My name is Valerie Wiesner, and I'm a Research Materials Engineer in the Ceramic and Polymer Composites Branch at NASA Glenn Research Center.

Ever since I was a child, I've always wanted to work at NASA.

And so the day I actually came to work at NASA was basically a dream come true.

I'm originally from Lawrence, Kansas, and I earned my Bachelor's Degree in Physics, and my concentration in Japanese language and literature from Carlton College in Northfield,

Minneapolis.

I worked in Japan for a year as an English teacher, teaching elementary through junior high students in a suburb of Tokyo, Japan.

After living in Japan, I attended graduate school at Purdue University, where I ultimately earned my Ph.D in materials engineering.
Right now I'm working on coming up with new materials to protect next generation, ceramic-based engine components against wear from sand.

This is important because, as aircraft engine temperatures increase to improve fuel efficiency, sand, when it's ingested, can actually melt into a glass.

And this glass can damage engine components, leading to premature failure of the engine.

To prepare my sand glass samples, I actually take samples of sand - sometimes actual sand samples, sometimes synthetic sand mixtures - and I heat them up in a furnace, and then I take them out quickly and quench them in water to result in a glass sample that I can use for my research.

There are actually a lot of things I like about my job.

What I like most probably, is that I get to work on relevant real world problems and come up with new innovative solutions.
I've been fortunate to have a number of role models in my life, but I'd say my number one role model has to be my mom. She did a great job of instilling a purpose, or a strong sense of education for me, and regardless of where my career path took me, she was always my number one supporter. And without her, I don't think I'd be where I am today.

I would say the person I admire most is Sally Ride. I was fortunate to have the opportunity to actually meet her in person. She was very humble, personable, and she was very motivational. And I very much enjoyed the time I got to spend with her.

In addition to the research I get to work on, I also get to interact with students regularly, whether through mentoring opportunities or through outreach. And I really enjoy working with youth and getting them excited about STEM.
I think it's important to promote STEM education among girls to let them know that they have the same opportunities as anyone else to be successful in STEM careers.

My biggest advice to young people would be never give up. You're going to have days where things are a little harder, whether it's in math, English, or whatnot. But the point is, never give up.

And once you find what motivates you, follow that as far as you can.