As scientists, the decision about where to postdoc is among the most important that we will make in our professional development. Postdoctoral training, after all, is where young scientists are set loose to utilize those skills obtained during their graduate studies and create a trajectory of inquiry that will guide the early stages of their independent careers. So how does a senior graduate student or a newly-minted PhD go about picking the best postdoctoral environment? For that matter, how does one decide whether or not a postdoc is even right for them? Fortunately, the graduate school experience itself goes a long way toward informing this decision. Not only is it an important formative period that develops bench skills and teaches students how to formulate hypotheses and develop effective experimental strategies, but graduate education should also provide the young scientist with a better understanding of their own interests and what additional scientific training they require to meet their career goals.

When it was time for me to find a lab in which to do my postdoctoral training, I was a senior graduate student in biochemistry at the University of Kentucky in the lab of Doug Andres. Over a period of 6 years in his laboratory, Dr. Andres provided a tremendous training environment where I was able to learn many of the biochemistry and molecular biology skills I still use today. When I started in the lab, I wasn’t initially intending to stay in academic research—I had planned on pursuing a career in patent law after completing my degree. But within the first 2 years in the Andres lab, I changed my mind and decided that a research career was right for me. I was very invested in my project, which was to understand the mechanisms by which small Ras-related GTPases in the RSK family controlled the activity of voltage-gated calcium channels. I found the work rewarding, and I really enjoyed writing papers and grants. Perhaps most of all, I enjoyed the company of my colleagues and the opportunities I had for scientific collaboration. This was really aided by a long-standing collaboration we had with Jon Satin’s lab in the physiology department. There I learned patch-clamp electrophysiology, which not only allowed me to better address questions in my own research projects, but expanded my utility as a collaborator with other investigators in our lab. For this reason, I encourage young students to really take advantage of the training opportunities they have available. More experienced postdocs and technicians are usually quite willing to take students under their wing, and clever trainees who are willing to work hard can pick up a variety of useful skills that will serve them well in setting up future collaborations. This can have the net effect of greatly expanding scientific productivity and will ideally enable the student to have enough skills, experience, and publications to have multiple offers to evaluate for postdoctoral positions.

The ultimate choice of laboratory in which to do a postdoc is really dependent on both scientific and personal factors. Scientifically, the lab should be one that will provide ample opportunity for growth and development as a young researcher. That means independence to pursue new and interesting paths of inquiry, advanced training in writing papers and grant applications, and finding an advisor that is deeply committed to the success of their people. In my case, I wanted to branch out into a more physiological system to continue my training. My graduate work had been primarily done using cell culture systems, but I felt that in order to obtain future grant funding, I would need to be able to establish clinical relevance and gain additional experience with in vivo cardiac disease models. I was also excited by the opportunity to extrapolate my in vitro findings to a whole animal system using transgenic and gene-targeting approaches in mice. Ultimately, I was very fortunate to land a position in Jeff Molkentin’s lab at Cincinnati Children’s Hospital, where I’ve had the opportunity to develop my interests in calcium channel biology into a broader program examining how changes in ion handling control the development of cardiac hypertrophy and alter function of the training.
failing heart. Therefore, I would recommend that trainees select a laboratory or department that contains a diverse array of projects and investigators, which will allow them to develop new interests and skills and branch off into new fields of study. I have greatly benefitted from such an environment in the Molkentin lab. My collaborations and interactions with colleagues both within our lab and at other institutions have not only enriched my studies related to ion handling but have also led me to develop additional projects examining transcription factors that regulate endoplasmic reticulum stress responses and their roles in cardiac disease.

Finally, I’ve found that the choice of postdoc must also take into account personal goals—many of which may have nothing to do with science. To be realistic, research is a demanding career that requires long hours and offers financial compensation that is sometimes less than can be obtained in other fields that have shorter training requirements. I believe it’s very important for graduate students to honestly examine what they want from their lives in the next 5, 10, or 20 years and then determine what sort of position will best help them achieve that. Are they married or in a long-term relationship? If so, what are the requirements of their partner? Do they want to start a family? Are they geographically restricted? Are they comfortable with moving, or do they want to stay in the same region long-term? Do they want to attain a certain level of financial compensation or social status? How long do they want their postdoc to last? And finally, they must determine what their ultimate career goal is, be it an independent academic faculty position, a job in industry, teaching, science writing, policy, or something else altogether. Honestly evaluating the answers to these questions can aid trainees in realizing their vision for the future by guiding them to the right postdoc—one that will help them develop the skills required to meet their personal and scientific career goals.

Disclosures

None.
Training for Success
Robert N. Correll

Circ Res. 2017;121:488-489
doi: 10.1161/CIRCRESAHA.117.311363
Circulation Research is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
Copyright © 2017 American Heart Association, Inc. All rights reserved.
Print ISSN: 0009-7330. Online ISSN: 1524-4571

The online version of this article, along with updated information and services, is located on the World Wide Web at:
http://circres.ahajournals.org/content/121/5/488

Permissions: Requests for permissions to reproduce figures, tables, or portions of articles originally published in Circulation Research can be obtained via RightsLink, a service of the Copyright Clearance Center, not the Editorial Office. Once the online version of the published article for which permission is being requested is located, click Request Permissions in the middle column of the Web page under Services. Further information about this process is available in the Permissions and Rights Question and Answer document.

Reprints: Information about reprints can be found online at:
http://www.lww.com/reprints

Subscriptions: Information about subscribing to Circulation Research is online at:
http://circres.ahajournals.org/subscriptions/