Planetary Physicist

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JPL/VPL

I help develop models to understand how planets form, evolve, and develop their particular environments. I spend most of my time using computers to model the evolution of planetary climates. I also use spacecraft data to help validate the models, and I work in the field at sites on Earth that might be similar to environments on other planets.

My areas of expertise

- Astronomy
- Physics
- Mathematics
- Atmospheric Physics
- Planetary Geology
- Computer Programming

How I first became interested in this profession

I spent 13 months washing dishes for the National Science Foundation in Antarctica. Every Tuesday night I would watch all kinds of scientists (biologists, astronomers, geologists, you name it) give talks about their research in Antarctica. I decided right then I would much rather being doing their job than mine!

What helped prepare me for this job

I wasn't the best in math and science in high school, so after my experience in Antarctica, I spent a lot of time catching up on some of those latent skills (mathematics, critical thinking, etc.). If I had it to do over, I would have spent more time on math and science in high school! Also, as soon as I entered school as an undergraduate, I got a job working in a research lab. That type of hands-on experience is critical, and the earlier you can get it, the better.

My role models or inspirations

My biggest role model, for my research and my teaching, is my undergraduate advisor, Dr. Robert Mutel. Finding a mentor early on is important, and I was very lucky to meet Dr. Mutel as an undergrad. I have had a lot of fantastic mentors since (my graduate advisors, Dr. Conway Leovy, and Dr. Tom Quinn are at the top of that list), but Dr. Mutel still defines what I think of as a "balanced" scientist: equally dedicated to his research, teaching, and his life.

My education and training

My background is in physics and astronomy. I have an undergraduate degree in those subjects and a Ph.D. in astronomy and astrobiology. Along the way, I've worked on a number of independent research projects, taken lots of classes outside my discipline, and spent some time as a science journalist.

My career path

After I left high school, I decided I wanted a profession that would give me access to the most amazing places in the world. It boiled down to three options:

1. Scientist: As a scientist, you can study anything you like, and go anywhere in the world.
2. Journalist: As a journalist, you can write about anything you like, and follow the scientists (or anyone else) around the world.
3. Dishwasher: You'd be surprised by how many people refuse to do their own dishes (yes, scientists included). As a dishwasher, you can go anywhere in the world.

I tried #3, originally went to school for #2, but landed a job running a telescope for a research lab at the University of Iowa. I got an undergraduate degree in physics and astronomy at the University of Iowa, and a Ph.D. in astronomy and astrobiology from the University of Washington.

In August of 2005, I started my faculty position with the Department of Physics at Weber State University in Ogden, UT.

What I like about my job

Talking about my work and teaching courses related to my research are what I like best. I particularly enjoy this because what we are doing—looking for life elsewhere in the universe—is so exciting that people get pretty fired up about it.

What I don't like about my job

Spending too much time in front of my computer. I know I like to program, but sometimes enough is enough. Luckily, I get plenty of opportunities to do my favorite things.

My advice to anyone interested in this occupation

My advice is to get a job as close to your interests as possible as soon as possible (like working in a lab, doing fieldwork, etc.). Volunteer if you have to. Even though I work incredibly hard at my job, I haven't really "worked" since I quit washing dishes for a living. This feels more like play to me, and everyone should love their job that much. Oh, and take lots of math and science (you knew that was coming)!