Look Who's Talking Careers By Chris Bertinato

STEM Careers in Polar Climate

Grades 7-12

Single Class

Career Area & Job Title:

Engineering

The Big Picture - What I do:

As a part of the IcePod project engineering group I do whatever is necessary to ensure success of the project. I have worked on the design and implementation of the positioning (location & time) and laser systems, directed environmental testing of the IcePod sensors to be sure that they would operate in extreme conditions, and completed flight test planning for the IcePod test flights in Schenectady, NY and Greenland. When we're flying with the pod, I become a test engineer as well making sure all the equipment is working correctly.

What I Like Most About My Job:

I work with an all around great group - the scientists, engineers, and support team. In the engineering group we all work closely with each other. We pick up tasks in order to get things done, and we all help each other to solve problems and get through the grunt work (sometimes we take things apart over and over to troubleshoot). Working closely also makes it a great place to learn new things and pick up new skills. The type of work that we do is almost exclusively research and development, which just about any engineer can tell you, is a blast. It's a very creative environment where we can try new ideas. We're constantly talking about how to improve upon our old designs. There is never a shortage of problems that need solutions, and that's where the fun is.

The Most Unusual Part About My Job:

We go to some interesting places! To do environmental testing of the IcePod sensors we went to a facility that had, among other pieces of test equipment, a 25-foot long air gun out of which they shoot chickens; the supermarket kind!

What Type of Schooling/Experience is Needed?

The engineers in the group all have formal training in engineering, but the focus varies. We all have a good grasp of physics and mathematics, both of which we use on a day-to-day basis to solve problems. Measuring things from a moving plane requires physics! We also all have some experience in computer programming which we use often. As an aerospace engineer I studied dynamics and control, which typically deals with flight control systems for aircraft and spacecraft, but there are other focuses within aerospace engineering, such as propulsion, materials and aerodynamics. It is not uncommon for aerospace engineering students with a bachelors degree to find a job in the space or aircraft industries, but many students go on to masters and PhD degrees to further focus on a specific area. Graduate school is especially important for developing the skills required for research and development.

Photo

Chris Bertinato at work on the equipment rack for the IcePod installation inside the large LC130 aircraft of the New York Air National Guard.

Education

- Bachelors degree in physics
- Masters degree in aerospace engineering.