From the Lecture Hall to the National Mall

My Year as the AMS Congressional Fellow

James Ricci

Last year, I had the honor and privilege of serving as the AMS Congressional Fellow as a part of the American Association for the Advancement of Science (AAAS) Science and Technology Policy Fellowship program. I was the only mathematician among thirty-three Congressional Fellows sponsored by a variety of scientific professional societies to work in Congress for the year. Broadly speaking, the program has two goals: 1. "Science for Policy"—to bring scientific and technical expertise to the legislative process, and 2. "Policy for Science"—to make sure more members of the math and science communities are engaged in the political process so that we can better advocate for such priorities as research funding or STEM education initiatives. Whether it is increasing funding for scientific and medical research, addressing climate change, or regulating the tech, oil, or health care industries, there is an increased demand for people with scientific and technical backgrounds to aid in navigating the intricacies involved with effective legislation and regulatory oversight. The 2018 election saw a laudable increase in members of Congress elected with STEM backgrounds, but still resulted in just under four percent of Congress having come from a science, engineering, or math profession. This underscores the important role the fellowship plays in providing the opportunity for more experts in a wide variety of technical fields to actively engage in the legislative process.

The fellowship begins with a two-week orientation run by the AAAS to help fellows transition from an academic or technical role to that of government policymaking. We learned about a wide variety of topics, ranging from effective science communication to an expedited summary of US political history to a detailed look at the federal budget process. At the conclusion of the orientation, the Congressional Fellows begin a matching process to find the office that is the best fit for their professional and personal interests.

As I first looked at my cohort of fellows and saw a variety of climate scientists, nuclear physicists, material scientists, and veterinarians, I wondered how desirable a theoretical mathematician might be for a congressional office. I am a number theorist with a background in computer science and experience in higher education and was interested in a more general position that would let me work on a range of topics. I quickly found out that there is a very high demand for fellows with a wide variety of technical backgrounds, as evidenced by there being requests for over ninety positions with only thirty-three fellows. After interviewing in around ten offices, I accepted an offer to work in the office of Senator Amy Klobuchar from Minnesota.

Throughout the year, my day-to-day work varied dramatically depending on what was happening in the news, on the Senate floor, or in the senator's schedule. My portfolio consisted of topics related to education, health care, workforce development, and data privacy. Although my role did not require the direct use of any concrete mathematics, I saw how applicable many of the transferable skills I learned as a researcher and educator are in the halls of Congress. I used my capabilities as a mathematician to effectively problem solve, think analytically and logically, and use data to drive and support policy decisions. I would examine, analyze, and summarize legislation that was being introduced on the floor or oversight letters that were being sent out, and I got to brainstorm, research, and draft new legislation for the senator. I also used my talents as an educator to synthesize information and relay it in an understandable way to diverse audiences without jeopardizing accuracy. I would regularly meet with constituent and advocacy groups to relay their concerns, priorities, or stories to the senator. I also regularly helped edit or write background summaries, talking points, and memos on a variety of topics within my portfolio.

The fellowship provided a constant deluge of learning opportunities, which provided many important lessons. The following are a few of the ones I thought were particularly worth sharing:

1. **Politics, policy, and procedure *all* matter.** During our orientation, Judy Schneider, a congressional specialist who has been working at the Congressional Research Service since 1979, provided us with a heavily condensed version of the same training she gives to incoming new members of Congress. Her presentation was a treasure trove of information, but the part that stuck with me the most throughout the year is that there are three things needed to enact any piece of legislation: *policy*, *politics*, and *procedure*. Although you need all three to pass a bill into law, they are not always equal. In many ways, Congress was designed more to prevent bad legislation from happening than to enact good ideas. This was an important lesson which taught me that you can have an incredibly well-researched and thought-out piece of legislation in Congress, but if the political atmosphere isn't right or there is not a well-thought-out procedure on which to pass the bill, it will likely go nowhere. Being flexible in how you frame and motivate an issue can therefore go a long way in getting it passed. Even then, it will take time and a lot of advocacy.
2. **Constituents have a lot of influence.** I took over a hundred meetings with constituents and advocacy groups over the course of the year. Although not all of the requests or priorities can possibly be acted upon, these meetings provide an excellent opportunity for constituents to voice their concern or support for particular issues and similarly allow staffers to put context and faces to policies. Members of Congress are first and foremost representatives for their district or state. They really care about what their constituents have to say, and hearing a lot about a particular issue can change a member's mind or drive them to action. I have seen the influence that effective advocacy from groups can have on a member's actions, and it underscores the importance of engaging in these types of meetings.
3. **There is a lot of bipartisanship going on.** Coming into the fellowship, I was a little worried about the increasing polarization of our political system. While partisanship certainly exists and can be particularly strong on certain topics, my experience in the Senate has opened my eyes to the impressive amount of bipartisanship that does still happen in Congress. Many of the senators and representatives are friends outside the floor and work together on a whole host of issues, gaining bipartisan support in the process. At a time when the perception of Congress tends to be filled with negative feelings and press coverage, it is important to remember that it is also teeming with genuinely good people that are motivated to serve their country and district.
4. **The fellowship is a great way to advance your career.** The fellowship also awarded me a multitude of opportunities to learn and expand upon my professional goals and network. Over the course of the year, I developed a meaningful working knowledge of how our legislative system works, gained a diverse professional network both on the Hill and in many different scientific and advocacy fields, learned what it is like working in a fast-paced high-stakes environment, and expanded my knowledge in a variety of new subject areas. I have also engaged with the mathematical communities through the AMS, AWM, and MAA on many different levels. I have extended my stay in DC for another year as an AAAS Executive Branch Fellow, and I am planning on returning to academia next year with a deeper understanding of the political process. These experiences in the world of policymaking will inform my teaching and allow me to more effectively engage with the mathematics and higher education communities to better advocate for policies I find important.

I have learned a great deal from my time as a fellow and am incredibly grateful to the AMS for this opportunity. It has been inspiring to work in such an amazing office with truly hard-working, smart, and motivated people, and I am grateful for everything they have taught me and helped me accomplish.

Congress will address issues impacting our community whether we are involved in the process or not, so it is imperative that we keep ensuring our voices are heard. For those interested in personally getting involved, the AMS funds one Congressional Fellow per year, with this year's application deadline of **February 15, 2020**, and there are multiple other types of science and technology policy fellowships available to mathematicians. There will be an AMS Committee on Science Policy panel discussion titled "A Call to Action: Grassroots Advocacy for Our Profession" at the Joint Mathematics Meetings in Denver, Colorado, this year on Friday, January 17, at 2:30 pm, followed by an information session on the AMS Congressional Fellowship at 4:30 pm. I will be at both sessions, so please come and find out more about how to get involved!

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