Science Societies

Taking the leap towards science policy

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September 19, 2022

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It has been almost two years since I made the drastic career change from an academic postdoctoral position to the AAAS Science & Technology Policy Fellowship (STPF) program. One of the most challenging aspects of this change was the uncertainty of what this new role and work environment would be like. After all, I had spent the last decade of my life going through a relatively linear process of undergraduate school, graduate school, and postdoctoral research, so my experience had largely been in the academic environment. But as my fellowship comes to an end, I've been reflecting about the immense positive impact this experience has had on my life, and I would like to share some perspectives, so that you get the courage to take the leap into science policy.

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Be Proactive and Network

Towards the end of my Ph.D., I started reading and thinking more about science policy, international development, and how important it is for scientists to get involved not only to influence how to fund science and create goals for scientific research, but also to help policymakers use scientific evidence to contribute to the decision-making process. I wasn't completely sure about how to get the opportunity to explore a career in science policy, so I started being more proactive—looking for opportunities online, asking colleagues at my university, and creating new networks. It is surprising how often a simple conversation with a colleague can lead to a chain reaction of new connections and take you towards just the information you were looking for. This happened to me, and it is a long story that I won't go into here, but the bottom line is don't be afraid to talk to others and ask for advice because you will be surprised at how much you can learn and the realm of opportunities that can come to you!

It was through those conversations that I found out about science and technology policy (STP) fellowships, particularly the AAAS STPF program. There is certainly no specific roadmap for exploring a science policy career, but STP fellowships are a common path. I applied and decided to take this opportunity to have first-hand experience in science policy and use my scientific knowledge and analytical skills to contribute to policy-making and implementation. However, there are many other STP fellowships out there! And if you are curious, I recommend that you explore them (see box).

Examples of Fellowship Opportunities

Some of the many STP fellowship opportunities offered by societies, states, non-profits, and international organizations:

- ASA, CSSA, and SSSA: Congressional Science Fellowship
- American Geophysical Union: Congressional Science Fellowship
- American Geosciences Institute: Policy Internships and Fellowships
- California Council on Science and Technology Policy Fellowships
- Connecticut Science and Technology Policy Fellowship
- Idaho Science & Technology Policy Fellowship
- Missouri Science & Technology Policy Initiative Fellowship
- New Jersey Science and Politics Fellowship
- National Academies of Sciences, Engineering, and Medicine: Christine Mirzayan Science & Technology Policy Graduate Fellowship Program
- Inter-American Institute for Global Change Research: Science, Technology, Policy Fellowship Program
- Mistacs: Canadian Science Policy Fellowship

Develop New Skills

I learned so much during my fellowship by serving as an environmental compliance adviser at USAID, attending professional development workshops from AAAS, and building relationships with other fellows. I learned **how the government works**, the immense variety of **policy issues** both nationally and internationally, and that science policy can take many different forms. For example, science policy can be done through research, regulation, policy implementation, science diplomacy and international

relations, communication, and advocacy. These **different forms of science policy** can be practiced in a variety of different sectors, including government, non-profits, academia, and public international organizations, among many others. I've also learned that it is important to **be adaptive** and **open to learning** about new subjects and leading new initiatives, even when they do not relate to what you would consider your specific area of expertise.

Use Your Skills

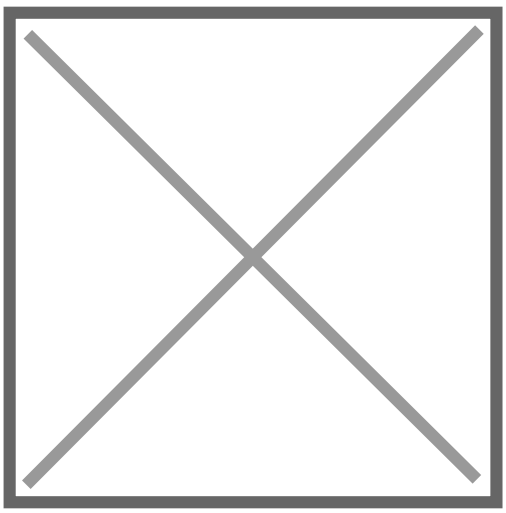
While my learning curve during the fellowship was steep, I've realized that our graduate degrees can give us a rich set of skills and experiences that we can use in science policy careers. For example, having in-depth **knowledge of the scientific process** helped me be a better reviewer of research proposals. Our graduate school training also helps us develop **curiosity and analytical skills** to carefully read, investigate, ask inquisitive questions, and find potential solutions. I'm also convinced that going through graduate school helps us become individuals with abilities to be **quick learners** and be **persistent** even when a problem seems too challenging. These skills are extremely valuable for scientists to bring into policy-making and implementation.

Strengthen Your Skills

There are additional skills that I had the opportunity to develop during graduate school that I've strengthened throughout my fellowship. Those skills are **communication**, **collaboration**, and the ability to be a **team player**. I was fortunate to have M.S. and Ph.D. advisers who not only cared about me and taught me about soil, crop, and environmental science and critical thinking, but they made sure I learned how to communicate my findings to diverse audiences (scientists, farmers, industry, etc.) and collaborate with and help others working in the lab because one person's success is everyone's success.

Communication is particularly important in science policy, and some of the tips I learned in graduate school and applied in my fellowship experience include (1) learning your audience and tailoring your presentation for them; (2) keeping it simple, but not simplistic; and (3) leaving out unnecessary details that will not contribute to the point you are trying to make. However, one very important communication tip I learned from my fellowship mentor during the first month of my fellowship was that "the most important information goes first." In other words, your conclusion goes first, which deviates from standard scientific writing where scientists build evidence and leave conclusions at the end. This difference is largely because readers in the science policy environment want to first know why they should care and why they should keep reading.

Be Confident and Humble



Our graduate degrees can give us a rich set of skills and experiences that we can use in science policy careers. Photo by Fred Miller/University of Arkansas System Division of Agriculture.

As a graduate student, you could start learning, volunteering, and getting involved in science policy via advocacy groups, student science policy groups, outreach, and other opportunities such as the ASA, CSSA, and SSSA **Congressional Visits Day**. This will certainly help you prepare for a science policy fellowship and for a science policy career. However, it's easy to feel like you don't belong, particularly when you are a scientist in a new working environment where there seems to be an infinite number of new things to learn. You will never learn it all, but I encourage you to have confidence in

your unique experiences and skills, and your ability to learn, while also maintaining your humility to accept that some things you will not know and that it is ok to ask colleagues and other experts for their support and guidance. If you were considering a science policy career path and have not done so because you are unsure about your ability to succeed, I hope after reading this, you feel a bit more curious, confident, and encouraged to explore and take the leap into science policy.

Disclaimer: The views and opinions expressed in this article are those of the author and not necessarily the views and opinion of the United States Agency for International Development (USAID), the American Association for the Advancement of Science (AAAS), and the AAAS Science & Technology Policy Fellowship (STPF) Program.

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