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CAREER PROFILES Options and Insights



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Sarah Stone and Micaela Parker job share a program manager position for the eScience Institute at the University of Washington (UW). This position is the first management job share at UW. Because of this unique position and their shared experiences, they thought their journeys could be best described with a joint career profile for Oceanography. The profile moves back and forth between their paths, which have both similar and divergent features. Their discussion follows two themes that were pivotal in structuring both of their careers: role models and family balance. The two scientists hope their stories will inspire more women in science to push for administrative policy changes that increase job flexibility and awareness of the challenges faced by women in caregiver roles.

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

Micaela — I received my bachelor of science degree in biology in 1994, with a minor in German, from the University of Massachusetts, and then earned both master's (1999) and PhD (2004) degrees in oceanography from the University of Washington. Between UMass and UW, I spent a graduate year in Cornell University's plant pathology program, where I met a lot of great people but found the field was not a good fit for me. For personal and professional reasons, I took a year off and returned to academia the following year to study my new love—biological oceanography. The year away from academia was important as it gave me time to reflect on my career path and to mature.

I was fortunate to have two women professors as role models during my PhD studies. The first was Rose Ann Cattolico, who brought not only her scientific expertise to my PhD thesis committee but also inspiration. She chose to be a single adoptive mom in academia decades ago. She struggled against disapproving voices in her department, but her fortitude and tenacity allowed her to ultimately achieve both professional success and personal triumph. The second was my PhD thesis advisor, Ginger Armbrust, whose positive attitude and boundless energy are

contagious and motivational. When it came time for me to start my own family, she was very supportive, allowing me to work part-time for the important first year of my daughter's life.

Sarah — I received a bachelor's degree in biology at the University of California, Santa Cruz, in 1995. As a senior, I took Mary Silver's biological oceanography course, and I credit Mary, and her beautiful picture of a pteropod, with my decision to become an oceanographer. She facilitated my landing a work-study position at what was then the Bermuda Biological Station for Research (now the Bermuda Institute of Ocean Sciences), working for Debbie Steinberg, another inspirational scientist, on the Bermuda Atlantic Time-series Study. My PhD advisor and wonderful mentor was another of the "snow sisters," Alice Alldredge at University of California, Santa Barbara, where I completed my degree in the Interdepartmental Graduate Program in Marine Science in 2004. My dissertation characterized the disaggregation of marine snow particles by swimming euphausiids.

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

Micaela — Yes, I'm still in academia. I was five months pregnant with my son when I defended my PhD and was faced

with the prospect of searching for a job with a newborn at home. Serendipitously, in my final PhD year, my thesis advisor, Ginger Armbrust, became co-principal investigator on a grant to build the Pacific Northwest Human Health and Ocean Studies Center (<http://depts.washington.edu/pnwh2o>), funded by the National Science Foundation and National Institute for Environmental Health Sciences. She hired me to be a research scientist and coordinator of this new center. The job was amazing—exciting and dynamic research into the genomics of marine phytoplankton, with a particular focus on harmful algal blooms, and the opportunity to collaborate with an international group of scientists. I worked in that position for nearly 10 years before moving to my current position.

Sarah — Following completion of my PhD, I started a postdoc in Debbie Steinberg's lab at the Virginia Institute of Marine Science. I helped to lead the zooplankton component of the large, interdisciplinary Eddy Dynamics, Mixing, Export and Species Composition (EDDIES) project in the Sargasso Sea. A year into the postdoc, I was offered a tenure-track position at Humboldt State University (HSU), which I started in January 2006. The Department of Oceanography at HSU was a tight knit,

supportive group of four faculty, one covering each of the primary disciplines in oceanography. The HSU undergraduate oceanography major draws great students from across the country, and it was a pleasure to teach and do research in this environment. A suite of factors too broad to detail here contributed to my decision to leave HSU after 4.5 years. Prominently, the financial climate made this a challenging location for my PhD husband to find compelling work in his field and for us to raise a family. Also, after having my second son, I wanted to have more time at home. So, I left my position, knowing that this step would reduce the likelihood of attaining a tenure track position again, but I felt completely clear and confident in this decision.

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

We met in Antarctica in 2001 while we were both in graduate school and participating in an intensive five-week National Science Foundation Antarctic biology course. We reconnected nearly 12 years later, following Sarah's relocation to the Seattle area. Micaela had previous connections to the eScience Institute through her work at UW. In 2014, she was approached by eScience Associate Director Bill Howe to apply for the program manager position.

We currently job share the program manager position at the eScience Institute. The eScience Institute's mission is to engage researchers across disciplines in developing and applying advanced computational methods and tools to real world problems in data-driven science and research. The eScience staff and affiliate faculty consist of individuals with diverse backgrounds in domain sciences such as astronomy, oceanography, neurobiology, and sociology, but with expertise in advanced statistical and computational techniques such as database management, visualization, machine learning, and querying large complex data sets.

This interdisciplinary mission attracted us to the program manager

position. Seeking better work-life balance, we jointly applied and proposed a job share. Our application materials included a detailed proposal for division of responsibilities and workload coordination (e.g., shared email address). We cited some of the known benefits to employers of shared positions based on relevant studies: better coverage during sick and vacation times, two sets of skills and perspectives in one position, targeted and efficient work hours leading to increased productivity, and twice the people power during crunch times.

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

Oceanography is inherently a data-intensive, interdisciplinary science. For our PhDs, we both bridged other fields outside traditional oceanography: Sarah worked in microfluidics and particle aggregation dynamics, and Micaela worked in genomics and transcriptomics, borrowing wet lab and analysis tools from medicine. These experiences have been invaluable for our interactions with data scientists in our current position. Our backgrounds allow us to understand and communicate effectively with our staff and affiliates, and provide appropriate support.

Since we both spent extensive time in academia, we understand the incredible demands on faculty and that time devoted to eScience is often above and beyond an already full departmental workload. Our backgrounds gave us experience and familiarity with university structure, hierarchy, and bureaucracy.

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

We enjoy helping scientists create and utilize tools that enable novel research questions and empower others. The eScience Institute is an exciting, cross-disciplinary environment that allows us to work with scientists doing cutting-edge research. Last year, our pilot Data Science for Social Good Program afforded us the

opportunity to provide data science training to students while tackling projects with societal impact.

Initially, we each worked 50% of a full-time equivalent (FTE), but because of the workload, we moved to 65% each about a year ago. Even at this rate, we sometimes find ourselves being regarded as two full FTEs by affiliates in other departments or at other organizations, so that balancing the demands of a dynamic, fast-paced work environment with our part-time schedules can be challenging.

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

A lot of great women have created opportunities and awareness in academia around the challenges of work-life balance for caregivers. As you think about your future career, consider the balance that is most satisfying to you, and don't be afraid to ask for flexibility in your work schedule. If you work hard, you will be respected and your request treated with respect and consideration.

Every decision involves sacrifices and benefits. Be aware of what you are gaining and what you are giving up. Try not to turn your back on opportunities to explore outside of your comfort zone. But most importantly, learn to be comfortable with not being amazing at everything you do. Not everyone needs to be a rock star. Happiness is all about recognizing what works for you. 🧡

We would like to thank our directors, Ed Lazowska and Bill Howe, for taking a chance on us and our job share proposal; the staff in the UW Computer Science and Engineering department, particularly Chris Cunnington, for untangling the red tape involved in our position and for their continued support; and Chris Mentzel and Josh Greenberg, our sponsors at the Gordon and Betty Moore Foundation and the Alfred P. Sloan Foundation, for their continued support of caregivers in science.

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

I received my PhD from the Marine Estuarine Environmental Sciences program at the University of Maryland in 2006, specializing in oceanography. My research focused on the influence of land use and agricultural management practices on nutrient concentrations in Chesapeake Bay. This was where I started to develop a passion for ocean biogeochemistry and sustained observing.

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

After finishing my PhD, I wanted to better understand the role of science in society and where my interests and skills would best fit within that continuum. At that time I wasn't sure how to go about that, but a fellow graduate student suggested the John A. Knauss Marine Policy Fellowship, which places recent marine science graduates in policy positions in Washington, DC. I was awarded the fellowship and worked in NOAA's Office of Legislative Affairs where I served as a liaison for climate research between the agency and Congress. This was an eye-opening experience and a good fit for me, so I was hired on in a permanent position and stayed for almost three years. During this time, I worked on legislation, prepared NOAA leadership and scientists for Congressional testimony, and got to learn the inner workings of both NOAA and Congress. Living in and learning the science policy culture for those years changed the trajectory of my career and has made a deep mark on the scientist I am today.

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

Networking. Graduate training focuses primarily on the academic track, so

searching for a job outside that setting requires putting yourself out there beyond the university setting.

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

After three years post academia, I wanted back! During my time in DC working on climate science policy, I was inspired by many of the scientists I met, including two of my future mentors, Jane Lubchenco and Richard Feely. I realized those who inspired me most were not the policy experts in DC but the scientists who could navigate successfully in both the policy and science worlds. Then it occurred to me that with my new policy experience, I could do that, too!

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

I'm a research scientist at the University of Washington Joint Institute for the Study of the Atmosphere and Ocean and lead the CO₂ and ocean acidification mooring network at NOAA's Pacific Marine Environmental Laboratory (PMEL). After DC, I worked briefly with Jane Lubchenco and the Partnership for Interdisciplinary Studies of Coastal Oceans and then became a National Research Council Postdoctoral Fellow with Richard Feely at PMEL, where I've been ever since.

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

Everything. Whether I stayed in ocean science policy or ended up back in research where I am now, core oceanography is key to a deep understanding of so many of the cross-cutting issues I've worked on. Through my experiences in the science and policy worlds, I've met



friends and colleagues who work in a variety of fields: congressional staffers, natural resource managers, environmental advocates, journalists, science writers, and environmental filmmakers. In their cases as well as mine, ocean science education provided a solid foundation that was our greatest asset in building each of these diverse careers.

Is there any course or other training you would have liked to have had as part of your graduate education to meet the demands of the job market?

When I was in graduate school, the new focus at the time was interdisciplinary science. Now, this is the norm in the ocean sciences, and the new horizon many universities are aiming for is communication and engagement beyond academia. I would have liked to have had more training in that and, frankly, whatever will be the next exciting topic on the frontier of science training. I think many universities are doing a great job pioneering those new frontiers—so much so that sometimes I get the itch to be a grad student again.

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

I now realize my career path was a bit risky. Stepping out of science for a few years and coming back is not common. But I was following the path that felt right at the time, and as a result, my career is now a combination of all the things I'm passionate about: sustained ocean observing, the science of ocean change,

and application of that science to address societal needs. Managing a sustained ocean observing network is time consuming, and there are never enough hours in the day. However, it's incredibly exciting to be a part of the high-quality research that results from sustained observing, and this is, undoubtedly, the most satisfying part of my job.

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

Networking. Use your advisor, committee members, and other professors for the connections they have. Talk to your graduate student friends who are now in post-graduate positions and learn from their experiences. And don't be afraid to take a risk if that's where your heart is leading you! 🌐



Call for Contributions to the New Web Portal

RESOURCES FOR GRADUATE STUDENTS

<http://tos.org/opportunities>

The Oceanography Society has created a new Web page to serve as a resource for ocean sciences graduate students. This portal contains information on fellowships, scholarships, summer positions, volunteer opportunities, links to useful articles, and ship time/fieldwork opportunities.

Do you have suggestions or contributions for this page?

Please contact us at magazine@tos.org.

CALL FOR CAREER PROFILES

Who would you profile?

Oceanography's "career profiles" of marine scientists are intended to provide information to ocean sciences graduate students about career options other than teaching and/or research in a university setting.

Oceanography needs your help to make this careers column a success. Finding the right subjects is a challenging task, and *Oceanography* needs suggestions about who to profile. Please consult your roots, your Rolodex, or your phone's contacts folder and provide *Oceanography* with information about people you know whose career paths might inspire and inform the next generation. Self-nominations are accepted.

Do you have suggestions?

Please send their contact information to ekappel@geo-prose.com.