

**JO-ANN ROSARIO-LLANTÍN | Consultant in Physical Oceanography; Founder, Executive Director, and Principal Scientist, Coastal and Environmental Research Applications Inc. (jrl.cera@gmail.com)**

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

I signed up for an elective course in oceanography during my last undergraduate year in physical sciences at the University of Puerto Rico at Mayagüez (UPRM)—and got hooked. I was admitted to the UPRM Marine Sciences Department for a master’s degree in physical oceanography, studying tidal currents in Mona Passage. After my master’s degree, life took me somewhere off track. For about five years, I lived in Arizona, always missing the ocean and wanting to go back and pursue a doctorate in physical oceanography. Long story short, I decided to go to the Florida Institute of Technology (FIT) in Melbourne, though the decision to remain away from family in Puerto Rico and Arizona was hard. My PhD research concerned application of a hydrodynamical numerical model to describe the flushing characteristics of Mosquito Lagoon and the north segment of Indian River Lagoon on the Atlantic coast of Florida. It’s a very hot topic now because of frequent algal blooms, fish kills, and other related issues in this environmentally and economically important system.

***How did you go about searching for a job outside of the university setting? Is this the only job (post-academia) that you’ve had? If not, what else did you do?***

During the final years of working for my doctoral degree, I was a NOAA Graduate Sciences Program fellow. I spent 16 weeks training at the NOAA National Environmental Satellite, Data, and Information Service–National Ocean Data Center (the latter is now the National Centers for Environmental Information) and received a job offer upon receipt of

my PhD. However, as time passed and circumstances changed, I declined to move to the DC Metro area. The decision to stay in Florida was a mixed bag of outcomes, yet after the rude awakening of not finding a job as a “local not affiliated” physical oceanographer, I decided to go out on my own. A friend who was an instructor for an introductory oceanography class was no longer going to teach it, so I taught the class for a year. While teaching as an adjunct, I kept looking for ways to work as a physical oceanographer in the world outside of academia. I went to lectures and meetings, and asked local non-profit organizations for interviews to discuss their projects and a possible need for my services as an oceanographer. No luck there—until that one day when I received a call from the founder of one of the non-profit organizations I visited telling me to call a number for a company looking for an oceanographer to hire as a consultant. That was the moment I became my own boss and registered as a consultant in physical oceanography. After that, I have been lucky enough to be employed on my own while starting my own non-profit organization.

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

My current jobs are independent consultant in physical oceanography, and Principal Scientist, Founder, and Executive Director of Coastal and Environmental Research Applications Inc. (CERA; <http://www.cerainc.org>), a nonprofit science and education organization. As an independent consultant, I mainly work on short-term projects subcontracted from other smaller firms and universities, providing technical services and working with large data sets. CERA



focuses on the study of coastal and estuarine dynamics, making use of creative, innovative, and cost-effective technologies along with classical methodologies to provide insights into the processes governing these marine systems. My principal objective is to draw a new generation of thinkers and tinkerers into developing a passion for STEM careers and the ocean.

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

My education opened the door to a larger world. I have been lucky to work on boats, be part of a scientific crew, and see dolphins swim alongside the bow in the light of a beautiful sunset at sea. I’ve been lucky to learn many things in the classroom and also to pick up some amazing tricks of the trade from colleagues and friends. It’s a thrill to participate in conferences, whether presenting or just listening to new studies, networking, making new friends, and finding collaborators. My education has allowed me to grow in self-confidence and helped me gain the necessary knowledge to take on increasingly challenging responsibilities. To me, learning never stops. I’m always seeking the next challenge to expand on what I know and learn new interesting technologies and gain new skills.

***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?***

A business and project management course, as well as proposal and grant writing training, would have been very useful. After starting my own consulting firm, a nonprofit, and soon another small LLC, I now know that learning how to start a business, run it, and keep it running on my own took longer than necessary. My advice is take some form of business management and proposal writing training. I strongly believe that no matter where you end up working, those skills and knowledge will be quite helpful.

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

The administrative side of things is not necessarily something I like doing, but it has to be done. Perhaps one day I will have someone else taking care of those tasks for me. But I must admit I'm passionate about working on my own. It can be hard at times, but the flexibility it provides is very important to me, and it is its own reward. My work at CERA gets more exciting each day—the connections, the ideas when the right people work together, it's fantastic. I think this is what I was born to do—engage other people to work with innovative technology and its application in oceanographic studies and bring it all together to explain the processes shaping our marine systems.

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

Work toward making new and lasting connections at school and conferences and participate in a variety of trainings, even those outside your area of expertise, that will give you new perspectives and problem solving skills. Volunteer to work at a conference, teach a class, or give a talk at a workshop, and participate in field studies. All of these activities will open your eyes to how things get done,

will improve your self-confidence, and may help you decide which path is right for you. Ultimately, and perhaps most important, remember to take time to smell the ocean breeze and feel the sand under your bare feet. ☺