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CAREER PROFILES Options and Insights

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

I finished my PhD in oceanography at the University of Washington in 2003. I worked with John Baross on the microbial ecology of deep-sea hydrothermal vents and was very happy to visit the sea floor once in the deep submersible *Alvin*!

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

After graduate school, I spent a year as a postdoctoral research fellow at the University of Massachusetts Amherst doing terrestrial microbial ecology research.

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

Through my network of friends, family, and academic advisors (including going back to my undergrad advisor at Brown), I started reaching out to individuals outside of academia. I asked them about their own career paths and about organizations they were aware of that focused on science, such as advocacy and policy organizations. From there, I did a lot of digging online. I bounced names of organizations and programs that struck my interest off of a few trusted individuals who had spent part of their careers outside of academia. I heard about the American Association for the Advancement of Science (AAAS) Science & Technology Policy Fellowships in Washington, DC, through one of these



conversations, got the name of a former fellow, and called him to ask about his experiences. Then I applied for and received one of the fellowships.

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

I've had two positions outside of academia. I spent two years as a AAAS Science & Technology Policy Fellow working at the Environmental Protection Agency (EPA) headquarters in Washington, DC, on bioterrorism and agroterrorism science and policy. The EPA shares much of the responsibility for cleanup after a potential pathogen incident: What do you do with 1,000,000 dead chickens infected with the H5N1 avian flu virus—dump them in the ocean? And how do you clean the farm? The mid-2000s were a very active time for the federal government with such issues, and while it would have never crossed my mind to think about working on bioterrorism policy, I figured

it was a good opportunity to learn how the federal government functioned. Since 2007, I have been a program officer at the Gordon and Betty Moore Foundation in its Marine Microbiology Initiative.

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

I hadn't heard about the Moore Foundation previously because the Marine Microbiology Initiative was created after I left academia and had directed my energies to the EPA. But in 2007, when my AAAS fellowship was wrapping up, several friends forwarded me the program officer job advertisement. The timing was fortuitous for exploring a way to return to microbial oceanography as a funder and strategic planner, as opposed to being an active researcher. This position felt like the right fit for me. My current job includes a continuously changing mix of strategic planning, grant idea development, and grants management activities.

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

First and foremost, of course, my graduate education provided domain expertise and an intuitive understanding of how oceanography is conducted both in the lab and at sea. Plus, it fostered a broad interest in and curiosity about a range of ocean and Earth science topics. Also, my oceanography education taught me

how to approach issues from multiple angles, which is inherent in marine interdisciplinary research. More broadly, the critical thinking (e.g., methodological doubt), organizational, and synthesis skills that come with scientific training have been important as a program officer. At the Moore Foundation, I also have had an opportunity to work on several projects outside of marine microbial ecology, including operating at the interface of science and marine conservation, enabling new citizen science efforts in South America, and managing a state-level science and technology policy fellowship program for PhDs that is based in Sacramento (modeled on the AAAS fellowship program—I'm happy to answer questions about it).

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

My job is deeply rewarding because I have a role in turning scientists' ideas into newly created knowledge of marine ecosystems—and then can see how the new information, scientific approaches, and concepts influence the way others view and understand ocean processes. I also enjoy working with motivated and passionate colleagues at the foundation to support an array of scientific disciplines and a few conservation efforts and to discuss and debate ways to increase the impact of philanthropic funds. I do occasionally miss going to sea, however, and wouldn't mind another dive in *Alvin*!

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

A few thoughts:

1. Become involved in an array of activities, including outside of research.
2. Figure out what gets you up in the morning, and pursue it; take a leadership role in something that you find inspires you.
3. Ask people you meet about their jobs and what they like and dislike.
4. Cultivate mentors, which may include someone other than your lab's PI.
5. Feel free to set up informational interviews with organizations that interest you—you'll be amazed at what you can learn in a half hour. 📧

NICK DRENZEK | Principal Researcher, Statoil, Bergen, Norway, ndrenzek@statoil.com

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

I earned a Bachelor of Science in chemistry at Rensselaer Polytechnic Institute (RPI) in 2000, followed by a PhD in 2007 in marine geochemistry from the Massachusetts Institute of Technology (MIT) and Woods Hole Oceanographic Institution (WHOI) Joint Program.

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

I stayed on for a couple months as a postdoc at WHOI to tie up a few loose scientific threads and begin the job search. Although I had some very appealing opportunities to stay in academia, I really wanted to utilize that waypoint to test outside waters.



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

I started by searching for positions that were advertised through the big online job websites, followed by more targeted applications via the career pages of more specific companies. I didn't seek professional assistance in assembling/tailoring

my resume nor did I follow up any of the applications with e-mails or phone calls. Needless to say, my strategy resulted in almost no reciprocation from company recruiters. To put this into perspective, consider the following observation from an article underscoring the importance of networking in *Chemical & Engineering News* (February 18, 2013, p. 53): *In some ways, this process is disturbing. You may wonder, "Do I really need to know somebody to get a job? What happened to merit?" Although disturbing, it's also understandable. Deloitte receives 400,000 resumes per year. If a resume gets just seven seconds of attention, human pre-screening of that many resumes would take more than 100 person-days per year. It's simpler, cheaper, and more reliable to*

sort by keyword and get referrals.

I found this to be absolutely true, and can't overstate the importance of establishing and maintaining a robust professional network—not only when looking for a job, but perhaps more importantly when happily employed (starting from early grad school). These people can open doors when you most need them or least expect them. As for myself, I finally landed a postdoc at Schlumberger-Doll Research (SDR) in Boston through an MIT alum who was already working there. We took the opportunity to meet up in person over lunch one day, and the fruits of that initial conversation eventually made their way to a colleague of his who was looking to hire someone with my background.

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

No. I joined the new Unconventional Shale Oil and Gas R&D team at Statoil's labs in Bergen, Norway, in 2012, following several productive years as a postdoc and research scientist at SDR. Being an expat now is an amazing and rewarding experience, both personally and professionally. I can't recommend it enough, especially early in a career when such mobility affords so many learning opportunities in science and business and, in turn, opens up many more accelerated and diverse career paths.

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

I'm a Principal Researcher working to develop new concepts, models, and technologies to support Statoil's shale E&P activity. The major energy companies were just starting to ramp up their

unconventional resource portfolios when I first joined SDR, and there were—and continue to be—a lot of scientific and technological leaps to be made at the boundaries of the traditional disciplines. Against this backdrop, I've found myself becoming much more of a generalist as time goes by, leveraging my geochemical background in teams of geologists, geophysicists, geomechanics, and geobiologists to help answer big questions, such as how to maximize the flow of complex fluids through nanoporous rock. I'm constantly learning from these experiences, making it an utterly fascinating time to be in the industry.

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

Oceanography is in many ways a diverse science that, like the energy sector, has seminally advanced through the contributions of a passionate and highly collaborative community engaged in a spectrum of theoretical, empirical, and field work. This mindset was instilled from the first year of graduate education when I was encouraged to take introductory courses spanning the four major oceanographic disciplines—chemical, biological, geological, and physical—and then to roll up my sleeves and apply the working knowledge gained there in the lab and at sea. There are few other educational prescriptions that so routinely combine theory and application and therefore so ideally prepare someone for a career in which the aptitude and ambition for both are absolutely necessary for success.

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

It's a double-edged sword. There are so many exciting challenges to tackle right now that it's easy to get distracted and overwhelmed. Like a kid in a candy store, I sometimes find myself biting off more than I can chew and suffering the sugar hangover when trying to digest the ensuing workload. And there's the inevitable eye-rolling red tape that you'll find in any larger organization. That said, the prospect of doing science and making a business impact at the same time is exactly the kind of high-risk, high-reward combination that initially attracted me to the job and still keeps me motivated today.

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

Network, network, network! Use the alumni communities to meet folks who have the jobs you want. Take them to lunch, ask all the questions above, and listen closely. Stay in touch with them even after you find a job. Be open to possibilities never considered before; career paths rarely follow a pre-charted course. If at all curious about trying a road less traveled, *carpe diem*—remember how lucky we are to have the opportunity! And always, always seek out occasions to learn. If you're not learning, then it might be time to chart a new course. 📌