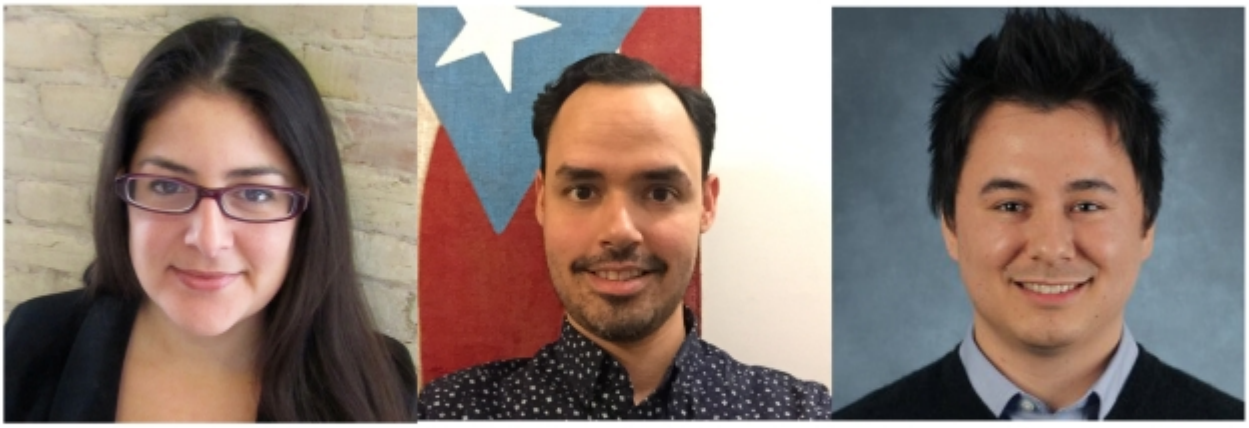
Conversations with Scientists: Non-Research Careers [1]

Submitted by Giovanna Guerrero-Medina [2] on 13 July 2016 - 10:28pm

 [2]



Your training as a scientist gives you a lot of skills that can be applied to many other sectors. Many life sciences PhDs find fulfilling employment in jobs as varied as science policy, consulting, publishing, law, funding, etc. But how do you make the transition from academia to a new sector? How can you sell the skills you gained as a PhD to work in positions where laboratory research is not involved?

During this **Yale Ciencia Academy for Career Development** [3] (YCA) Conversation with Scientists, graduate fellows in the program spoke with three scientists who have pursued careers away from the bench. Our speakers included,

- **Dr. Rudy Bellani** [4], CEO and Co-founder of Oystir [5], a job-matching resource and recruiting platform designed for STEM students and professionals seeking jobs outside academia. Before starting his own company, Rudy worked as a consultant and recruiter for McKinsey. He has a PhD in neuroscience from Rockefeller University.
- **Dr. César Berríos-Otero** [6], Director of Outreach for Faculty of 1000 [7]. After receiving a Ph.D. in Developmental Genetics from NYU, César pursued a career promoting open-access publishing, innovation in scientific review and tools to support scientific scholarship.
- **Dr. Giovanna Guerrero-Medina** [8], Executive Director of Ciencia Puerto Rico [9] (CienciaPR), Director of the Yale Ciencia Initiative and Principal Investigator of YCA. In addition to these positions, Giovanna has worked in science policy at the NIH and administering scientific research programs at a non-profit research institute. She graduated with a PhD in Molecular and Cell Biology from UC Berkeley.

Below, the video and some of the highlights from the conversation.

ath forward

Research careers are the expectation for most graduate students when they enter a PhD program. Why does someone then decide to steer away from the well-worn path towards a research career and veer into the “unknown”? It has all to do with the great self-discovery process of graduate school. As you go through your PhD and perhaps during a future postdoc, you will find that you will get to know much better your likes and dislikes, your motivators and your deal-breakers, the things that drive you and the things that leave you cold. This newfound knowledge may change your previous professional plans and lead you to consider new avenues of work.

Here’s a brief summary of some of the crossroads and epiphanies our panelists went through:

- During his postdoc **César** realized that he liked networking and talking to scientists on a collegiate level about what they did. He also felt strongly that the primary responsibility of a scientist is communicating his findings so that others could build upon them. His position as Outreach Director for Faculty of 1000 allows him to connect on a daily basis with scientists all over the world and promote fair and ethical publishing standards.
- As a senior grad student, **Giovanna** found an interest defending science from political intervention and promoting policies that would foster a healthy national science ecosystem. Her job in science policy at the NIH led her to take part in ensuring continued science funding and develop programs that would promote innovation, diversity, and good training experiences for scientists. She was then able to take these skills and apply them to her own community through CienciaPR in a role that she helped create and shape.
- For **Rudy**, his self-discovery led him to realize that his family and life priorities required him to have steady employment and a good salary. He thus decided to move to consulting where he learned the ins and outs of recruitment for top companies and start-ups. Because he was always motivated to help others, in later years he decided to launch his own start-up helping students find the types of positions he sought when he finished grad school.

In the end, the panelists agreed that each person will have their own decisions to make after their own periods of self-discovery. But identifying early on what moves you and what your life priorities are, can help in narrowing down your career choices.

ssing skillsets)

It is true what they say! Graduate school does give you skills that can be of value in many more settings than the lab. As a scientist you learn how to think about problems, look for holes in arguments, think several steps ahead to potential complications—in corporate speak this is known as problem-solving. You also learn to break down projects into actionable tasks—guess what, that is known as project management. And as César points out, scientists are often much better communicators than they give themselves credit for. The success of our research depends on us understanding other and others understanding us, so most scientists are adept at asking questions and gaging whether someone is following what you are saying or not.

In many cases, it's not just that PhDs have transferable skills, but rather they are transferable people. Think about it, how often have you become an overnight expert in a particular topic just because your project demanded that you do so? If communicated appropriately (more on that below), you can demonstrate employers that you are someone who can quickly learn the ropes of a new position.

One skill that we are perhaps not as well trained in is networking. For Giovanna this was one skill she needed to learn to do quickly, once she decided to move to a non-research career. She mentioned that she learned by seeing some of her peers do it and sometimes asking for pointers or feedback. This is one skill that is **essential** when moving to a non-research career as the path will not be as clear-cut as for research jobs.

In some cases, for example patent law, or entrepreneurship, there might be knowledge that you just don't have that is important if not essential for the career switch. In this case, take advantage of the many courses offered at your institution. Very frequently universities will allow you to audit or register for courses at the business school or law school.

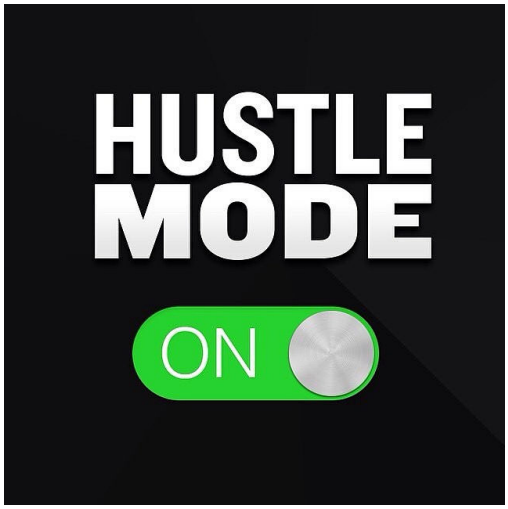
Take control. Hack your career!

The key for making the career transition is to demonstrate that you have these transferable skills and that you can apply them in a non-research setting. This is what Rudy cleverly termed as "hacking your experience". A good way of doing this is through volunteer and extracurricular activities. For example, at McKinsey, Rudy often recruited people who had done consulting on the side, while still students. Not only did it fit the job, he said it also showed interest, leadership, and ability. In fact, at Oystir, Rudy and his colleagues have found that the number one predictor of whether or not a student will get an interview is whether they have an experience that approximates the job.

Therefore, if you are interested in science policy, start a student club or organize a visit to the Capitol. If you interested in publishing, get involved in your school's scientific journal (or create one yourself). In essence, look for ways to do now what you want to do next.

Hustle and flow

Veering outside of academia can be scary for some because they don't know what is out there, what to expect in a new sector, or how to improve their chances of getting a position. Rudy, César and Giovanna agree that one way to become more knowledgeable about that is to network, network, network.



Credit: Ivan Nemorin, flickr [10]

Use your personal network (PIs, peers, non-grad school friends) to get introduced to people working in jobs similar to the ones you are interested in. Ask these people for "informational interviews", brief meetings at their office, over the phone, or over coffee to find out what their job is like,

what types of skills are valued in those positions, and what common entry points are. At worse you will come away with new knowledge, at best you might have a new professional contact who could alert you to a job opening.

Once you are actually applying for jobs Giovanna recommends taking a close look at the job description and highlighting the skills they are seeking and any key words they may use. Chances are that these are some of those transferable skills we talked about. Before applying, make sure that your cover letter and your résumé include these keywords and skills. She says that “You have to make it evident to them, in their own language, how your skills relate to the position. If you use the academic/scientific language, they will probably skip right over your application.”

If you can, show your résumé and cover letter to others, particularly people who know you and/or know the position, and get feedback to make sure you are not selling yourself short and to ensure you are communicating why you are a great fit for the job.

It sounds like getting a non-research career is risky and involves a lot of work…

Well, yes, and no. Yes, getting a job outside of academia will require you to network as heel, in places and with people you might not be accustomed to network. And you will have to learn quickly about new fields, new sectors, new skills. But, and this is important to consdier, once you get a job the risk goes way down. Changing jobs will be easier because now you will know what it’s all about, you will have a bigger network, and you will have demonstrated your value.

On the other hand, getting a job in academia also requires a significant amount of hustle and networking. Yes, you probably won’t need to do informational interviews but you will want to talk to mentors and peers about how to improve your chances for a faculty position, you will have to go out there and talk to colleagues about your work, you will need people to write you letters of recommendation or put in a good word for you with the chair of the search committee. And once you get an academic position then you still need to go through the tenure process so the risk is spread out over a longer period.

In the end, it’s all about what drives you and what you want to do. If academia is what is in your heart, do everything in your power to get there. But if you’ve realized it’s not for you, don’t delay the inevitable and don’t let fear paralyze you.

Rudy brought his workforce expertise to bear when he said “Just know that you are as unemployable as you are ever going to be. As soon as you get a job, you become massively more employable.” He meant that once you get a job outside academia you will have effectively demonstrated your ability to transfer those skills and do the work.

Other Topics Covered

Entrepreneurship - We don’t have time to summarize it here but Rudy gave a great overview of the pros and cons of entrepreneurship; who it’s for; and who should think first before diving in. Don’t miss it in the video above around the 49:26-time stamp.

Growth Opportunities - We also talked about growth opportunities in non-research jobs. This will all depend on the job you get. Some of them will have a clear progression path, some of them will not. But one thing that is way more common outside of academia are lateral moves, where you are able to move from one position to another within the same organization.

Just take the job - What if the non-research job I get is not my dream job? What if I don't know what my research job should be? Should I be concerned? The answer is a resounding NO! If you get a job offer in an area similar to the one you want to eventually work in, take it! You will have way more time to define and find that dream job once you make the transition.

Resources!

- If you are interested in science policy, check out these fellowship programs, which ease the transition and help the networking:
  - Christine Mirzayan Science and Technology Policy Graduate Fellowship [11]
  - AAAS Science and Technology Policy Fellowship [12]
- For government jobs, consider soliciting to the Presidential Management Fellows [13] program (*you need to still be a student to apply)
- For consulting, take a look at these [14] programs [15], which seems to match students with part-time jobs and/or fellowships consulting for companies (we have no experience of these programs so don't take them as endorsements). Or see if your school has a consulting club.
- Advice and affirmation - You are not alone, many students before you have "veered into the unknown" (some who are members of CienciaPR [16]!). But we know it can be daunting process. With that in mind here are some good reads, some of them recommended by our fellows:
  - Career transitions don't happen overnight [17]
  - Careers for scientists away from the bench [17]
  - Career Trends: Careers away from the bench [17]
  - Career Exploration for PhDs in STEM [17]
  - There is life after academia [17]

Tags:

- YCA [18]
- yale ciencia academy [19]
- non-research careers [20]
- consulting [21]
- Science Policy [22]
- science outreach [23]

Links
[1] https://www.cienciapr.org/en/blogs/yale-ciencia-academy/conversations-scientists-non-research-careers [2] https://www.cienciapr.org/en/user/gguerre [3] http://www.cienciapr.org/en/yca [4] https://www.linkedin.com/in/rudybellani [5] https://www.oystir.com/ [6] https://www.linkedin.com/in/cesaraberrios [7] http://f1000.com/ [8] http://www.cienciapr.org/es/user/gguerre [9] http://www.cienciapr.org/ [10] https://www.flickr.com/photos/ivannemorin/16843419159 [11]

http://sites.nationalacademies.org/pga/policyfellows/ [12] http://www.aaas.org/program/science-technology-policy-fellowships [13] https://www.pmf.gov/ [14] http://www.prescouter.org/ [15] http://www.insitefellows.org/ [16] http://www.cienciapr.org/en/user-search?field_first_name_value=&field_last_name_s__value=&field_about_me_value=&field_academic_i [17] http://www.nature.com/news/there-is-life-after-academia-1.15808 [18] https://www.cienciapr.org/en/tags/yca [19] https://www.cienciapr.org/en/tags/yale-ciencia-academy [20] https://www.cienciapr.org/en/tags/non-research-careers [21] https://www.cienciapr.org/en/tags/consulting [22] https://www.cienciapr.org/en/tags/science-policy-0 [23] https://www.cienciapr.org/en/tags/science-outreach-0