department.
- Do some research on your potential colleagues.
- Have questions prepared for them, because at the end they almost always ask whether you have any.
- Don't be surprised to discover that there might be five or six faculty members seated around the phone on the other side. It might be hard to tell them apart or even to see them clearly in a videoconference.

3.2 Before Your On-Campus Interview

- Don't schedule more than one on-campus interview per week. (They typically take two days and drain a lot of your energy.)
- Make sure you have professional clothes. Practice giving your talks while wearing them.
- Diligently research your potential colleagues, the department, and the college or university. (Use department websites, Google, your professional network, and friends). Figure out what you have in common with your potential colleagues.
- Prepare a realistic answer for when you are asked about ways of funding your research.
- Practice every presentation and pay attention to feedback from colleagues.
- Eat a good breakfast before the interview starts, and bring a granola bar for emergencies.
- Print your itinerary, including hotel information, all relevant addresses, transportation information, and phone numbers.

3.3 During the On-Campus Interview

- Dress professionally.
- Keep in mind that you are qualified or the position if you have been invited for an on-campus interview. You are not an imposter.
- Present yourself in the best way all the time. You are always being interviewed, even (or especially) in social situations.
- Expect odd questions and interruptions during your talks (i.e., research discussion, chalk talk, classroom teaching). Know which portions of your presentations could be omitted if necessary.
- If things do not go as planned, remain calm. That said, be prepared. Make sure to bring your presentation on an additional USB stick, carry extra chalk and whiteboard markers, and have a plan in case the projectors don't work at all.
- End with a summary or a strong conclusion. Thank the audience for their attention. Invite questions. For many reviewers, the way a candidate answers questions reveals more about teaching and research skills than does the practiced seminar.
- The committee and everyone else participating in the interview are not only interviewing you; you are also interviewing them. Make sure you ask questions that are important to you as a researcher. For example: "Cutting-edge science requires cutting-edge safety. Can you talk about how your department (or institution) addresses chemical and laboratory safety?" "How does the onboarding process introduce new faculty into the safety culture on campus?" If it is feasible, ask to see the space that would be your laboratory. Inquire about the success and job satisfaction of faculty, especially junior faculty.
- Do your best to interact with students as much as possible during lunch or other breaks. Student input is often part of the evaluation process.
- The dinner is not really about eating and drinking so much as it's about continuing a conversation in a relaxed setting. Order something easy to eat and don't be the only one who orders alcohol. Observe the others and adapt.
- Have fun!

3.4 After the Interview

- Follow up with individualized thank-you notes or emails.
- If you are still interested in the position after completing the interview, let the Chair of the search committee know.

FOUR Negotiating Job Offers

4.1 Things Faculty Negotiate

- Instrumentation, or access to it
- Startup funds
- Laboratory or office renovations, or other things to do with the physical space
- Salary
- Travel funding
- Later (or earlier) start date
- Summer pay
- Pre-tenure sabbatical
- Maternity or paternity leave
- Day care
- Health insurance (both current and during retirement)
- Teaching release and teaching load
- Service
- Moving expenses
- Employment opportunity for spouse
- External mentor
- Summer stipends for students

4.2 Negotiation Advice

- Have justifying data available for salary negotiations.
- Make sure you negotiate sufficient money for travel.
- Get all negotiated deals in writing.
- Ask in advance about with whom you will negotiate.
- Before negotiating, talk to people who have been in similar situations.
- Never make demands. Stay polite and professional.
- Be clear about what you need to succeed. The university is interest-ed in your success.
- Only negotiate if you are serious about the position. Don't play them. The world of research is small and what goes around....
- If you successfully negotiated a laboratory renovation, make sure you have temporary lab space and a realistic estimate for when the renovations will be complete.
- Practice negotiating with mentors and colleagues.
- Be aware of prices for lab equipment and consumables. Have a list of vendors, items, catalog numbers, and pricing readily available.

FIVE | Your First Year On the Job

5.1 Recruiting and Working With Students and Postdoctoral Researchers

- Run your lab like a class by using guidelines and a syllabus. Be as clear as possible with students about what the expectations are.
- Take time to find the best students for your laboratory.
- Use honors colleges or honors programs to spread the word about research opportunities in your lab.
- Attend student meet-and-greet events to become known on campus.
- Don't take on too many undergraduate students at a graduate institution.
- Don't turn research students away because of mediocre grades. They might be really good in the lab.
- Don't hire a postdoc you don't know. (Ask for recommendations from a trusted source.)
- In the first year, you will have to unpack many boxes in the lab. Think about whether you would like to have a postdoc do that.
- Be careful about hiring students who have left another lab in the department. Such hires could have an impact on the departmental dynamic.
- If you want to publish, you might have to do the important experiments yourself at first.

5.2 Lab Management

- Develop an efficient information-sharing system (e.g., use a shared drive).
- Be the boss or mentor, not the buddy.
- Take care of the group's morale. Group activities help.
- Be aware that you might need many signatures to get one piece of equipment.

5.3 Department

- Learn to say no to your department chair and choose your activities wisely.
- Ask for and use an external mentor.
- Find faculty allies in your department.
- Find a mentor in research and a mentor in teaching.
- Engage in high-impact, low-time service activities. These could include committee service to the department or university.
- Be a good departmental citizen.
- Avoid participation in departmental fights.
- Stay focused on getting tenure.

5.4 Campus

- Find an external mentor, someone who is not from your department. Attend university faculty socials to see who might be a good mentoring fit.

5.5 Classroom

- Treat every student with respect, and don't call them "kids."
- Give yourself a hard stop for how much time you give to teaching.
- Schedule classes in the morning so you can do research later.
- Allow two to three days per week for classes, and reserve the rest for research.

5.6 Other

- Take care of yourself. Find balance.

SIX | A Balancing Act: Teaching, Research, Service, and Life

As a faculty member, you will discover that it is critical to find the right balance among teaching, research, service, and your personal life. People, work environments, and life circumstances differ significantly from one faculty to another. One general piece of advice would help everyone though: Know yourself and your life goals, and develop a plan.

The following sections provide a glimpse of how different individual situations can be.

6.1 Teaching

- Sample teaching loads at Primarily Undergraduate Institutions (PUIs): "2.5 courses per semester," "4 courses per year," "3 classes in the fall, 3 classes in spring."
- Sample teaching loads from faculty working at Research-Intensive Institutions: "One class per semester," "One class per semester PLUS office hours (3+ hours a week)."
- Know up front which textbooks your department uses.
- Make sure you know in advance what the teaching assignment means (e.g., whether "one course" equals one class OR one class plus a lab).
- It takes time to make lesson plans, so see if you can find others who have taught your course before who are willing to share information.
- If the course has already been developed, teach it as is for your first semester. Improve your courses gradually over the years.
- Encourage people to make appointments with you as opposed to dropping in unannounced.
- Figure out how teaching is evaluated at your institution and how it is used in determining tenure and promotion. You don't want surprises later.
- Negotiate which courses you will be teaching. Sometimes teaching evaluations are important and you want to avoid certain courses. In other situations, your research time is more of a priority, and you will want to avoid teaching courses that take so much time they will detract from that.
- Request teaching assignments where you can recruit and select potential researchers. For instance, teach a course for sophomore undergraduate students at a PUI, but teach a freshmen class for a research-intensive university.

6.2 Research

- Consider electronic notebooks and other technology to facilitate your lab's research progress.
- Make the best possible use of regular lab meetings, and provide written expectations for them.
- Set up lab guidelines.

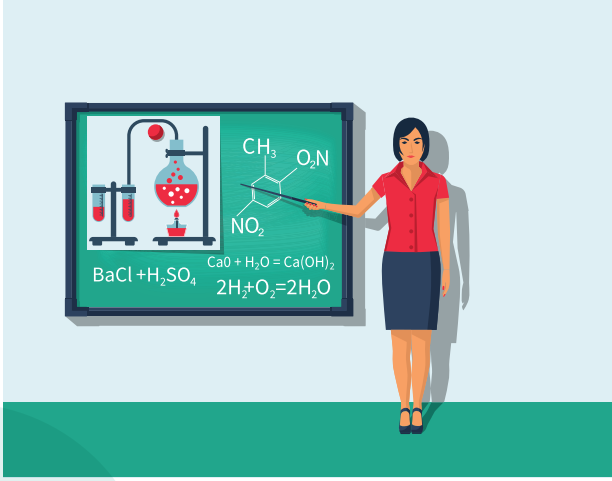
- Consider having students sign a contract or acknowledgement of lab expectations.
- Block time out on your schedule to write publishable research so you stay on track with your scholarship. Approximately 30–60 minutes per day is often considered optimal.

6.3 Examples of Service Activities

- Advise a chemistry club.
- Act on a committee for graduate student recruitment.
- Coordinate departmental service.
- Coordinate departmental service.
- Join a professional society committee (e.g., ACS, National Academy).

6.4 Lessons Learned

- Set hard rules.
- Have short- and long-term goals.
- Ask yourself what you will be giving up in exchange when you agree to do something such as committee work.
- Pick a day (or two) when you don't work.
- Don't be afraid to outsource tasks.
- Take time off, and plan a vacation for as much time as you need to recharge. You will be far more productive afterwards.
- Train people to take care of themselves.
- Stay as organized as possible and keep your house, lab, and office clean.
- Use technology to show your availability on a calendar.
- Some situations may require the involvement of a professional therapist or counselor. Don't be afraid to take advantage of a therapist or counselor if you need one. Therapists or counselors can often help students as well.



SEVEN | Expectations for Faculty Hires at Primarily Undergraduate Institutions (PUIs)

7.1 Teaching Experience

- Teaching experience is important. This includes experience as a teaching assistant, postdoc, or adjunct faculty member.
  Note: For a full-time faculty position at a community college, TA teaching experience is not enough.
- PUIs can offer training and workshops to help improve teaching skills, but not necessarily research skills.
- Meeting the expectations for teaching is part of the evaluation process for tenure. Enthusiasm and willingness to improve are important.

7.2 Research Experience

- PUIs need accomplished researchers who can conduct research with undergraduate students.
- Only 15% of community college professors do research.
- The ability to secure internal or external funding for students might be required. If resources are needed that are not readily available on campus, you will need to use your network to get access to them elsewhere.

7.3 Tenure Requirements

These vary from one institution to the next, but in general you have to do very well in teaching, contribute to academic service, and conduct productive research projects. Make sure you understand the expectations for getting tenure at your institution. The majority of P2F faculty facilitators agreed that you have to publish two to five articles in peer-reviewed journals and that you will be expected to submit at least one grant proposal.

EIGHT

Funding

8.1 Funding Sources

Note: **Funding availability can change quickly. Check the relevant websites for the latest updates.**

- ***Funding sources at your university.*** Talk to your department chair and network on campus with faculty and administrators to identify internal funding sources for research, travel, and student support.
- ***Federal funding.*** Visit www.grants.gov to search for suitable funding. Other helpful websites include:
  - **National Science Foundation (NSF)**
    - Relevant funding mechanisms:
      - Research Grants
      - Facilitating Research at Primarily Undergraduate Institutions (NSF Publication)
      - Faculty Early Career Development Program (CAREER)
    - Some NSF Advice for future faculty:
      - Talk to NSF program officers.
      - Be clear about Intellectual Merit (IM) and Broader Impacts (BI) of your project.
      - Serve as a reviewer to learn about the review process and what competitive and noncompetitive proposals look like.
      - Attend an NSF Chemistry Early Career Investigator Workshop.
  - **National Institutes of Health (NIH)**
    - Relevant funding mechanisms:
      - Pathway to Independence Award (K99/R00)
      - NIH Research Grants: R01, R15, DP2, R35
      - SCORE Program (for non-R01 institutions that serve underrepresented groups)
    - Some NIH Advice for future faculty:
      - NIH is large and complex, institutes' policies and practices vary, and there are many funding mechanisms.
      - Be sure to follow instructions and advice included in study Funding Opportunity Announcements (FOAs).
      - Communicate with NIH staff (Program Officers and Directors, and Scientific Review Officers) throughout the application and funding processes.
    - Scientific Review Officers and Program Officers and Directors offer the following tips:
      - Remember that the IMPACT of the proposed research is critical.
      - The National Institute of General Medical Sciences (NIGMS) offers an Annual Mentoring Workshop for New Faculty in Organic and Biological Chemistry.
- ***Foundations:***
  - American Chemical Society (ACS)
  - Research Corporation for Science Advancement (RCSA)

8.2 Advice for Securing Funding

- Serve as a reviewer to learn how grant proposals are reviewed and what makes or breaks them. Note: As a postdoc, you are eligible to serve as a reviewer for the NSF Graduate Research Fellowship Program.
- Write your first grant proposal early, and get a lot of feedback from mentors, peers, colleagues in different fields if the chemical sciences, etc. Don't take criticism personally. If someone doesn't understand portions of your proposal, the chances are that some reviewers might not, either. Refine and revise your proposal based on constructive feed-back.
- Read each program announcement carefully, and make sure your proposal responds to that specific one. Programs and their requirements can vary significantly.
- Consider working with collaborators who potentially have more experience than you do.
- When you are in a situation where you are required to respond to a reviewer's statements, never attack the reviewer! Acknowledge the reviewer's points and respond professionally.
- If you don't receive funding the first time, read the reviews carefully, then revise and resubmit your proposal.

NINE | Miscellaneous Advice

- It is normal to have to craft and send a large number of applications, possibly as many as 50 or 60 or more, in order to receive interviews and potential offers.
- If you received your education abroad, make sure reference writers from your home institution know how to write letters of recommendation that align with U.S. standards.
- Be aware of whether the institution where you are interviewing is an official NSF "Research Experiences for Undergraduates (REU)" site. This would allow for some interesting conversations. For instance, you might ask whether the institution offers any other summer research programs for undergraduate students.
- Some institutions offer a pre-tenure sabbatical option. Plan for this opportunity.
- Engage in Council on Undergraduate Research (CUR) activities.
- Become a better reviewer for original research products. The ACS Reviewer Lab offers hands-on peer review training for researchers.
- Tenure denials happen; there can be many reasons why. It is not the end of the world. You are an accomplished professional who needs a new environment. Universities and colleges will hire an individual who did not receive tenure at a different school! However, bear in mind that this is not your only option. There are many types of satisfying career opportunities for chemists out there. Read "Moving on after tenure denial," from *C&EN*.
- You have to maintain your excitement and willingness to keep pushing for tenure, whatever the specifics of your professional environment. To help motivate yourself, think of the things you look forward to that tenure will make possible.
- Using Individual Development Plans (IDPs) regularly could help you track your progress toward your goals. Additionally, continuing to work on your professional development is highly important for every career in the chemical sciences.

ACS RESOURCES

Postdoc to Faculty Workshop
www.acs.org/P2F

Personal Career Consulting
www.acs.org/careerconsultants

And Gladly Teach
www.acs.org/AndGladlyTeach

Graduate & Postdoctoral Chemist Magazine
gpchemist.acs.org

Chemical and Engineering News *(C&EN)*
cen.acs.org

ChemIDP
chemidp.acs.org