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Degree: When, where, what, and what in?

I received my PhD from Lamont-Doherty Earth Observatory of Columbia University in 1998. My research involved measuring isotope geochemical tracers in the ocean to unravel sea ice melting and growth rates as distinguished from other water mass sources that comprise the Arctic Ocean. This research, combined with a heavy dose of paleoclimate studies while at Lamont, gave me a global view of climate science that I draw on every day in my current work.

Did you stay in academia at all, and if so, for how long?

I enjoyed 15 years in academia, in graduate school and as a faculty member. One day, a senior faculty colleague encouraged me to attend an American Meteorological Society (AMS) summer colloquium on science and policy. It was an eye-opening experience, and it eventually led me to my current job, where I focus on policy-relevant climate research, helping policymakers and the public understand and respond to the risks of climate change and assisting other scientists in communicating more effectively on climate issues.

How did you go about searching for a job outside of the university setting?

I was not actively searching for another job, but after the AMS event, I saw the Union of Concerned Scientists (UCS) was expanding its work on climate change. It was immediately appealing, and I knew that policymakers were all too often ignoring the risks of climate

change that scientists were uncovering. It was an opportunity to help represent that research to policymakers.

Is this the only job (post-academia) that you've had? If not, what else did you do?

Between my MS and PhD, I worked at the Connecticut Department of Environmental Protection. While there, I conducted field sampling to identify which potential party was responsible for a fossil fuel spill that was reported in drinking water wells nearby. It was a fun challenge because there often were several gas stations at the same intersection. I enforced regulations and ensured that the scientific approaches taken by responsible parties for environmental impact and cleanup studies were sound. That experience serves as a reminder that the policies I work on today have very real effects for people, businesses, and the environment down the road.

What is your current job? What path did you take to get there?

I'm a senior scientist and analytic lead for climate work in UCS's Climate and Energy Program. Right now, my day-to-day work involves scientific research, including new modeling to study the degree to which the world's major fossil fuel producers have contributed to specific effects of climate change, such as global average surface temperature. I also supervise scientists to help them grow as researchers in the policy and science space. Their work includes research into frequent coastal inundation along the US East and Gulf Coasts. Another



research endeavor brings in citizen science through the Weather at Home project, which uses spare computer processing power worldwide to serve as a "super computer" for conducting climate modeling of extreme heat events in the western United States. Investigations also include changing forest ecosystems in the Rocky Mountain West. All of these endeavors are relevant for local leaders and policymakers right now because many communities are struggling to adapt and pay for damage related to climate change. I also help our policy and media staff create and vet communication to the public about climate research. There is a lot of vetting at any organization like ours, and it is important to have a scientific review of everything we do. That's a very core job function and it is challenging and stimulating to think through the best way to accurately communicate science in a way that can be heard by the audience at hand.

I've been at UCS for nine years and have learned so much on the job. When I started, I still had the mentality that a lot of scientists have when it comes to

the interface between science and policy: if I can just get them to understand the research, they'll figure out what to do about it. But there are so many barriers for policymakers when it comes to really understanding the science. Those barriers can be ideological. In other cases, it is a lack of time and attention because they and their staff have so many other demands to meet. But we know that science needs to be at the table because it gives policymakers a clearer sense of their options. That's why it is important for scientists to highlight the aspects of our work that are the most relevant for policymakers, both directly and to their constituents. So, yes, it is important for policymakers to understand how the scientific process works and how climate change works, but they are not going to get there unless we first illustrate why they should care: the sea is rising on your coasts, the wildfire season is getting longer where your constituents live, the snowpack is shrinking near ski resorts that provide a lot of valuable economic activity to your district.

What did your oceanographic education (or academic career) give you that is useful in your current job?

The first-hand experience I have had on Arctic icebreakers was valuable scientifically, plus it has been a great way to talk with the public and policymakers about the science. It is one thing to tell someone you are a scientist, but when you tell them about research you performed in a remote, hostile location, including two expeditions to the North Pole, they are much more interested in what you have to say and much more willing to listen to the science you want to convey. I advise scientists to use the

most ancient communications tool for human connection, which is telling our own stories of discovery in the field, the lab, or our "Eureka!" moments looking at a computer screen with new research results. We can enjoy sharing what we've discovered.

Is the job satisfying? What aspects of the job do you like best/least?

There have been some really exciting, unexpected moments. The most out-there one for me was being interviewed on *The Colbert Report*. He's considered one of the most difficult interviews on television because he is very funny and the type of satire he uses can be really challenging for guests. But my colleagues helped me prepare and it wound up going well and being a lot of fun.

The most frustrating thing is not being able to talk very often about what is happening in the ocean. It's fascinating for me personally because it is a topic I have studied for years, including nearly a year at sea on different science research ships. But people are ultimately land-lovers, so policymakers and journalists focus on what is happening on land, which is just part of the story scientifically.

Working in policymaking also requires a long-term view. Policy changes very slowly, so the successes come along infrequently, but they can be huge. When I think about fuel economy laws and carbon rules for power plants that have come along in the past few years, it is easy to forget that those policies are only coming into place because of more than a decade's worth of work at our organization and by other groups that have pushed for science-based policies.

It is also very gratifying to be able to

help other scientists, especially when they come under scrutiny from politicians or advocacy groups. I am lucky in that I work at a place where I have seasoned policy and communications colleagues, but most scientists are on their own when they are criticized in the public or by the press. We have had a lot of success helping scientists defend themselves against these sorts of attacks.

At the same time, the communications advice and workshops we have done with scientists really pay dividends. A lot of people we've worked with over the years have become incredibly effective communicators and representatives of the scientific community in their own right, so it is great to see them out there and to know that we helped.

Do you have any recommendations for new grads looking for jobs?

Be open! Twenty years ago, there were much clearer tracks for a scientific career. Obviously, funding is a huge problem for the scientific community right now, but that means we will need to innovate and find other ways to do and apply research. Opportunities in new fields have proliferated, whether it is in Silicon Valley or in Washington.

If you had told me twelve years ago that I'd ever be in a witness chair on Capitol Hill or be interviewed on Comedy Central, I wouldn't have believed you. But I have been open to these opportunities to be in the public eye while also holding onto my identity as a scientist and continuing to do scientific research—so, in a lot of ways, it's been the best of both worlds.