

Hi Reddit! I am Chris Yarosh, the current Science Policy Fellow at the American Chemical Society having recently finished a Ph.D. in biochemistry. Ask me anything about what it's like to transition from the lab bench to an “alternative” career!

AmerChemSocietyAMA <sup>1</sup> and r/Science AMAs<sup>1</sup>

<sup>1</sup>Affiliation not available

April 17, 2023

### Abstract

ACS AMA Hi Reddit! My name is Chris Yarosh, and I'm the Science Policy Fellow at the American Chemical Society (ACS) in Washington, D.C. I work with ACS's External Affairs and Communications (EAC) team to promote policies that support science and address the concerns of the chemical community. Before coming to Washington, I earned my Ph.D. in Biochemistry and Molecular Biophysics from the University of Pennsylvania. For my dissertation, I studied how cells regulate RNA-binding proteins (SFPQ and TRAP150, specifically) to influence pre-mRNA alternative splicing and other cellular processes. When I wasn't in the lab, I could be found teaching high school students the basics of running experiments or imploding watermelons with rubber bands at the Franklin Institute. I also hold a B.S. in Biochemistry from the University of Scranton (yes, that Scranton) where I did some polymer chemistry research and ruined several expensive pieces of equipment. As the ACS Science Policy Fellow, I work with my EAC colleagues to cover a range of issues of interest to ACS members, including federal funding for scientific research, STEM education, innovation, green chemistry, and regulatory policy. Mostly, this means keeping tabs on the federal agencies that fund chemistry research, helping ACS members get involved in the policy process, and communicating ACS's positions on critical issues to policymakers. As someone who recently made the jump from bench to desk, I understand how opaque the policy process can be; I also understand just how important it is for scientists to learn as much as they can and get involved. I'm excited to answer any of your questions! Ask me anything! Note: Views expressed here are my own and not necessarily those of ACS. I'll be back at 12pm EDT (9am PDT, 5pm UTC) to answer your questions. 12:00 PM EDT: Alright, let's do this. . . 1:40 PM EDT: Thanks for the questions, Reddit! I did my best to answer a representative swath, but my time is up. Hope it helped!

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AMERCHEMSOCIETYAMA [R/SCIENCE](#)

[ACS AMA](#)

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r/Science , Hi Reddit! I am  
Chris Yarosh, the current  
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Hello! I'm 5 months away from defending my dissertation and the only thing I know about post-grad is: I want out of academic science. I am, at best, an adequate bench researcher. I'm a good writer, a good communicator, and I'd like to use those skills to advocate for science, science-supported policy and being "the scientist in the room" sounds like my ideal job.

The issue is this: other than the fellowship you're in and others like it, "science policy" isn't a job description that I see.

1) How do I get your job? Meaning, how did you get yours? 2) Are there words I should look for that code for "policy and outreach" in job descriptions? 3) Do you anticipate your job being more difficult in the current political climate, or do you see your peers struggling? Thoughts on where we're headed and what we on the scientific community can do? Thanks so much for taking time with us today!

[Vic\\_n\\_Ven](#)

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This is a good question to start with; hits a lot of themes. Thanks for it!

1) You can get my job by besting rival applicants, starting in January 2018:

<https://www.acs.org/content/acs/en/policy/policyfellowships/becomefellow.html.html>

To give some more context, I got my job by creating an application describing my qualifications and policy interests, then interviewing with the EAC staff at ACS. This really involved thinking about my skills, my experience (in the lab, but more importantly out), and talking about how that could be put to use helping advocate for science.

2) Policy and outreach are slightly different in focus, but there is some overlap. Those are good words to look for. Other good ones are "analyst" and "advisor." This site has some postings you can scroll through to get a sense of terms involved: <http://science-engage.org/sciencepolicyjobs.html>

3) So this is tough to answer. Obviously, every admin and Congress have their own policy priorities, and that trickles down to science. If discretionary spending (stuff the gov't doesn't HAVE to do) is tight, science might suffer. It is important for scientists to stay informed and get involved (talking with legislators, etc) to keep up support. I'm new to the field, so I'm not sure how challenging this is versus the past per se, but making the connections between science and the public interest is always tricky (and always worth it).

Hi Chris, genetics professor here. I advise undergraduates drifting towards careers in medicine, many of whom likely need some real world experience or a second degree to improve their applications to professional schools. What are some lesser known options for a recent graduate with a science BS who want to do something other than enter a PhD/Masters program in science?

[High Point Genetics](#)

This is a little bit out of my wheelhouse, but there are programs called "post-bac" programs that give people some time in research labs and the chance to bulk up academic credentials if needed. They aren't intended to grant degrees, but they can be used to get ready for professional study.

In terms of real world experience, I think there is room to be creative. As some of the other posters have stated, research is always valuable experience for medical students, whether the research is clinical or basic science. Look for labs that need some help! I also tend to think communication skills are very important (especially for doctor/patient relationships), so maybe a science communications internship? Take a look at programs like AAAS's Mass Media Fellowship. Out of the box, but lesser known in this context.

<https://www.aaas.org/page/about-1>

Hi and thanks for joining us today!

The budget forecasters for my agency are a rather morose bunch whenever 2018 is mentioned. Do you think research fellowship positions (ORISE, PMF, etc...) might suffer in the coming years?

[PHealthy](#)

I can maybe see this going both ways. On one hand, yeah, there might be (possibly substantial) cuts to certain agencies or programs, depending on what ends up in the President's budget and whether Congress chooses to go along with it. On the other, it is my impression that some of these government fellowship positions exist in a netherworld not impacted by the hiring freeze. If so, they may become MORE valuable. I hope they don't suffer though; getting scientists and engineers into the government is always a good goal, IMO.

A lot of graduate students have a hard time talking to their advisors about their intentions to leave

academia, let alone leaving the bench. Do you have any suggestions for how to have that conversation?

Additionally, could you talk a bit about how your experience as a scientist are applied as a policy fellow?

[Izawwlgood](#)

I think this is an important question, because you encapsulated the #1 fear most people have about making the jump to a lateral career...My grad school PI was fantastic about people pursuing their own paths, so I didn't have much of an issue. However, there are a few things I recommend:

1) I honestly think exploring options as early as possible is the way to go. If there are any things you can do on campus to try alternative careers, you should do, both for the skills and to learn what you like. When broaching this with your PI, just make it clear that you're not going to slack on research, but that this is important for you.

2) Bring some data to this discussion (you're a scientist, after all). The NSF and NIH are putting a lot of resources into tracking PhD outcomes, and it's pretty apparent that "alternative careers" away from academia are the norm, not the exception. For older PIs, this might still seem unlikely; it might help to show them what the state of the field is now.

3) If your PI isn't on board, find someone who is in your corner. I knew plenty of people in grad school who had the fraught student/PI relationship people fear. For them, it was important to find someone (committee members/other scientists, fellow students, career advisors, counselors) who was on their team, both for mental support and to help with these kinds of discussions.

As for how science applies to my fellowship, I tend to think of it this way: science is my native language, and I immediately get why some topics are so important to the scientific community. If I had to think about, say, accounting policy, I could do it, but I wouldn't have the same inherent mindset. When I talk with my colleagues, many of whom are NOT scientists, I can help them color in the picture on what people in the scientific community are thinking. Sometimes, my technical training helps in more direct ways, too. For example, I helped ACS put together a website to support National Nanotechnology Day (October 9th, mark it down folks). I knew the science, so I could help translate some materials into things for the general public.

Did you consider other options for alternative careers? Such as science writing, consulting, etc.?  
Thanks!

[Infectious\\_Pen](#)

I absolutely considered other alternatives. In grad school, I did some pro bono consulting work through a student group on campus. I also spent a lot of time doing science outreach at the Franklin Institute in Philly and with the Upward Bound Math Science Program. I liked all of these things, and may yet pursue some aspects of them for my career.

All of these alternatives (writing, outreach, consulting) have some things in common. In a way, your scientific self takes a secondary role to your communications self. You have the skills to analyze complex things (science, policy, budgets, etc.), and that's a big part of the job, but you often spend your time communicating with colleagues, clients, the public, elected officials, etc. The key is to like both aspects of the job, and maybe consider what balance of those you want.

Hi Chris! I am excited to soon be joining a Science Policy club at the graduate school where I'll be doing my PhD; I've always been interested in the politics of science, but I honestly feel like I don't know enough about it. How did you learn about science policy enough to get your current position?

[Jenna\\_bird](#)

Check out the first part of the answer here:

[https://www.reddit.com/r/science/comments/5zbnj5/hi\\_reddit\\_i\\_am\\_chris\\_yarosh\\_the\\_current\\_science/dex7b69/](https://www.reddit.com/r/science/comments/5zbnj5/hi_reddit_i_am_chris_yarosh_the_current_science/dex7b69/)

I am a 3rd year grad student with no interest in academia, and a strong suspicion that I will be fairly burnt out on bench work by the time I finish. What did you do to find what alternate career options were available to you? I had been thinking to go into a FDA regulatory pathway, but the current political climate has me thinking that that is not a job that will be hiring any time soon.

[kerovon](#)

I found cold calling/emailing strangers with cool sounding job titles to be surprisingly effective. Also, check out your school's career services folks: they can guide you to job titles and help make connections. Finally, get some fellow students together and start a seminar series for alt careers. These are often the best.

Hi Chris! Thank you so much for doing this. I'm a PhD student in biology and I'll be defending this fall. I'm hoping to transition out of academia into the policy realm. I have a couple of questions about what kind of experience I can get to make sure this is what I want to do and get my feet wet. 1. What kind of policy experience did you have before you started? 2. What are the differences in culture that you see between academia and policy work? Do you have to wear a suit? 3. I am currently volunteering with a science advocacy organization- will that be something that can go on my resumé for policy? 4. Are there advocacy actions I can take that will be harmful to working in policy, i.e., Is it ok if I volunteer with Indivisible or a local party organization? Would that be helpful? Are they going to run a background check and see that I went to TWO John Kerry rallies in 2004? :)

[Biologyunderground](#)

1) My policy experience came from 3 major sources. One was Penn's Science Policy Group, a student-run club that focused on policy topics. I served as a club officer, and in doing so I helped invite speakers, run workshops, contact legislators etc. A second was Hill Days run by scientific societies. If your not familiar, these are events where scientists come to D.C. for a couple of days for training and visits with members of Congress and their staff. One last thing I did was to enter the Penn Public Policy Challenge, a policy pitch competition. Though not directly "science policy," this was very valuable for learning how policy folks think. It was honestly where I first heard the word "stakeholder."

2) Policy work involves collaboration with many people from many backgrounds. As a scientist in a lab at a university, I talked to other scientists 99% of my day. Now, I talk with people skilled in communication, policy, administrations, etc. every day. It really challenges ingrained habits and ways of thinking. I only wear a full suit when I have meetings out of the office (especially at federal agencies or when I go to hearings on the Hill), but I usually wear a tie.

3) Yep! If you're looking for policy work, that should be at the top.

4) That sort of stuff is typical in this world (Congressional Science Fellows have to work in an R or D office or staff, for example), so no red flags there. if you get useful advocacy experience out of it, or develop some policy-related skills, make sure to highlight those!

1. Which skill sets do you think transitioned well from work in to work out of academia?
2. What were the biggest hurdles in transitioning to science policy?

[i-really-like-mac](#)

Top skills: analysis (breaking down complex topics), writing, the ability to deal with setbacks (you're a lot calmer about some things after spilling a whole day's work once or twice)

Top hurdles: networking, adjusting to office life (it's different!), missing technical work to some degree

What kinds of expensive equipment did you ruin? How did you do so?

[Bioniclegenius](#)

For my undergrad research, I did microwave-assisted polymer chemistry. The set-up involved suspending an agitator through the top of the microwave and into a 3-necked flask that also had a temperature probe inserted into it. On multiple occasions, I happened to get the probe caught in the rapidly spinning paddle attached to the motor. This did no favors to the motor, the probe, or the microwave itself...

For a small chem department, this was bad news.

Getting this sort of information from a reliable and relevant source isn't easy over here in the UK either! Although not your country of expertise, do you know any UK equivalents to the sort of outside-academia-yet-non-industry work you do? Are there global conferences and meetings that you attend, or other UK/European groups you can speak of?

Thank you!

[HerbziKal](#)

My global policy knowledge is limited but:

Politicians abroad also have science advisors, and embassies employ them too. Think tanks are another source of jobs outside of academia but not in industry, as are nonprofits/scientific societies in general.

Meetings: There is a surprisingly heavy European presence at the AAAS meeting, which is kind of the go-to for general science and policy stuff.

Hi, can you comment on the career paths analogous to yours but abroad, such as UK, Netherlands, etc.

[Javlington](#)

Sorry, but this is all I've got:

[https://www.reddit.com/r/science/comments/5zbnj5/hi\\_reddit\\_i\\_am\\_chris\\_yarosh\\_the\\_current\\_science/dex7yjq/](https://www.reddit.com/r/science/comments/5zbnj5/hi_reddit_i_am_chris_yarosh_the_current_science/dex7yjq/)