An interview with Elizabeth Paik

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Transition from academia to industry: An interview with Elizabeth Paik

We have all read many articles about the possible career choices of a scientist. The usual dilemma is between industry and academia. We have talked about this in previous blogs but the more information we get the easier it is to make a wise choice. Of course we all have opinions about the pros and cons of such a choice but what I always find best is to ask people who have experienced both. That is why I turned to an old colleague and friend, Elizabeth Paik, and asked her some questions regarding her experiences in both academia and industry.

Can you describe to us your scientific career?
I started my career at Harvard Medical School, as a graduate student in Dr. Len Zon's laboratory. My thesis work focused on understanding a role of CDX transcription factors during embryonic hematopoiesis. Through ChIP-seq, knockdown and overexpression studies in zebrafish, I showed CDX transcription factors control expression of hematopoietic transcription factors - SCL and LMO2.

Towards the end of my PhD, ES and iPS field was blooming, and I got fascinated by how stem cells can be used to study human diseases. At the same time, I wanted to pursue translational research, having focused on basic biology during my PhD. I joined Dr. Lee Rubin's group at Harvard Stem and Regenerative Biology department. While in his lab, I used human iPS-derived dopaminergic neurons to study Parkinson's disease. I also co-developed a purification method for midbrain dopaminergic progenitors to establish cell-based therapies for Parkinson's disease.

After finishing my third year as a postdoc, I started my first job in industry as a scientist at CRISPR Therapeutics. I have been at CRISPR for nine months now, and it has been a very exciting and fulfilling experience.

Why did you choose to continue your career in industry?
I joined industry to pursue my interest in translational research. When I was a graduate student, colleagues in the Zon lab had discovered prostaglandin E2's role in enhancing HSC self-renewal. Following the initial discovery, my adviser founded a biotech company focusing on translating this discovery into therapy. That was the first time when I saw how findings from an academic laboratory can be translated into therapies, and how industrial research can enable this transition. I thought being part of this later process would be very fulfilling.

I also liked the aspect of teamwork in industry. During my postdoc, I was working on a pharmaceutical company-funded project. The project was a highly collaborative one, where myself and two other postdocs worked towards establishing a stem cell therapy for Parkinson's disease. It was really exciting to work closely with them, and knowing that teamwork is a key in industry, I thought it would be a great fit for me.

Do you use the knowledge that you received during your academic career for your industry career?

Being a research scientist, my daily job includes bench work, and designing experiments. I use skill sets that I acquired during my academic career every day. Back in graduate school, I had to custom-build many molecular biology tools because zebrafish had fewer ready-to-go reagents compared to other mammalian model organisms. Now that I am in a brand-new CRISPR field, I cannot rely on ready-made tools and even if there were tools out there, I have to run stringent quality checks on them. Therefore, my molecular biology skill sets earned during PhD years are extremely handy.

Do you think it is easy to transition from academia to industry?

I think getting the first job in industry can be quite challenging. A lot of it depends on whether you are a good fit to the job requirements and the company culture. Because the job search can take a long time, it is important to stay positive through the process.

Do you feel you advance your scientific knowledge in industry?

Yes. Being in a small company, I need to be flexible and open to expand my knowledge of experimental tools and be creative regarding new ideas. For example, I learned a lot about the genome editing field since joining CRISPR Tx.

What is the difference between research in academia and industry?

In industry, projects are goal-oriented, and have deadlines. You are expected to plan and execute in a timely manner so that you can achieve the milestones. You should be able to prioritize and efficiently use your resources to meet these expectations.

What would you advise someone who is lingering between an academic career and a career in industry?

I would actively reach out to people who already have a job in an industry and find out what it is like to work there. When I reached out to people, many candidly shared their experience, and I found it very helpful.

Hopefully Elizabeth’s experience will be handy to many people looking for alternative careers out there. The key message is that transitioning to another job never wastes your prior knowledge. However, it takes time to find the right fit so you have to be patient, optimistic and take advice from the right people

Disclaimer: The views expressed here are solely those of the author and do not represent the views of the CRISPR Tx.

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