

Early Career Members

Post-doctoral Experience: An Opportunity to Add to Your Repertoire of Skills

A post-doctoral experience is often regarded as a prerequisite for employment as a university professor. While post-doctoral training is part of the traditional career pathway in academia, there are many good reasons for a recent Ph.D. graduate to consider a “post-doc” regardless of if they eventually land in academia, industry, government, or elsewhere. For some, post-doctoral training may be the opportunity to write grant proposals, conduct original research, and publish in prestigious journals. For others, it may be a time to explore new areas of research that are not directly related to their field of graduate training.

In addition to refining technical skills, a post-doctoral experience is an additional avenue to improve “soft skills”



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Why Should You Consider a Post-doctoral Experience?

The completion of several long years of graduate studies is in sight. What do you do next? Should you continue your training with a post-doctoral experience? The answers to these questions will depend on your personal and professional aspirations. It may sound like a cliché, but where do you see yourself in 5, 10, and 30 years? Changes in direction will certainly happen throughout your career, but having a vision of where you want to go based on your interests and passions can help with making career choices that help you get to the next level.

Graduate school is a time for specialized education, original research, and learning to be an outstanding scientist, but it often leaves little time for other forms of training which may be necessary to excel in the professional world. A post-doctoral experience can be used to focus on these additional training needs, whether it is continued research and publication, supervising a laboratory and its staff, extension and outreach, or teaching, just to cite a few examples.

Career development paths are different for everyone, but for some, a post-doctoral experience may be just the right step for continued personal and professional enrichment!

(e.g., communication, leadership, teamwork, and project management) that are essential for landing a dream position in today’s job market. From my personal experience, a brief post-doctoral position was an excellent opportunity to continue building projects and talents that I had acquired during graduate school while also improving communication and people management skills that will help me excel in my current and future career. While the main focus of my post-doctoral experience was on conducting field research and supervising a laboratory at the University of Illinois, I also had the opportunities to teach a graduate-level class in crop growth and development and present research results to audiences including farmers, industry professionals, and academic colleagues in South Dakota, Nebraska, Illinois, and at the 2012 ASA, CSSA, and SSSA Annual Meeting in Cincinnati, OH. I may not have had the opportunity to experience some of these activities had I transitioned immediately from my Ph.D. education into a full-time position in industry or academia. Career development paths are different for everyone, but for some, a post-doctoral experience

How Do You Find Post-doctoral Opportunities?

While a position may be waiting for you in the program where you completed your Ph.D., there may be other opportunities within the same department, university, or with other institutions. Opportunities may occur domestically or internationally, and there are many ways to find post-doctoral positions within plant, soil, and environmental sciences:

- **Academia.** Many academic departments offer post-doctoral positions periodically. They are usually advertised on departmental websites, university human resource pages, and in the ASA, CSSA, and SSSA Career Center (www.careerplacement.org). In addition, many related professional organizations such as the

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American Society of Plant Biologists, Weed Science Society of America, and American Phytopathological Society have career postings that may be of interest. It may also be helpful to directly contact departments or faculty to express your interest in post-doctoral employment. While a position may not be immediately available, laying the groundwork ahead of time could pay off once a project or funding becomes available in the desired research program.

- **Industry.** Post-doctoral candidates may not think to look for positions in the private sector, but many agricultural companies including DuPont Pioneer, Syngenta, and others occasionally advertise post-doctoral research positions. These are typically short-term employment opportunities focused on special projects but may also be used to pre-qualify individuals for full-time employment once the post-doctoral project is complete. Post-doctoral positions in industry can be found on corporate human resources sites and external career resources such as LinkedIn.
- **Other organizations.** Government agencies (e.g., USDA, USEPA, and USFDA) and non-profit organizations (e.g., The Samuel Roberts Noble Foundation) may be additional avenues to explore in your search for a post-doctoral position. For example, the International Maize and Wheat Improvement Center (CIMMYT) and other related international agricultural research organizations periodically post post-doctoral openings in fields such as plant breeding, crop management, and social sciences.

What Factors Should You Consider in Selecting a Post-doctoral Experience?

First and foremost, a post-doctoral position should fulfill the objectives that you have established for your professional training and development. In other words, will the responsibilities and additional opportunities inherent to a post-doctoral position complement, enhance, or add to the skills that you currently possess? Once you have identified a handful of opportunities, there may be other factors to consider when choosing between positions:

- **Salary and length of employment.** A post-doctoral position may not be a financially lucrative venture relative to future career opportunities; however, financial considerations are still important, particularly if one has a family or if physical relocation is required. Also, it is important to understand the terms of the

post-doctoral position. Is the position guaranteed for a specific length of time or does it have to be periodically renewed contingent on funding associated with a specific project?

- **Details pertaining to research publications.** Many post-doctoral scientists will be involved in research and in the preparation of peer-reviewed publications. If your goal is to add publications to your CV, it may be important to establish order of authorship in advance. While research publications are also possible as a product of post-doctoral experiences in industry, understand that additional review and approval will likely be required that can lengthen the period of time between manuscript preparation and final publication.
- **Resource availability.** Beyond financial support for your salary, resources are required for research and other activities that you may engage in. For example, will your research be dependent on grants or industry support? Who is responsible for identifying and maintaining sources of financial support? In addition to research, are resources available for travel to professional conferences?
- **Opportunities after the post-doctoral experience.** Most people use a post-doctoral position as a tool to prepare for the next career opportunity. Does the supervising professor, company, or organization have a strong track record of former post-doctoral staff moving onto influential positions in academia, industry, or other organizations after their training has been completed? Ask to be placed in contact with former post-doctoral scientists, and enquire about their experiences and how a post-doctoral position within the program of interest benefitted their professional development.

My own post-doctoral experience provided me with the opportunity to engage in professional activities that I had not had the time or ability to complete while studying for my Ph.D. This experience also allowed me to identify opportunities for full-time employment that complimented my experiences, skill set, and professional interests. I encourage all Ph.D. students to consider a post-doctoral experience. This step in career development may not be needed or desired by every Ph.D. candidate, but for some, it may open the doors to a more fulfilling career in the crop, plant, and environmental sciences!

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