

THE OFFICIAL MAGAZINE OF THE OCEANOGRAPHY SOCIETY

Oceanography

CITATION

Career Profiles—Options and Insights. 2018. *Oceanography* 31(3):106–108.

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CAREER PROFILES Options and Insights

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

I received a PhD in oceanography from the University of Rhode Island Graduate School of Oceanography in 2015. The title of my dissertation research was “An Investigation of the Fisheries Ecosystem Dynamics of Rhode Island’s Nearshore Waters.” I sought to answer questions surrounding the potential ecological impacts of offshore wind energy development and to address data needs for ecosystem-based fisheries management. The three major components of my research were: (1) evaluation of the fine-scale spatial structure of the demersal fish and invertebrate community, (2) assessment of the dietary guild structure and the flow of energy through the fisheries food web, and (3) investigation of the relationship between the fish community and benthic habitat. I worked closely with the fishing community during my graduate career, spending hundreds of days conducting research aboard commercial fishing vessels and absorbing fishermen’s ecological and oceanographic insights.

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

I started working in the nonprofit sector while I was in graduate school and transitioned there full time as soon as I graduated. I am still engaged in academia through a variety of research collaborations.

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

While I was in graduate school, I actively pursued experiences outside of the traditional academic setting. I participated in educational outreach, worked with nongovernmental organizations, and developed relationships with the fishing

community. These experiences connected me to organizations that focused on applied oceanographic research, mostly outside of the university setting. I learned about and applied for job opportunities through this network as well as a variety of job boards and listservs.

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

Other than being a mother of two young children—a full-time job in itself!—this is the only job that I have had post-academia.

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

I am the executive director of the Commercial Fisheries Research Foundation (CFRF; <http://www.cfrfoundation.org>), a nonprofit that focuses on conducting collaborative fisheries research that contributes to sustainable fisheries and vibrant fishing communities. I started working with CFRF while I was in graduate school and expanded my involvement there after I graduated. I became their executive director after the birth of my first child. I am still actively involved in research (from development to implementation), but the goals and approaches of my research are more practical and inclusive than in the traditional academic setting.

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

My oceanographic education provided me with a variety of skills and a foundation of knowledge that have been useful to the advancement of my career in applied fisheries research. During my academic career, I intentionally engaged in coursework and experiences that were diverse,



from fisheries ecology to fluid dynamics to marine policy. Academia often pushes scientists to become hyper-specialized, but I took the opposite route. As a result, I have felt more prepared for the diverse array of research projects (from fishing technology to continental shelf hydrography) that I have engaged with in my professional career. The ability to develop research questions and hypotheses out of informal discussions and observations is a skill that has been critical in my current job. Proficiency with the scientific process, including experimental design and statistical analysis, has been equally essential. I was fortunate to learn about and practice these skills during my graduate education. Finally, communicating the purpose and results of research to a wide audience (fishermen, political representatives, students) is a skill that I honed while in graduate school and rely upon daily in my current job.

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?

Learning to develop and administer project budgets is critical in both the nonprofit and academic sectors, but that is not typically a part of graduate education. Identifying and pursuing sources of funding outside of federal programs

is also increasingly important in oceanographic research and, I believe, should be included in graduate curricula. Also, education surrounding the greater human ecosystem that either impacts or is impacted by the ocean should be a part of all graduate programs. Ultimately, our work as scientists is meant to positively impact the world in which we live.

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

I have found working in the nonprofit sector to be both rewarding and challenging. I have enjoyed the freedom of

pursuing a wide variety of research and am introduced to new ideas and topics every day, but finding funding for applied research can be difficult. My daily motivation comes from the fact that the research I spearhead directly impacts people and policy. Without the human aspect, my research would feel far less gratifying. I am also endlessly amazed and inspired by the fishermen with whom I work—their curiosity, ideas, knowledge, and passion are unparalleled. Managing time and staff are challenges in every job, but I believe they are especially difficult for working moms.

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

Don't limit your job search to opportunities related directly to your dissertation research. Branch out and be confident in your ability to adapt and learn new topics and techniques. And learn to say no to opportunities that do not serve your passions and goals. 🌐

ORENS DE FOMMERVAULT | Research Scientist, Alseamar (odefommervault@alseamar-alcen.com)

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

I started my college education without a clear idea regarding a career. Attracted by science, I decided to study physics at the University Côte d'Azur in Nice (in the South of France), the city where I grew up. I earned my bachelor's degree and met the woman I was to marry a few years later. Together we decided to move to Toulouse, a busy French university city. I enrolled in the master of meteorology program at Paul Sabatier University, which aims to train future engineers for Meteo France, the national weather service. I enjoyed the courses and the experience, but at the same time I realized I missed living by the sea. This was why I gave my career a kick and decided to study marine sciences. First moving to Marseille, I took courses at the Mediterranean Institute of Oceanography, then went on to earn my PhD in marine science at the Laboratoire Oceanographique de Villefranche-sur-mer. My doctoral work's objective was to study environmental and climate changes in the Mediterranean Sea, with a focus on new observational methods. This brought me to collaboration with data centers and to be directly involved in international programs such as Biogeochemical-Argo.

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

I was never fully out of touch with the private sector. My thesis was co-supervised by a private company (ACRI), and the year before starting my PhD I was employed by a small consulting firm to pursue environmental studies. However, after earning my PhD, I decided to stay in academia. I was looking for a postdoc abroad and found a very attractive subject at the Ensenada (Mexico) Center for Scientific Research and Higher Education (CICESE). During this one-year project, I attempted to gain better insight and assess the impact of potential oil spills in the Gulf of Mexico. I carried out this work using numerical models and analyzing in situ data acquired by autonomous platforms deployed by the US Bureau of Ocean Energy Management (BOEM). It was a great experience that developed my language and scientific skills. However, with the arrival of our second baby, my wife and I decided to go back to Europe. Then, for several months, I continued to work for CICESE from France, but the situation was precarious and temporary.



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

During this period, I started to look for a long-term position, in both the private and the public sectors. Networking connections and listservs from my former university sent me daily job announcements. Unfortunately, I was not able to find a job in my region that really suited me. Eventually, I was contacted by a colleague I had met during my PhD work who offered me an interview for a job in his company. The offer sounded very exciting but a little bit off my line of expertise. Though I was quite worried about getting into a new subject and taking on different responsibilities, I finally faced my fears and accepted the offer. Soon after I signed an employment contract with Alseamar.



Graduate Student and Early Career Resources

<https://tos.org/opportunities>

The Oceanography Society has created a web page with resources relevant to ocean sciences graduate students and early career scientists. This portal contains links to information on jobs, fellowships, scholarships, and ship time/fieldwork opportunities, as well as links to useful articles. New resources are added regularly, so please be sure visit this site often!

Oceanography Student News

<https://tos.org/opportunities>



Have you read the latest issue of Oceanography Student News? Each newsletter includes a regular column by the student representative to the TOS Council, profiles of TOS student members, information about student activities related to TOS-sponsored meetings, and links to relevant student resources and articles in *Oceanography* magazine. Feel free to forward the links to the newsletters to other students, or print out a copy and post it on your department bulletin board. Any questions? Email TOS Student Rep Stefanie Mack at studentrep@tos.org.

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

Apart from my postdoc position in Mexico, this is the first job I have had since completing my doctorate degree.

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

I am a research scientist in the R&D department at Alseamar in Aix-en-Provence, France. The company produces high-tech marine and submarine equipment and provides innovative services for research laboratories, navies, and oil and gas companies. I am in charge of the processing and analysis of data acquired by the SeaExplorer glider, an unmanned underwater vehicle designed and manufactured by Alseamar. A large part of my work consists of understanding the oceanographic context in which our glider missions take place and answering specific customer questions. This includes bibliographical research, data interpretation, and drafting technical and scientific reports. Another part of my job relies on keeping up to date with the current status of marine sensors and technologies so I can propose future developments that will ensure Alseamar products remain competitive. These efforts require a lot of time working at a computer, but fortunately I also have the opportunity to go to sea occasionally and to travel to scientific meetings.

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

My studies enabled me to gain interdisciplinary knowledge in oceanography and a solid theoretical basis in physics and mathematics. I have also learned to use essential tools for scientific work, for example, MATLAB. Perhaps more significantly, my education taught me scientific rigor, how to address a varied audience, and how to work as part of a team. All of these skills are fully exploited in my daily work, and it is not uncommon that I have to get out my old classroom

binders. I can also rely on the expertise of academic colleagues for support, if needed.

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?

I would have liked to have broader training in coding and computer sciences. Even though I am able to efficiently analyze data, I still struggle to develop interactive online web tools, for example, to make data viewable by our customers in a practical and straightforward way. From a more practical point of view, I would also welcome more technical courses (engineering sciences, electricity, mechanics) to better understand the functioning and constraints of sensors and other marine equipment.

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

My current job is very satisfying. The projects I am involved in are very interesting, and it is exciting to work on cutting-edge undersea technologies. I have been given great autonomy to complete my work. Because my managers give me the possibility to build collaborative projects with academic scientists, I am engaged with both the scientific community and industry. In addition, I am able to develop internal proposals that will allow me to initiate teaching and educational projects in the near future.

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

My first recommendation would be to do your work, whether as a volunteer, an intern, or a paid employee, conscientiously and with enthusiasm. I also advise keeping in contact with all of the people you have enjoyed as colleagues. In my own history, this has always been a catalyst in my job research. The career path is rarely linear, but you must never become discouraged. Ultimately, what really matters is to know yourself well enough to make the right choices for you. 