



Biologist



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Biologist

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I am biologist whose main tool is the computer. All living things have DNA—the molecules that code for everything that the organism does. I collect the sequence of this DNA and try to figure out how the DNA has changed over the 4 billion years that life has been on the Earth. There is a group of astrobiologists who are working at NASA making computer programs that will help us understand how to detect life on planets much farther away than our solar system. I work with them to understand how genes in microbes allow them to eat different things on Earth and what waste products they excrete. Because microbes can make and alter the atmosphere on a planet (they do this on Earth), we can use that information to figure out "signatures" for life. An astrobiologist at NASA's Virtual Planet Laboratory would use these "biosignatures" to search for microbes doing similar things on other planets.

My areas of expertise

- Computers
- Molecular Biology

How I first became interested in this profession

I have always enjoyed the natural world. My mother and father were both very curious about how things worked in nature and my mother still runs her own little experiments in her kitchen and backyard. When I was young I was always "testing" things and my Dad took me on field trips and to the natural science museum before I was an elementary schoolgirl.

What helped prepare me for this job

Working hard puzzles when I was young. My family collected puzzles that you had to find the right way to make a shape or solve a problem. We weren't ever allowed to give up! That was good practice for being a scientist.

My role models or inspirations

My mother and father, my Ph.D. advisor, Dr. George Fox, and Dr. Gerald Joyce were my role models and inspirations.

My education and training

- Undergraduate Degree in General Science
- Doctorate in Biology

My career path

- I finished my undergraduate degree and then was a mother for 9 years.
- After my sons were in elementary school I went back to school and got my doctorate.
- After I graduated, I started at Rice University.

What I like about my job

Working on a problem and finding a way to get an answer! I love working with people, too. You get to meet people with all different talents and attributes.

What I don't like about my job

Working with students who don't treasure their chance to be scientists.

My advice to anyone interested in this occupation

Work hard and learn to accept constructive criticism. Anything you can learn will be useful!