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BUILDING A PROFESSIONAL CAREER

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Advice to a new faculty member

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First, please accept my sincere congratulations and welcome to the Academy! Personally, I can't think of any career more rewarding than that of being a college professor. Where else do you get paid to read, learn, and grow intellectually, socially, and professionally all while working alongside enthusiastic, talented and hardworking young people? That said it is a very demanding and sometimes unforgiving profession. Much will be demanded from you at the outset and very little direction will be provided. The pay isn't all that good and the hours are very long. Oh and did I forget to mention that you get to travel to all sorts of interesting places?

What I would like to do in the space available to me is provide you a roadmap for how to navigate the new, at times turbulent, and unfamiliar waters of Academe. In essence this article could more accurately be titled "What I Wish I Had Known When I Started Out in Academe."

General

Socialize. Huh? What did you say? Yes, socialize. Become familiar with the academic culture and climate at your institution. Take time to become acquainted with your colleagues—in your department, college, and university—not just the ones in your field. If there is a faculty lunch room or cafeteria, take at least one meal each week there and socialize with other faculty. This can be an invaluable method of identifying internal funding sources, non-academic resources including child care, local area employment opportunities for trailing spouses, realtors, etc.

Multitask. If you don't know how, take the time to learn how to manage multiple tasks at the same time effectively. You are going to need to keep many different balls in the air and do it with grace. Remember everyone is watching you.

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Manage others effectively. As a graduate student and post doctoral student, likely you accomplished everything yourself. You won't last long if you try to do things this way now. If you aren't a people person, I suggest you become one. To be effective you will need to learn how to build teams, facilitate effective teamwork, and how to be a leader. There are many excellent books on these topics. If you are short on time and aren't yet convinced of the importance of this subject, I suggest you start with the classic by Kenneth Blanchard and Spencer Johnson entitled "The One Minute Manager."

Master your emotions. At some point, one or more of those balls in the air is going to fall. I guarantee it. The key is to be able to deal with it in a mature way when it happens. Learn how to relax. Recognize that you are bound to make mistakes now and then and be sure to give yourself a break when it happens.

Listen and think carefully before becoming involved in department and campus politics. You have too much to do, and you want to avoid making enemies at all costs. I won't say that poor relationships with your colleagues will cost you tenure, but I will guarantee that it will needlessly make the process complicated and possibly adversarial.

Expect to be very busy and to work long hours, not only during the week but on weekends, and some holidays, too. Yes, you will see some senior colleagues who appear to be doing nothing. Don't worry about them. They probably already have tenure or aren't on the tenure track. You don't have tenure and you want it, so focus on yourself and do what you need to do to get the projects you care about done and done well.

Be positive in your attitudes toward others, including colleagues, staff members, and students. Let go of negative thoughts. Negativity will only sap you of precious energy and waste your limited and very valuable time.

Build a support network both inside and outside your institution. Seek out mentors. Identify as many mentors as you feel you need. Note that they don't have to be faculty nor do they have to have residence at your institution.

Be proactive about finding collaborators. Identify young colleagues who share similar research and teaching

interests and try to identify activities that you can do with them that will benefit all involved.

Don't forget to play. If you don't exercise, may I strongly and firmly suggest that you take up a sport. Exercise will not only give you the stamina you will need for the long haul but it will help your focus, creativity, and mental health, too.

Make sure at the outset that you understand what the criteria are both officially and unofficially in your department and at your institution in terms of tenure and promotion. Don't assume that you know—find out exactly what the criteria are. Ask for, read, and annually critically review (these things do change) a copy of your institution's tenure packet time-table and content check list. You should be able to obtain these materials from your Chair. Find out if your institution and/or department has an official mentoring program that matches a junior hire with a tenured, senior faculty member for the purpose of acclimating the junior hire to the institution. That said, no matter what kind of academic institution you are at-public, private, four-year college, comprehensive university or graduate research university, it all boils down to teaching, research and service. So, let's discuss what you should and should not do in each of these three areas.

Teaching

Find out what the teaching expectations are in terms of tenure and/or promotion in your department. For example, in some graduate research universities junior colleagues are expected to teach a section of a large service course before coming up for tenure. Make sure that you know how teaching is formally evaluated on your campus. Does the institution use peer evaluations? Student evaluations? Will you be required to submit a teaching portfolio as part of your tenure dossier? If so, it is never too early to start work on your dossier. Peter Seldin's "The Teaching Portfolio" is the definitive resource on this subject.

Once you learn what your teaching assignment will be for the year, find out who in your department previously taught those courses. Ask them for a copy of their course syllabus, the names of the local book representatives, and any other teaching materials that they may be willing to share with you. Your first time out, endeavor to work with the existing curriculum for your assigned course-lectures and laboratory experiments. Hold off on designing new lab experiments, revising or writing new lab write-ups, etc. Be careful not to take too much upon yourself at the outset as you will have enough on your plate as it is simply getting the lay of the land, so to speak.

You will find it extremely useful to keep a journal about your teaching endeavors in which you record, assess, and reflect on your activities. It's very likely that you'll be asked to write a self-evaluation at the end of each year that will be included in your tenure and promotions folder. Having specific evidence to support statements will strengthen your self-assessment. So, it is important to assess your "experiments" in the classroom. The National Institute for Science Education's College Level One team has developed an invaluable web-resource on classroom assessment techniques nicknamed FLAG (Field-Tested Learning Assessment Guide) that includes a primer on assessment and a fairly comprehensive database of classroom assessment techniques that can be readily implemented with minimal effort. If you have the time, I strongly recommend that you read Barbara Walvoord and Virginia Johnson's classic text on assessment entitled "Effective Grading."

Critically assess the infrastructure available in your department to support your teaching efforts. If it will benefit you, your research program, and for example you have expertise in HPLC and your department needs a new teaching HPLC, it could be a good idea to apply for funding to obtain a new instrument. Submitting a grant application to the NSF DUE CCLI program to acquire needed teaching instrumentation is an excellent way to learn the ropes of the grant application process and to build a track record of federal funding.

Don't teach a new course every semester if you don't have to because it's incredibly time consuming the first time through. Teach one course two or three times through before volunteering to take on another new course. It is very important to demonstrate that you are an effective teacher, and it's difficult to do this if you're starting a course from scratch every time.

Educate yourself about your chosen profession, teaching and strive to become proficient at it. Take the time to learn how to teach and how to do it well. Read articles and books on teaching. I strongly recommend Bill McKeachie's timeless "McKeachie's Teaching Tips" and Parker J. Palmer's inspiring and challenging "Courage to Teach." Since good teaching is really about delivering good customer service, I also recommend Ron Zemke's classic "Delivering Knock Your Socks Off Service." Ask around and find out who the respected (note popularity and respect are not the same things) teachers are on your campus and attend (with their prior permission) one or more of their classes. Most institutions today have some sort of center in support of teaching. Find out what services are available and make use of them. Attend workshops on different forms and styles of teaching at your institution and at neighboring institutions. Attend conferences on teaching including the Gordon Conference, the Lilly Teaching Conferences, and the Biennial Conference on Chemical Education.

Research

Again, make sure that you understand what the criteria are in terms of research. They are likely to include

- demonstrating that you can obtain and sustain some level of external funding in support of your research;
- developing a productive (as evidenced by publications and presentations emerging from your laboratory) research group constituted of a mix of postgraduate,

graduate, and undergraduate students if you are at a graduate research university);
– publishing at least several (and at graduate research universities many) peer-reviewed papers focused around a central theme in high quality technical journals; and
– presenting your work at professional conferences and at colleges and universities here and abroad (if at all possible if you are at a graduate research university).

In terms of obtaining funding for your research program, there are a number of programs earmarked specifically for new faculty (see the reference section at the end of this article). Apply early and often! Don't sit back and wait for your Chair and/or colleagues to nominate you. Prepare your dossier, proposal (if required for the program), and cover letter and offer these to your Chair.

Collaborate. Identify individuals who have expertise and interests complementary to your own. Telephone, email or otherwise contact them and find out how you can work together to advance your interests. If you teach at a primarily undergraduate institution, don't be afraid of introducing yourself to faculty at graduate research universities.

Look broadly for funding in support of your research program. In analytical chemistry, industrial support is not uncommon. Find out what services your institution provides in support of faculty development. They may have small grants to support pilot research projects, travel grants, matching programs in support of capital equipment purchases, etc.

Your best bet no matter what kind of funding you seek is to obtain preliminary results demonstrating that your research ideas are feasible and that you are best qualified to do the work before you apply. If your research laboratory is not ready, ask if you can use a colleague's laboratory or consider working at a neighboring college or university. If you don't have students, do the work yourself. If you seek federal funding such as NSF and NIH, telephone the agency and speak with the program officer in your research area. If your institution will foot the bill (ask!), set up a visit so you can speak in person with the relevant program personnel. They can provide you with invaluable information such as whose work they fund, what specific projects their program funds, whether your program fits their research portfolio, etc. An excellent resource on how to write a successful federal grant is Liane Reif-Lehrer's "Grant Application Writer's Handbook."

Seek feedback from colleagues before you apply for funding. Once you have written a draft (yes, a draft) of a research proposal, ask senior colleagues in the department in your research area and your mentors (above) to read and critique your research proposals before submitting them to the funding agency. Don't do this if you don't plan to take their advice seriously. Do make sure that you thank them for their time and effort and let them know the outcome of your submissions.

Recruit, recruit, and recruit! If you are at a graduate research university, identify some graduate students as soon as possible. Don't look only for grad students but partner with undergrads. They have enormous enthusiasm and a willingness to work hard, and if recruited early an undergrad student may work in your laboratory for four years.

How can you recruit students? Glad you asked. Talk to students in your own classes about your research interests. Ask your colleagues if you can speak for 5-min at the end of one of their classes. Volunteer to give a departmental seminar outlining your research interests. Volunteer to give a guest lecture on your major research area in your colleagues' class. Take prospective students out for a cup of coffee and let them know of your interest in them as potential group members. Don't expect students to come to you.

Remember the old adage "Beware Greeks bearing gifts." Don't accept new students blindly into your research group simply because they are overly excited about you and your new research program-find out about their interests, ask them why they want to work specifically for you, and check their academic background. There is nothing worse than a "bad" student. If you are at a graduate research university and looking to hire a post doc, telephone the advisor and inquire about the applicant's strengths and weaknesses. Ask the advisor whether or not they would hire the student if they were in your shoes (new Assistant Professor working at your academic institution). If you can afford to financially, invite the post doctoral applicant in for an interview. If not, interview the candidate by telephone. A "bad" post doc, graduate student or undergraduate may hurt your productivity by breaking costly equipment, wasting precious materials, reagents, and your limited time, and/or poisoning your lab's positive, collaborative atmosphere.

Once you have attracted good students to your laboratory, take the time to mentor them. Consider this an investment in your and their future. If you teach them well, then you will be able to leverage them to teach future students. Be accessible, be patient, listen well, give them explicit direction, and delegate tasks to them responsibly. Let your students tell you when you are over explaining something; that's better than wrongly assuming they understand. Allow your students to assist you in your grant writing, setting up the lab and equipping it, etc. All of these activities are useful training exercises and will give your students invaluable experiences that will benefit in the long term in their career development. An excellent resource on mentoring students is the National Academies' "Adviser, Teacher, Role Model, Friend."

Publish. If you have results, write them up and submit them for publication in a quality peer reviewed journal—the sooner the better. As with grant applications, solicit feedback on drafts of your first paper from your mentors and colleagues in your department and be sure to take their criticisms to heart in revising your manuscript. Remember that research is work in progress so don't wait until you have the perfect opus—that time may never come or it may come too late in terms of tenure and promotion. Your

colleagues will want to see a body of quality work published before you come up for tenure.

Never give up! You will submit a grant and have it be rejected. You will submit a manuscript for consideration of publication and see it slammed by reviewers. The key is in your hands and centers on how you deal with your response to these situations. First, don't call up the program officer or editor to lambaste them (if you need to do this, write a letter but don't mail it for any reason). Do contact them if something is unclear or if you need additional information in order to determine your next course of action. If you can, read the reviews you received critically and carefully and identify the areas of deficiency. If you can't, put the reviews away for a day or two and then read and evaluate the problems. Then, get to work trying to fix the problems, if they can be fixed (this may mean additional experimentation, analysis, or simply rewriting some text), and resubmit.

Service

Be careful not to take on too much too early. If at all possible wait at least a year before taking on any serious service assignments but only do this after speaking with your Chair and finding out how service counts toward tenure, promotion, and merit review. Look for opportunities that allow you to serve others but also benefit your interests as well. Serve on departmental committees where your service benefits you and your career interests. For example, service on admissions and seminar committees tends to have a serious time commitment. If you are at a graduate research university, serving on the graduate admissions committee, though, could prove invaluable, giving you an opportunity to meet, showcase your research interests and recruit talented prospective graduate students into your group.

Become involved in a local area professional organization. I would like to put in a special plug for the American Chemical Society but the Electrochemical Society, Materials Research Society, Society for Applied Spectroscopy, etc. all have local section meetings. I would also like to put a plug in for the opportunities for service, leadership, and networking available as a member of the working Board of Directors in support of a number of the analytical conferences including FACSS, Eastern Analytical Symposium, and PITTCON.

Advice to women and minority faculty

Academe is not utopia. Accept it. You will encounter racism, sexism, and homophobia. There is no value in being shocked and outraged. Don't allow these issues to distract you from your professional goals and to bench you from the game. Focus, young Jedi!

Be careful of anything that smacks of "tokenism"such as committee service, role-model activities, etc. If an activity will advance your interests and professional goals and count toward merit review and tenure, then consider the assignment. If not, then you would be wise to turn the assignment down. You can always revisit the opportunity later. Remember there is life after tenure.

Take advantage of the growing number of resources and programs that are available in support of women and minorities in academics. I enthusiastically endorse Geri Richmond's group, the Committee on the Advancement of Women Chemists (COACh) and its mentoring programs (see URL: http://coach.uoregon.edu)

Concluding comments

As I said at the outset of this column, there really is no career quite like that of a college or university professor both in terms of the opportunities, benefits, and challenges. It is difficult for me to believe but I have now been a professor for over fifteen years. My how time flies! I promise you if you take my words to heart, you will save yourself from making many costly mistakes and you will enjoy your career a whole lot more. Again, welcome!

Resources

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Gordon Research Conferences (GRC). Avail. URL: http://www.grc.uri.edu
Lilly Teaching Conferences. Avail. URL: http://www.iats.com/conferences/index.html
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Grant opportunities for new faculty

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