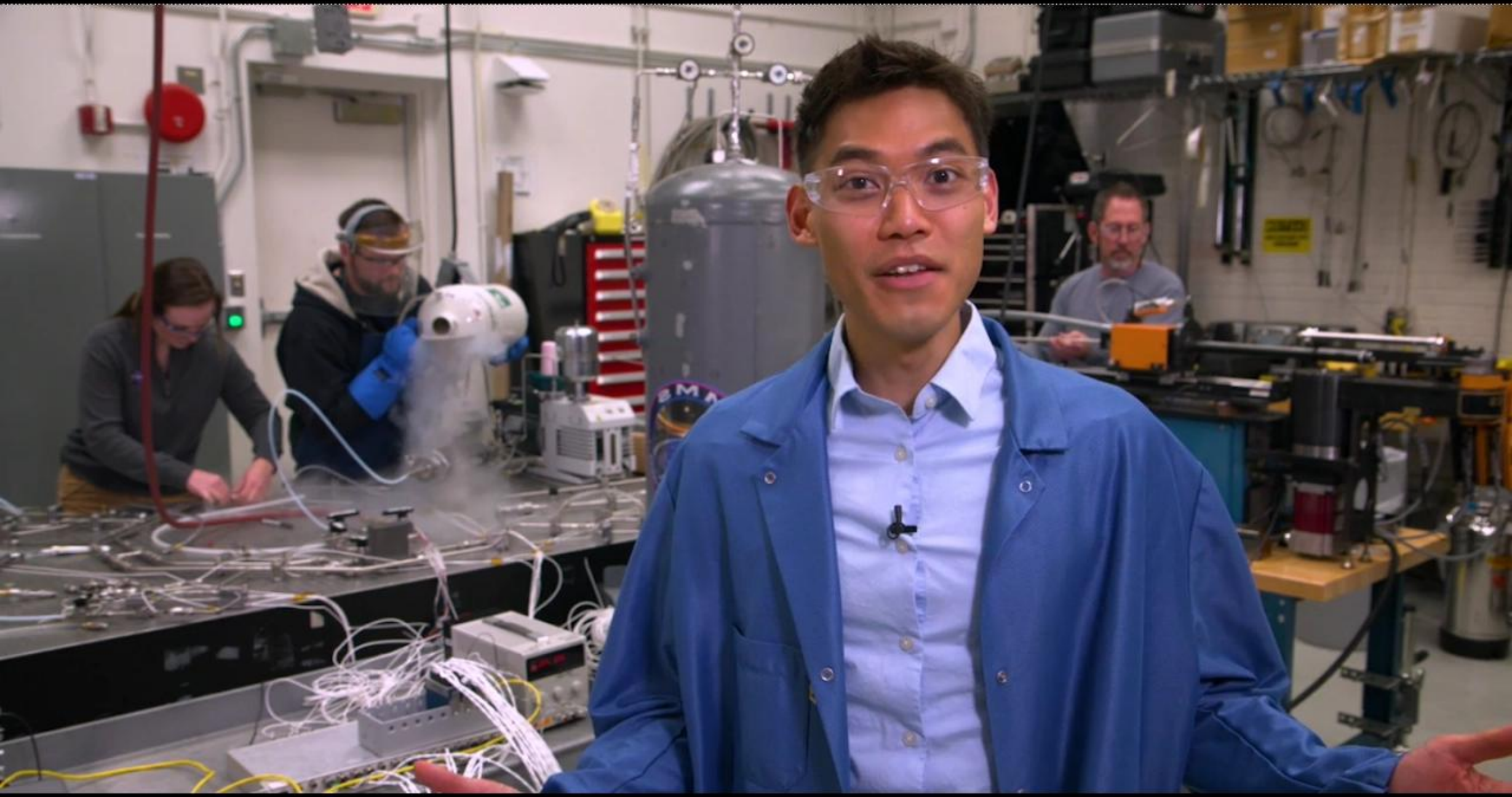

1
00:00:00,500 --> 00:00:05,000
(music)

2
00:00:05,020 --> 00:00:10,680
At NASA Goddard, we build space telescopes

3
00:00:10,680 --> 00:00:15,180
to explore the evolution of galaxies, stars and planets

4
00:00:15,180 --> 00:00:17,320
that make up our universe.

5
00:00:17,320 --> 00:00:20,180
We develop autonomous spacecraft navigation

6
00:00:20,180 --> 00:00:23,620
using millisecond pulsars as celestial beacons

7
00:00:23,620 --> 00:00:26,340
to further deep space exploration

8
00:00:26,340 --> 00:00:28,900
into our solar system and beyond.

9
00:00:28,900 --> 00:00:31,820
We discover planets around other stars

10
00:00:31,820 --> 00:00:33,960
and investigate whether they could support life

11
00:00:33,960 --> 00:00:35,540
and what that life might look like.

12
00:00:35,540 --> 00:00:37,820
At NASA Goddard, we investigate

13
00:00:37,820 --> 00:00:42,460

the possibility of past or present life on Mars.

14
00:00:42,460 --> 00:00:45,740
We imagine, then engineer, far-out missions

15
00:00:45,740 --> 00:00:49,540
to answer questions about how galaxies and planets

16
00:00:49,540 --> 00:00:52,300
formed and evolved over time.

17
00:00:52,300 --> 00:00:55,760
We build instruments that visit every planet in the solar system

18
00:00:55,760 --> 00:00:59,860
and recreate planetary environments here on Earth.

19
00:01:00,460 --> 00:01:04,420
At NASA Goddard, we study the sun’s dynamic behavior

20
00:01:04,420 --> 00:01:08,320
and the space weather that it generates so we can protect astronauts

21
00:01:08,320 --> 00:01:12,940
and satellites in space as well as our technology on the ground.

22
00:01:13,240 --> 00:01:16,820
We use the Earth’s magnetic field as a laboratory

23
00:01:16,820 --> 00:01:20,420
to understand the processes that drive giant explosions

24
00:01:20,420 --> 00:01:22,420
across the whole universe.

25
00:01:22,420 --> 00:01:26,760
At NASA Goddard, we use the data from a constellation of satellites

26
00:01:26,760 --> 00:01:31,860
to generate global maps of rain and snow pummeling the Earth

27
00:01:31,960 --> 00:01:35,000
to monitor how greenhouse gases move through the atmosphere

28
00:01:35,220 --> 00:01:38,320
and to model all of Earth’s systems to create

29
00:01:38,320 --> 00:01:41,520
a dynamic portrait of our planet.

30
00:01:41,680 --> 00:01:44,360
We survey Earth’s forests, ice sheets and oceans

31
00:01:44,360 --> 00:01:47,400
from air, ground, sea and space

32
00:01:47,520 --> 00:01:50,660
and collect data to examine changes

33
00:01:50,660 --> 00:01:53,300
in the environment to inform

34
00:01:53,300 --> 00:01:57,400
and improve the lives of every human being.

35
00:01:57,980 --> 00:02:00,820
We develop high-powered lasers to map

36
00:02:00,820 --> 00:02:04,420
our own planet and other bodies deep into the solar system.

37
00:02:05,520 --> 00:02:08,060
At NASA Goddard, we launch balloons with

38
00:02:08,060 --> 00:02:11,740

an 8,000-pound suspended mass soaring into the atmosphere

39
00:02:11,740 --> 00:02:15,760
for weeks at a time to study black holes and gamma-ray bursts.

40
00:02:17,340 --> 00:02:21,100
We launch small rockets carrying university-developed

41
00:02:21,100 --> 00:02:22,680
experiments into space

42
00:02:22,680 --> 00:02:25,960
and provide low-cost space platforms

43
00:02:25,960 --> 00:02:29,040
for testing new instrument concepts

44
00:02:29,120 --> 00:02:31,320
and engineering techniques.

45
00:02:31,640 --> 00:02:34,800
At NASA Goddard, we develop and maintain communication links

46
00:02:35,020 --> 00:02:38,300
between Earth and spacecrafts in orbit.

47
00:02:38,300 --> 00:02:40,460
We evaluate and improve system software

48
00:02:40,460 --> 00:02:42,620
to reduce risk in our missions, large and small.

49
00:02:43,300 --> 00:02:45,800
We take the search out of search and rescue

50
00:02:45,800 --> 00:02:49,460
by developing technologies for global distress systems.

51
00:02:52,980 --> 00:02:57,640
At NASA Goddard, we ensure every craft is space-ready.

52
00:02:57,640 --> 00:03:02,720
We blast noise and shake instruments to simulate stresses at launch.

53
00:03:03,140 --> 00:03:05,840
We expose them to the unforgiving vacuum of space

54
00:03:05,980 --> 00:03:09,160
and to the powerful magnetic fields.

55
00:03:09,360 --> 00:03:12,140
At NASA Goddard, we innovate robotic technologies

56
00:03:12,140 --> 00:03:15,220
to extend satellite lifespans.

57
00:03:15,720 --> 00:03:18,560
We mentor thousands of students each year

58
00:03:18,560 --> 00:03:21,640
who will become the next scientists and engineers.

59
00:03:21,680 --> 00:03:24,420
Innovation and science never sleep