1
00:00:10,380 --> 00:00:11,380
[Music]

2
00:00:11,380 --> 00:00:15,139
My names Valerie Wiesner, and I'm a Research
Materials Engineer in the Ceramic and Polymer

3
00:00:15,139 --> 00:00:17,950
Composites Branch at NASA Glenn Research Center.

4
00:00:17,950 --> 00:00:22,090
Ever since I was a child, I've always wanted
to work at NASA.

5
00:00:22,090 --> 00:00:26,540
And so the day I actually came to work at
NASA was basically a dream come true.

6
00:00:26,540 --> 00:00:31,550
I'm originally from Lawrence, Kansas, and
I earned my Bachelor's Degree in Physics,

7
00:00:31,550 --> 00:00:36,160
and my concentration in Japanese language
and literature from Carlton College in Northfield,

8
00:00:36,160 --> 00:00:37,160
Minnesota.

9
00:00:37,160 --> 00:00:41,410
I worked in Japan for a year as an English
teacher, teaching elementary through junior

10
00:00:41,410 --> 00:00:45,050
high students in a suburb of Tokyo, Japan.

11
00:00:45,050 --> 00:00:50,610
After living in Japan, I attended graduate
school at Purdue University, where I ultimately

12
00:00:50,610 --> 00:00:53,780
earned my Ph.D in materials engineering.

13
00:00:53,780 --> 00:01:00,080
Right now I'm working on coming up with new
materials to protect next generation, ceramic-based

14
00:01:00,080 --> 00:01:03,480
engine components against wear from sand.

15
00:01:03,480 --> 00:01:09,220
This is important because, as aircraft engine
temperatures increase to improve fuel efficiency,

16
00:01:09,220 --> 00:01:13,280
sand, when it's ingested, can actually melt
into a glass.

17
00:01:13,280 --> 00:01:19,520
And this glass can damage engine components,
leading to premature failure of the engine.

18
00:01:19,520 --> 00:01:25,549
To prepare my sand glass samples, I actually
take samples of sand - sometimes actual sand

19
00:01:25,549 --> 00:01:30,229
samples, sometimes synthetic sand mixtures
- and I heat them up in a furnace, and then

20
00:01:30,229 --> 00:01:34,860
I take them out quickly and quench them in
water to result in a glass sample that I can

21
00:01:34,860 --> 00:01:36,460
use for my research.

22
00:01:36,460 --> 00:01:39,840

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

23
00:01:39,840 --> 00:01:45,479
What I like most probably, is that I get to
work on relevant real world problems and come

24
00:01:45,479 --> 00:01:47,450
up with new innovative solutions.

25
00:01:47,450 --> 00:01:51,899
I've been fortunate to have a number of role
models in my life, but I'd say my number one

26
00:01:51,899 --> 00:01:53,939
role model has to be my mom.

27
00:01:53,939 --> 00:01:59,889
She did a great job of instilling a purpose,
or a strong sense of education for me, and

28
00:01:59,889 --> 00:02:05,079
regardless of where my career path took me,
she was always my number one supporter.

29
00:02:05,079 --> 00:02:09,229
And without her, I don't think I'd be where
I am today.

30
00:02:09,229 --> 00:02:12,590
I would say the person I admire most is Sally
Ride.

31
00:02:12,590 --> 00:02:16,209
I was fortunate to have the opportunity to
actually meet her in person.

32
00:02:16,209 --> 00:02:21,080
She was very humble, personable, and she was
very motivational.

33
00:02:21,080 --> 00:02:24,700
And I very much enjoyed the time I got to
spend with her.

34
00:02:24,700 --> 00:02:30,090
In addition to the research I get to work
on, I also get to interact with students regularly,

35
00:02:30,090 --> 00:02:32,680
whether through mentoring opportunities or
through outreach.

36
00:02:32,680 --> 00:02:38,000
And I really enjoy working with youth and
getting them excited about STEM.

37
00:02:38,000 --> 00:02:42,070
I think it's important to promote STEM education
among girls to let them know that they have

38
00:02:42,070 --> 00:02:46,620
the same opportunities as anyone else to be
successful in STEM careers.

39
00:02:46,620 --> 00:02:51,590
My biggest advice to young people would be
never give up.

40
00:02:51,590 --> 00:02:56,070
You're going to have days where things are
a little harder, whether it's in math, English,

41
00:02:56,070 --> 00:02:57,070
or whatnot.

42
00:02:57,070 --> 00:02:58,840
But the point is, never give up.