

## Beyond the Lab—Make the Most of Your Transferable Skills: Careers Under the Microscope

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As scientists, we rarely think about how our laboratory skills can actually translate outside the academic world. I really thought that finishing a productive postdoc at a reputable institution would mean that people would be lining up at the door to hire me.

I was naïve in thinking that my education and academic experience would pave the way and let me have my pick of any position I wanted. I worked hard, right? I published a decent number of papers, which shows I was productive, right?

So, as I started applying for positions during the last year of my postdoc, when my lab was dissolving due to the economic state of research funding, I became very flustered. I racked my brain with question. Am I not good enough? Am I not smart enough? No, that wasn't it. The problem was that I wasn't showcasing my experience in a way that could be digested by hiring managers. Take a look at my "skillz" from 2011, when I was trying to leave the lab.

- ~~Skills:~~
- Skillful in mouse techniques including: generation of transgenic mouse lines, husbandry, genotyping, injections, glucose/insulin tolerance testing, body mass testing using NMR mini-spectroscopy, and blood pressure analysis using the tail-cuff method
  - Trained high school, undergraduate, and graduate students as well as research assistants/technicians
  - Cloned mutants by two-step PCR, restriction digests, ligations, bacteria transformation, large and small scale DNA plasmid isolation
  - Developed sterile adherent/suspension cell culture techniques, including DNA transfection and 35S radiolabeling of murine fibroblasts
  - Performed biological assays including co-localization studies, co-immunoprecipitation assays, subcellular fractionation, activity assays and immunoblot assays
  - Proficient in fluorescent, confocal, transmitted microscopy and imaging software

After months of preparation, soul searching, and soliciting help from anyone that I could con into reading my CV, I translated my skills into:

### **Postdoctoral Research Fellow, CardioVascular Institute**

*Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA*

- **Project management:** Initiated and maintained collaborations with other investigators while successfully guiding the lab's research projects.
- **Scientific writing and editing:** Authored and edited over 9 publications from this laboratory. Wrote multiple grants, proposals, and abstracts, as well as edited colleagues' manuscripts and proposals before submission. Highly articulate and effective communicator, able to convey detailed and pertinent scientific data in a succinct manner.
- **Management and training:** Qualified in coordinating and conducting the education of scientific professionals. Managed and trained high school, undergraduate, and graduate students, clinicians/postdocs, as well as research assistants/technicians. Participated in the hiring process of lab managers and research associates.
- **Data analysis:** Conducted extensive translational research and data analysis. Experienced in written and oral scientific presentations. Knowledgeable in the interpretation of data into publication-quality manuscripts on a deadline.

Some transferable skills are going to be obvious for scientists (problem-solving and analytical abilities, for example). Although the essential "soft" skills may be harder to identify, you've got more to offer than you probably know!

Most of you are likely involved in a wide range of academic and extracurricular endeavors when you're not at the bench, so don't limit yourself. Like to run marathons, for example? You are motivated and goal-oriented! In short, think about how to make the most of your experiences and abilities.

We'd also encourage you to give this some thought while you are still a student or postdoc as once you start thinking about your transferable skills in this way, some gaps will likely become obvious. This would be a great time to find creative ways to add these to your repertoire before you really enter the job market fray!

## Angela Messmer-Blust

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Postdoc/PhD Task	Skill/Competency
I taught undergrad students sterile tissue culture techniques and assigned each lab projects.	Qualified in coordinating and conducting the education, training, and managing of students and scientific professionals.
I wrote my dissertation (or fellowship/grant applications) while conducting experiments full time in my lab.	Project management skills.
I wrote a 40,000-word dissertation.	Ability to present and organize large amounts of information articulately. Fluency in Microsoft Office (for example).
I had three advisors in addition to a thesis committee of five professors.	Established productive collaborations. Experienced at negotiating and managing collaborative projects.
I analyzed tons of data.	Analysis of complex data and presentation of emerging conclusions and concepts.
Experiments did not work. Paper was not published within timeframe and/or grant/fellowship was not funded.	Creative problem-solving skills.
I published papers, book chapters, and presented abstracts at conferences.	Ability to communicate complex ideas effectively/articulately in a range of formats to a variety of audiences.
I completed my postdoc fellowship (or X amount of papers) in 3 years.	Ability to plan a project and deliver it to agreed timelines.
I finished a PhD.	I am able to work with minimum supervision as well as part of a team.
I organized a conference.	Ability to work within a cross-functional team to disseminate scientific advancements on a global scale.
My research group was international. Or, I collaborated with a research group abroad.	Ability to interact with colleagues from diverse professional backgrounds to successfully work towards common goals.
I was in charge of a piece of equipment. Or, I set up/managed a research seminar series.	Initiative and self-reliance.