

## **Starting a Lab**

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My experience in starting a lab at a new institution is in no way universal, as the experience is dependent upon a number of factors: (1) the amount of funding one possesses at the time of transfer, (2) the stage of career development, (3) how much start-up funds were initially negotiated, and (4) the particulars of the new institution. I transferred to another institution with a K grant and foundation grant, and began to write an additional foundation grant as I was moving. So, my perspective is quite different from those who are at a later stage in their career, especially those who are bringing personnel with them to the new institution who can facilitate much of the day-to-day operations.

A few months before the actual move, I submitted Institutional Animal Care and Use Committee (IACUC) protocols, recombinant DNA forms, radiation safety application forms, and other paperwork to transfer grant funding over to the new institution. I did whatever I could before the actual move, as I felt it would only facilitate the process of getting started in a new place. Thankfully, the laboratory space had been secured for immediate occupancy just prior to my arrival. Although it was tempting to fill empty lab space as quickly as possible, I avoided purchasing a large-ticket item unless it was absolutely essential and no one else with whom I could share had it. While I projected a budget that enabled some opportunity to diversify my research profile, this was always balanced by circumspection regarding the timing of future funding and the desire to stretch out the dollars for as long as possible. So, I tried to focus on purchasing reagents needed to accomplish a particular project rather than furnishing the lab with an item that might have some use in the future.

Probably the most important aspect of budget projection I encountered was salary support for personnel. This needs to be negotiated as part of the start-up funds or as separate personnel salary support funds. It is best to clarify up front how many years of support that will be and for how much, and what would happen if those funds are not used by a certain time. This is best put in writing so as to avoid confusion in the future. As I began to project the

budget for the next several years, I thought about how personnel salary would be supported beyond those initial years. I gradually began to plan the potential timing of grant submissions in order to prevent lag periods in funding support, as well as protect a chunk of the start-up funds for that rainy day.

Understanding how grant funding is managed within the division and the department as a whole is valuable. I came to know my administrator well, and I highly recommend getting to know whoever manages the budgetary issues of the division. S/he will give you better insight into the various expenditures of starting and maintaining a lab. For example, what does the institution do with indirect costs? Does it return to the individual division and is it then allocated to pay “rent” of laboratory space, salaries of administrative staff, capital equipment, office supplies, departmental and institutional taxes? If you have vivarium costs, is that subsidized by the indirect costs or will your monthly charges reflect the actual operating fees? Vivarium charges at various institutions differ, and I was surprised by the significantly higher costs at my new institution. Maintenance expenditures of items like tissue culture hoods, annual fees for dry ice, liquid nitrogen, CO<sub>2</sub>, oxygen, and annual service contracts of capital equipment are things to be aware of and for which you may have to budget. A lot of these items can be shared with the local community, i.e., your neighbors in surrounding laboratories.

For physician scientists, negotiate up front clinical obligation times. This is critical. I was and am currently quite fortunate enough to have my protected time organized in such a way that I avoid long periods away from the lab. In fact, I requested and received no clinical service time for the first 6 months. This allowed me to concentrate on getting the lab started, hiring and teaching personnel, organizing projects in terms of priority, doing a few experiments, submitting a grant, and working on getting a manuscript published, as I was becoming familiar with the institutional way of doing things...without interruption. This may not be the correct piece of advice for those whose research directly relates to their clinical work. I have no weekly clinic to attend, and my clinical time is focused upon inpatient services in the Medical Intensive Care Unit (MICU). It is very labor intensive during the weeks I am on service and, frankly, those weeks I accomplish little in terms of research. While I now have personnel who can continue to work on projects while I am on service, this was clearly not the case in the

beginning. Thus, my clinical time and how I organized it to maximize my research productivity was most important when I was starting out at a new place.

I think hiring the right personnel can be challenging. It is best to hire someone after interviewing at least several candidates, and weighing the pros and cons of hiring a particular individual. It is helpful to be able to articulate the specific job responsibilities of a position as it relates to ongoing or future projects. The expectations have to be realistic for that particular individual, or it will not work out. I also learned a lot about myself as I learned to deal with those who worked for me and the unique lives and personalities they presented. I learned that being present, accessible, courteous, showing excitement about good work, and leading by example are all very powerful motivating factors.

Focus on accomplishing tasks at different stages of development while getting the laboratory established. This is the best time to finish manuscripts in preparation and tying-up loose ends on prior projects. Time projects in such a way that most of the wet lab work is finished by the time of the actual move. This will enable you to focus upon the writing, analyzing, and formatting aspects of the manuscript as the lab is getting established and there is “down” time. I always wished (and still do) that projects could be completed faster, and so many details of organizing a lab seemed overwhelming at first. However, breaking up larger tasks into smaller ones and accomplishing the smaller tasks on a daily basis helped establish the sense of forward movement necessary to maintain a positive outlook on research goals. I think this is a key aspect to starting and maintaining a lab, as there can be many roadblocks along the way—but your own perspective should not be one of them.

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