

By France A. Córdova

# Embrace uncertainty

I am often asked, “What advice can you give to graduate students?” When this happens I have to pause a moment, as I was an unusual case: an English-major undergraduate who went on to graduate study in physics. The first thing that comes to mind is to explore as much as possible, because eureka moments do happen. And when they do, don’t be afraid of the decisions that may arise. My own came when, as a college graduate, I was watching a television show about neutron stars. As I listened to researchers discuss their observations and theories, a long-dormant light switched on, and I knew I had to realize my childhood dream of becoming a physicist. It would be a challenge, but I was confident in my passion, and it was a risk I was willing to take.

I am also asked, “What prepared you for being a graduate student?” Perhaps surprisingly, the single thing that most prepared me to persevere with the trials of graduate school was rock climbing. I’m not advocating that all graduate students become climbers, but for me it was both an engaging passion and a metaphor for my professional progress. Climbing requires trust in one’s partners, patience, practice, and more practice. The moments of expansiveness when you are at rest—perched on a crag hundreds of feet above a valley floor with your mind roaming freely—can lead to epiphanies. Making room for passions outside your research, and time for friends and family, enables you to be a more whole person, and a more whole scientist.

Here are a few more pieces of advice I would like to share:

If you haven’t chosen a research topic, talk to top faculty members about their ideas on the most interesting problems in their fields. I knew I wanted to take on something big—to be the first person on the planet to see something—and found the sense of discovery pure euphoria; I promise you will, too.

Don’t spend more time than you need to in graduate school. It may seem fun to be a student, or scary to figure out next steps, but you will have greater responsibility and freedom (and get paid more) after you graduate, so get a postgraduation plan together.

If you are about to receive your Ph.D. and find yourself faced with multiple options for what to do after graduation, don’t fret—rejoice! Examine the options, but don’t let the decision burden you. You can’t go wrong if you choose the one that resonates with you the most. And if you don’t have job offers, your world is wide open. Choose where you want



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to work, go there, and find a way to get an informational interview. This can put you first in line when jobs open up. You may have to start at a low level, but with hard work and good humor, you will “graduate” quickly to a position with more responsibility. People are willing to help if you apply yourself.

Try not to make decisions based solely on money, especially early in your career, when salaries tend to be at their lowest. As a young researcher married to a high school science teacher, we had to pay for child care—a hefty expense for many young families. But we decided to pay for the best care we could afford because it gave us peace of mind: I knew our children were in good care, and I could focus on my work and raising my family. I also knew that, in time, I would make more money. Financial decisions are personal and often difficult, but remember that money should help you, not define you.

Speaking of children, don’t fret about when or whether to have them. You will know. I’ve seen scientists have children when they were still graduate students, and others (like me) when they were full professors and department chairs. You will survive no matter what, and so will your children. In summary, don’t fear decisions; embrace them. They allow you to explore new ideas and places. They mark the pathways that make your journey unique. Your choices will define you, so my last piece of advice is simple: Be yourself. You can’t make a bad choice if you remain true to yourself. ■

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