Six Steps to a Postdoctoral Position in the Chemical Sciences That Is Right for You

This document was prepared for the future generation of postdoctoral scholars* based on experiences and advice from today's professional chemists.

CONTRIBUTORS:

Rameez Ali, Ph.D.; Fabrizio Donnarumma, Ph.D.; Margaret Grow-Sadler, Ph.D.; Abby Knight, Ph.D.; Corrie Kuniyoshi, Ph.D.; Natalia Martin, Ph.D.; Jasper Most, Ph.D.; Joerg Schlatterer, Ph.D.

STEP 1 Know Yourself!

Before you look for postdoctoral positions, engage in some self-reflection and self-assessment. Ask yourself questions like the following.

What are your professional goals?

- Do you know what all of your career options are?
- What are your long-term or ultimate career goals?
- Which skills, competencies, and qualifications do you need to reach your goals?
- What are your strengths and weaknesses, and how do they fit into your preferred career or area of specialization?

What are your personal goals?

- What makes you happy, and how do you envision your life as a whole?
- Conversations about your life goals with friends and family can help you find clarity.
- What are your values?

Bear in mind:

- Goals can change over time! Be self-aware and realistic about assessments of where you are and where you would like to be.

Note: The free ACS ChemIDP tool (ChemIDP.org) can help with self-assessment, career exploration, skill strengthening, and goal setting.

*__Postdoctoral Scholar__ (official definition from the National Science Foundation and the National Institutes of Health, https://grants.nih.gov/training/Reed_Letter.pdf): An individual who has received a doctoral degree (or equivalent) and is engaged in a temporary and defined period of mentored advanced training to enhance the professional skills and research independence needed to pursue his or her chosen career path.

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STEP 2 Develop Goals and Make a Plan

After exploring career options and long-term goals, do you feel that you are currently prepared enough in your field to start your preferred career? Will more training or other experiences put you in a better position to achieve your long-term goals?

Do you already feel prepared for your field?

If you already have the skills, training, and experience you need, do not waste time. Simply go straight for the job. You've made it!

Will you need additional training before working independently?

As you seek your preferred job, you may find it useful to engage in some short-term mentored training (a postdoc) to fill in any research or other gaps in your profile and to pay the bills. If you choose to do this, be aware that your postdoctoral experience, regardless of its duration, should result in scholarly achievements (posters, talks, publications, patents, etc.). Focus on postdoctoral positions that require your current technical skill set unless, of course, you need to expand it.

Be clear about your goals and expectations when talking to your potential adviser. Whoever supervises you will probably expect you to stay for a minimum amount of time, which you should be aware of before accepting a position.

Many different aspects of your overall professional goals have to be taken into account to make your postdoc experience successful. Determine exactly what you want to get out of the postdoctoral experience. Formulate specific goals and make a plan. Every postdoctoral position is unique, and it's important to find one with the potential to advance your career. Carefully evaluate all of your opportunities to see how they mesh with your goals and plans.

The key to finding the best postdoctoral opportunity is knowing what you want from the experience. Have SMART* goals and a plan (as discussed in Steps 1 and 2).

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STEP 3 Find a Postdoctoral Opportunity

Practical considerations

The following questions can help you assess your postdoc needs:

- How do you want to use your existing technical skill set and competencies?
- What new skills or competencies do you wish to obtain?
- Do you plan to switch your research areas or field?
- Where in the United States or the world would you like to live? Will you face work visa restrictions?

Ways to identify postdoc opportunities

Focus exclusively on research groups providing opportunities that match your plan. Some ways to identify suitable opportunities include:

- Attending and presenting at conferences, such as ACS Meetings,
- Reading and analyzing job advertisements (e.g., in C&EN Jobs, Science Careers, Nature Jobs),
- Talking to your Ph.D. mentor and graduates from your department who are in your desired career field, and
- Contacting researchers who are experts in the area where you aspire to work.

*SMART: S = Specific, M = Measurable, A = Achievable, R = Reasonable
T = Timely

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STEP 4 Contact the Principal Investigator

Contact the PI you are interested in working with. Because postdocs are expected to solve complex research problems on their own with very little guidance, it makes sense to show that you have independently gained some understanding of the work you would be doing. Before making contact, prepare yourself by reading the PI's latest publications. Identify which of your skills would be strengths for the ongoing research in your prospective group. Present yourself as an asset while acknowledging that you obviously will benefit from the opportunity as well.

Some good methods for making contact include:

- Talk to the PI you want to work for during a conference. Setting up an informal meeting in that environment can be a low-risk way for you both to see whether the mentoring relationship might be a good fit.
- Call the PI directly.
- Send the PI an email.
- Contact the PI as indicated in a job advertisement.

While you are talking with your potential future supervisor, make sure you present yourself as you are. Although it is important to communicate clearly, do not worry about an accent or anything else indicating that you might hail from a different culture. Diversity adds value to any professional enterprise.

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STEP 5 Manage the Interview

An on-site interview at your institution of interest is critical to assessing the position and determining whether you feel you are a good fit for the work and living environment. Emphasize how you can help them. Remember, this is your opportunity to showcase yourself, so you want to avoid any potential missteps.

You will probably have to give a presentation about your previous research. Know how it might fit in with your perspective new group's. Do your homework to gain a good idea of the research skills they need, and subtly highlight them in your presentation.

Be prepared to engage in occasional small talk. Know a little bit about the town, city, and state you're visiting to show you'll fit in well.

When you visit, ask research-related questions first.

Here are some questions you might consider for your interview:

- How does your prospective PI measure success in the lab?
- What is the PI's mentoring style?
- What are the former postdocs doing now? Did they successfully secure their ideal jobs? Do they work in the career area that you would like to enter?
- Will you have your own project?
- Is there competition among group members working on similar projects?
- Who can train or advise you in areas outside your expertise?
- What kinds of projects could you take with you when your time with this lab is over?
- What expectations does your potential PI have? (Are you expected to teach or mentor students? Are you expected to work 12-hour days or on weekends?)
- Is funding available? Will you be expected to write fellowship applications? What would your salary be? (Keep in mind that you can negotiate!)
- How long does the preparation of article submissions typically take in this environment?
- Will you get benefits (e.g., health and dental insurance, daycare, etc.)?
- Is participation in career and professional development activities (such as attending conferences, seminars, and workshops) encouraged?
- Are laboratory meetings held? How often? How are they structured?
- Are there journal clubs and frequent seminars?
- What are the roles and responsibilities of other laboratory members?
- How often will you have the opportunity to talk to your PI?

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- How are conflicts managed in the laboratory?
- Who will be your mentor?
- What other commitments does your potential PI have (e.g., chair, committee member, editor, etc.)?
- How would the group describe the perfect team member?
- Will you have the opportunity to work independently in the laboratory?
- What research support might you have?
- What shared resources (such as centers or other facilities) are available on campus or through existing laboratory collaborations?
- Cutting-edge science requires cutting-edge safety. How does the department or institution addresses chemical and laboratory safety? How would you be introduced to the safety culture on campus?

Note: ACS offers helpful Interview Strategies at: **Strategies at gpchemist.acs.org**

STEP 6 Making the Transition to Your Postdoctoral Position

Some strategies to bear in mind:

- You are an accomplished Ph.D. and not a student, so present yourself accordingly, including professional manners and comportment as well as dress.
- Give yourself a short time in the lab (around three to nine months) to see whether the arrangement works for you. If not, leave!
- Expand your personal and professional network while you are there.
- Volunteer, for instance in a postdoctoral association. Any activity can help strengthen your professional skills (e.g., joining and participating in a scientific society or engaging in campus activities to help demonstrate your leadership skills).

Becoming a Postdoctoral Researcher Abroad

Doing a postdoc in a foreign country can be an amazing professional and personal opportunity, and these steps can help you get there.

- Make sure that you contact your university's International Researcher office (or its equivalent) to understand visa and other pertinent legal requirements early in the process. Getting a visa or work permit can take a long time.
- Understand which benefits are available to you.
- Understand how the taxation of your salary works.
- Find out what the language requirements are for working efficiently in the laboratory.

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