
YEAR


OF
INNOVATION

1
00:00:06,240 --> 00:00:15,920
(■) Music (■)

2
00:00:18,880 --> 00:00:25,920
Every piece of a mission you've got thousands of\h
different systems. You've got the parachute, you've\h\h

3
00:00:25,920 --> 00:00:31,760
got the rocket boosters for the sky crane, you've\h
got materials work for the heat shield, you've\h\h

4
00:00:31,760 --> 00:00:39,440
got all these thousands of components. So you have\h
all these parallel research programs going where\h\h

5
00:00:39,440 --> 00:00:45,360
people are trying to find different solutions to\h
problems we have to solve to make this thing work.\h

6
00:00:45,360 --> 00:00:54,160
And it's a long timeline and a lot of work by\h
a lot of people. This is obviously unprecedented\h\h

7
00:00:54,160 --> 00:01:00,320
times but challenges are what NASA does. Just\h
having an internship with NASA and working with\h\h

8
00:01:00,320 --> 00:01:11,840
NASA is just such a privilege because you're\h
working with the greatest minds in the world.

9
00:01:16,640 --> 00:01:25,440
Viper is a rover mission. It's a rover of\h
many firsts. It's the first NASA rover to\h\h

10
00:01:25,440 --> 00:01:30,560
bring three instruments and a drill to map\h
the water resources on the surface of the moon.\h\h

11

00:01:31,520 --> 00:01:37,600
These tests will help us get ready for\h
the future tests during the fall and\h\h

12
00:01:38,400 --> 00:01:42,720
to understand the rover's performance\h
in terms of how how well the rover can\h\h

13
00:01:42,720 --> 00:01:50,000
traverse simulated lunar soil, how well it\h
can overcome obstacles like rocks. It has\h\h

14
00:01:50,000 --> 00:01:55,440
been challenging to work through this pandemic\h
but this pandemic has also brought opportunities.

15
00:02:02,000 --> 00:02:09,360
We are working to reduce the carbon footprint\h
of aeronautics whether it is traveling for work,

16
00:02:09,360 --> 00:02:15,840
or for vacations, or getting things\h
delivered. Aeronautics plays a role in that\h\h

17
00:02:15,840 --> 00:02:19,920
and so one of the things we're looking\h
at is called advanced air mobility,

18
00:02:20,480 --> 00:02:27,760
and that is an air taxi that would be able to\h
commute. The idea from like a roof shop downtown\h\h

19
00:02:27,760 --> 00:02:35,040
into a neighboring suburb, or to the airport and be\h
able to reduce your commute time as well as do it\h\h

20
00:02:35,040 --> 00:02:43,440
fully on battery power. So one project that I've\h
been working on is the X-57 and it is a Technum\h\h

21

00:02:43,440 --> 00:02:49,840
aircraft that was originally gas powered, and we\h
are making it fully electric. So we're putting\h\h

22
00:02:50,480 --> 00:02:57,840
battery packs in it, we are replacing the\h
engines with electric motors and then the goal\h\h

23
00:02:57,840 --> 00:03:03,840
is to eventually be able to completely reduce\h
emissions and get to a fully electric aircraft.

24
00:03:06,880 --> 00:03:13,360
This is a nuclear technology and it's a fission\h
system. The heat comes all the way up to these\h\h

25
00:03:13,360 --> 00:03:19,520
engines here that gives you the electrical energy\h
that you would need then to be able to power\h\h

26
00:03:19,520 --> 00:03:26,000
instruments or habitats. To be able to go and\h
explore the moon as part of this Artemis program.

27
00:03:28,320 --> 00:03:33,440
Oh it's so exciting what we're\h
doing in this renaissance of technology\h\h

28
00:03:34,480 --> 00:03:41,120
and exploration and so, we intend to put\h
the first woman and the next man to step\h\h