This month’s Paths and Places column was written by Aida Habtezion, an Associate Professor of Medicine (Gastroenterology and Hepatology) at Stanford University. Dr Habtezion, who studies leukocyte trafficking and the immune response in the gut, provides advice on successfully navigating the early years of an independent career as a physician-scientist. Dr. Habtezion has received multiple awards and was recently promoted to Associate Professor with tenure, making her an ideal role model for early career success.

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Setting up a Lab: The Early Years

If you are on your way setting up a lab, congratulations! This is what you have been training for and you have achieved the start of independence. However, you probably never took a business class to prepare you for this. Thus, we all have to depend on the guidance of mentors, observations from previous labs where we trained, and attention to emotional intelligence—the core for successful management of yourself and others. I think it is very important to plan early for the promotion clock, and one of the critical components for this is setting a successful research lab. The comments in this column are based on my experience and lessons I have learned on the way and I hope they will work for junior investigators in the field as they have for me.

Who to Hire

It is important to assess your needs based on the research program you want to establish. For my lab, I needed to set up chronic animal models (a continuation of my postdoctoral training) that are time consuming. Thus, I hired a technician who could help establish the repetitive animal models and who would work closely with a postdoctoral trainee who could run experiments and analyze data. The technician and postdoc needed to have a good working relationship and we needed to discuss expectations related to authorship up front.

Postdoctoral trainees with funding are likely to end up in more established labs and thus, when starting a lab, one should be prepared to pay. It is important to carefully review candidates’ applications; recruiting applicants from labs you have connections with (e.g., from previous mentors and mentors’ collaborators) can be helpful. It is also valuable to be involved in training programs for graduate and postdoctoral trainees. In my case, I became a member of the postdoctoral training program that reviewed National Institutes of Health (NIH) T32 applications—this was a good networking experience (within my institution) and exposed me to excellent trainees. Some of my colleagues got involved in graduate training programs (PhD, MD/PhD), which worked just as well for them. The key is to have an active but relatively limited involvement in a training program, giving you exposure and experience without overwhelming your research scholarship. Recruiting undergraduate and senior high school students should be a lower priority until the lab has more resources and time to devote to their training, although there are exceptional individuals who are highly ambitious and independent. Regardless, every time you recruit or hire someone for your lab, it is important to review what they will be doing and to continue to assess their suitability for the project in mind.

How to Balance Research and Other Responsibilities

Although balance is often discussed, it is difficult to achieve in a perfect sense. More important is to learn to adapt to situations and to prioritize and remain focused. This is even a greater challenge for physician-scientists, who are typically expected to achieve excellence in clinical care and teaching in addition to research scholarship. If you are a physician-scientist, it is ideal if your job description calls for relatively low clinical and teaching duties while you are setting up your lab. Continuous communication with your chief or chair may enable you to tap into resources such as a nurse or extended health care provider in the clinic and teaching assistants in the classroom, allowing you to achieve a solid footing in these areas without overtaking your time or research mission. Similar strategies should also be considered by those without clinical responsibilities.

It is important to set time to write grants and to minimize your involvement in committees that lack a direct and immediate impact on your research program. The latter is especially important for women and minority scientists. Many
committees are looking for diverse representation—but this may not be the right time to get involved. Discuss committees with your chief and mentors: some committee service is required for promotion, and citizenship is important for one’s growth; you do not want to be an island within your own institution. Consider becoming involved in a seminar speaker series or selecting and hosting visiting professors, as these will provide excellent networking opportunities.

There are also challenges balancing your personal life. This should be priority number one. I remember attending my first Gordon Research Conference as a postdoctoral trainee and participating in a session that addressed life-work balance issues. One piece of advice was particularly helpful: “If someone can do it as well as you then it’s worth paying them for it.” Seek help, whether it is to clean your home, pick up your kids, or run errands, so you can finish that grant, paper, or experiment (although it can be challenging to afford financially). We are fortunate that our generation recognizes the importance of work-life balance, although we as a society have a long way to go to achieve this goal.

**How to Find Collaborators**

Strategies for finding collaborators depend on your division or department and your project, but you should look within and outside your institution. If you are carrying on projects from your fellowship lab, former labmates and colleagues who are starting their own labs may provide collaborations. Some projects may complement the mission of your new department and provide access to nearby collaborators right at the start of your independence. In other cases, you may be moving into a field that is unique within your division. In my case, I found very fruitful collaborations by attending seminars and conferences and being involved in grant reviews. Presenting and discussing projects at conferences is also a good source for collaborations. When projects require resources that you do not have (eg, transgenic mice, antibodies), this also provides a good opportunity for an initial interaction with a potential collaborator. Mentors can be an important resource for finding collaborators as they have been in the field longer than you and are generally well connected. Although mentors themselves can be collaborators initially, you will need to branch off and find your own collaborations to establish your independence.

**How to Spend Money (Now or Later)**

It is always good to save, but not at the expense of limiting your creativity and ability to pursue experiments that ultimately lead to the preliminary results needed for bigger grants. Do not wait or compromise quality in what you need (including the people you hire)—as the saying goes, you get what you pay for—but you need to spend wisely and always do your research and assess the value or worth of your expenditure. Within my first year of setting up the lab, I hired a research associate, rather than a research assistant. Although it is unusual to hire a senior scientist during the transition to independence, this individual had the expertise I needed, and her efforts were critical to the success of a high impact publication and NIH R01 grant. I knew this scientist firsthand, as we had been postdocs in the same lab. Rather than spending the time to train a new person, I took the time to write. Look for and seize such opportunities—when the reagents or resources to perform better experiments or the personnel are needed to accomplish your research mission.

**What Early-Stage Grants to Consider**

Career awards (from foundations and the NIH) offer a good mechanism to transition into independence. If you do not already have one, you should consider applying for one of these: (1) NIH mentored research scientist development (K01), mentored clinical scientist development (K08), and independent scientist (K02) awards; (2) foundation grants offered by the Burroughs Wellcome Fund, Robert Wood Johnson Foundation, Howard Hughes Medical Institute, Doris Duke Charitable Foundation, Pew Charitable Trusts, Beckman, and many others; and (3) grants offered by professional societies that may have specific areas of focus such as the American Gastroenterological Association, Crohn’s and Colitis Foundation, and Cancer Research funds. There are also small pilot grants offered through individual institutions, the NIH (eg, R03 awards), and foundations (eg, the National Pancreas Foundation) that can be helpful as supplements and can aid in generating preliminary results. The goal of early-stage grants is to allow you to obtain the publications and preliminary data needed for independent NIH funding (eg, R01). To take advantage of the NIH new and early-stage investigator benefits, plan accordingly, considering the time it requires to train as a physician-scientist. New investigators should not wait too long to apply for independent NIH grants. Apply early and diversify—a combination of NIH and foundation grants worked well for me. Connect and sign up with your institution foundation and grants relations office to receive announcements of internal and external grants. Attend workshops on grant writing, plan early, and have someone review your grant—my mentor reviewed my first R01 application. Most of all, learn to deal with rejections and address reviewers’ comments—if you do not try and retry you are less likely to succeed.

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The author discloses no conflicts.

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