



EPISODE FIVE:

JOURNEY TO SPACE

1
00:00:10,470 --> 00:00:07,220

[Music]

2
00:00:12,659 --> 00:00:10,480

it's the launch day it's a little windy

3
00:00:14,430 --> 00:00:12,669

out here today it's a beautiful day a

4
00:00:17,070 --> 00:00:14,440

little windy he's got me concerned my

5
00:00:20,730 --> 00:00:17,080

launched intuition his a tingling a bit

6
00:00:22,560 --> 00:00:20,740

I grew up here in Florida I came to this

7
00:00:23,970 --> 00:00:22,570

very spot out here in the cosway's a kid

8
00:00:27,839 --> 00:00:23,980

my dad would take us to launches all the

9
00:00:30,179 --> 00:00:27,849

time so personally it's like the kid in

10
00:00:32,400 --> 00:00:30,189

me comes out when I come here it's

11
00:00:33,870 --> 00:00:32,410

really cool I've been on both sides of

12
00:00:36,240 --> 00:00:33,880

it I've been a researcher and then I'm

13
00:00:38,220 --> 00:00:36,250

gonna now helping researchers and I

14

00:00:40,680 --> 00:00:38,230

gotta say it's it's nervous of both

15

00:00:42,150 --> 00:00:40,690

sides you have a lot of worried I guess

16

00:00:45,150 --> 00:00:42,160

as a scientist you have a lot of work

17

00:00:46,800 --> 00:00:45,160

involved as a payload provider you hope

18

00:00:48,000 --> 00:00:46,810

you've checked all the boxes and you've

19

00:00:49,500 --> 00:00:48,010

done all that you can do to make

20

00:00:51,930 --> 00:00:49,510

everything work for the researcher so

21

00:00:53,340 --> 00:00:51,940

that they get good data it's not easy to

22

00:00:56,160 --> 00:00:53,350

put it even the most simplest payloads

23

00:00:58,350 --> 00:00:56,170

and on the space station but it's worth

24

00:01:00,360 --> 00:00:58,360

it so worth all the work I think some of

25

00:01:02,430 --> 00:01:00,370

the biggest discoveries we have we've

26

00:01:05,359 --> 00:01:02,440

made and are going to fire up on the

27

00:01:07,440 --> 00:01:05,369

space station it's incredibly important

28

00:01:09,569 --> 00:01:07,450

well we've been really nervous all the

29

00:01:12,389 --> 00:01:09,579

way up until right this moment nervous

30

00:01:16,349 --> 00:01:12,399

that our our dreams aren't actually

31

00:01:19,069 --> 00:01:16,359

gonna happen but now that the you know

32

00:01:21,060 --> 00:01:19,079

larger countdown is happening and the

33

00:01:22,289 --> 00:01:21,070

Rockets all fueled up and everything

34

00:01:24,330 --> 00:01:22,299

looks like it's gonna happen on time

35

00:01:26,219 --> 00:01:24,340

it's it's getting really exciting the

36

00:01:29,310 --> 00:01:26,229

last you know 15 minute window before it

37

00:01:30,870 --> 00:01:29,320

takes off you know thanks to cases for

38

00:01:32,219 --> 00:01:30,880

funding this thanks to NanoRacks for

39

00:01:34,139 --> 00:01:32,229

help us coordinate and making the

40

00:01:35,999 --> 00:01:34,149

hardware and coordinating all the data

41

00:01:37,289 --> 00:01:36,009

collection - thank you for the

42

00:01:40,679 --> 00:01:37,299

astronauts who are gonna be working on

43

00:01:43,050 --> 00:01:40,689

this project on station so a lot of a

44

00:01:45,029 --> 00:01:43,060

lot of people worked on this it's not

45

00:01:46,030 --> 00:01:45,039

just the two of us it's it's been a lot

46

00:01:54,150 --> 00:01:46,040

of people so

47

00:01:59,500 --> 00:01:56,850

[Music]

48

00:02:01,330 --> 00:01:59,510

Falcon nine and cargo dragon take flight

49

00:02:03,220 --> 00:02:01,340

bound for the International Space

50

00:02:05,470 --> 00:02:03,230

Station with fresh supplies and research

51
00:02:07,990 --> 00:02:05,480
hoping to maintain our human presence in

52
00:02:10,700 --> 00:02:08,000
space as the station celebrates its 20th

53
00:02:10,710 --> 00:02:22,650
[Music]

54
00:02:28,170 --> 00:02:24,600
if we incredible just to watch it no

55
00:02:30,060 --> 00:02:28,180
matter what but knowing that we have a

56
00:02:32,160 --> 00:02:30,070
personal investment in it makes it it

57
00:02:34,980 --> 00:02:32,170
makes a big difference yeah so it's just

58
00:02:37,560 --> 00:02:34,990
knowing that something that we've been

59
00:02:39,210 --> 00:02:37,570
working on is on it and and then

60
00:02:43,530 --> 00:02:39,220
watching the whole like the whole

61
00:02:45,510 --> 00:02:43,540
experience makes it just different it it

62
00:02:49,770 --> 00:02:45,520
really I can't find the right words to

63
00:02:52,410 --> 00:02:49,780

explain it definitely feel like the work

64

00:02:55,560 --> 00:02:52,420

leading up to it was worthwhile watching

65

00:02:58,230 --> 00:02:55,570

of your best man yeah and like someone

66

00:03:02,910 --> 00:02:58,240

that you've been working with for such a

67

00:03:05,070 --> 00:03:02,920

long time and it's just it's yeah I

68

00:03:07,860 --> 00:03:05,080

think you couldn't get better that's

69

00:03:11,100 --> 00:03:07,870

what I can say yeah

70

00:03:19,250 --> 00:03:11,110

I didn't want to do it with it yeah but

71

00:03:19,260 --> 00:03:36,330

[Music]

72

00:03:40,660 --> 00:03:39,160

our scientist experiment is officially

73

00:03:43,480 --> 00:03:40,670

on its way to the International Space

74

00:03:45,250 --> 00:03:43,490

Station the SpaceX Dragon capsule that

75

00:03:47,650 --> 00:03:45,260

gives the research its ride to low-earth

76
00:03:49,330 --> 00:03:47,660
orbit now must make the last leg of its

77
00:03:52,300 --> 00:03:49,340
journey to the hands of the astronauts

78
00:03:54,160 --> 00:03:52,310
in microgravity what's neat for us is

79
00:03:56,470 --> 00:03:54,170
we've got cargo vehicles coming on going

80
00:03:59,620 --> 00:03:56,480
to the ISS all the time it is really

81
00:04:01,270 --> 00:03:59,630
like a busy parking lot vehicles come in

82
00:04:02,320 --> 00:04:01,280
they stay for a few months we do a whole

83
00:04:03,610 --> 00:04:02,330
bunch of science and then they leave

84
00:04:05,830 --> 00:04:03,620
again and before you know it the next

85
00:04:07,660 --> 00:04:05,840
one's coming up now what's important to

86
00:04:10,180 --> 00:04:07,670
remember is that these vehicles cannot

87
00:04:11,170 --> 00:04:10,190
dock themselves to the space station we

88
00:04:13,300 --> 00:04:11,180

have to bring them in to the space

89

00:04:15,640 --> 00:04:13,310

station utilizing robotics and what I

90

00:04:17,830 --> 00:04:15,650

like to tell people is performing

91

00:04:19,330 --> 00:04:17,840

robotics going out and capturing that

92

00:04:22,600 --> 00:04:19,340

vehicle it's like a really difficult

93

00:04:24,220 --> 00:04:22,610

video game and so we practice over and

94

00:04:26,620 --> 00:04:24,230

over and over again using computer

95

00:04:28,480 --> 00:04:26,630

simulations on how to actually capture

96

00:04:31,390 --> 00:04:28,490

that cargo vehicle to bring it into

97

00:04:33,220 --> 00:04:31,400

station once that cargo vehicle docks to

98

00:04:35,230 --> 00:04:33,230

station we do a series of pressure

99

00:04:36,700 --> 00:04:35,240

checks and equalize that pressure with

100

00:04:39,310 --> 00:04:36,710

the International Space Station and

101
00:04:41,440 --> 00:04:39,320
finally we get to open the hatch very

102
00:04:43,390 --> 00:04:41,450
quickly the crew starts to move because

103
00:04:45,010 --> 00:04:43,400
we've got some experiments that are

104
00:04:46,870 --> 00:04:45,020
actually kept at certain temperatures

105
00:04:48,460 --> 00:04:46,880
and we have to transfer them quickly out

106
00:04:50,850 --> 00:04:48,470
and keep them at the same temperature

107
00:04:53,440 --> 00:04:50,860
they are on board the space station

108
00:04:54,970 --> 00:04:53,450
Alain and Paris news research is one of

109
00:04:57,070 --> 00:04:54,980
the experiments that requires quick

110
00:04:58,990 --> 00:04:57,080
unloading stored at a constant

111
00:05:01,300 --> 00:04:59,000
temperature to ensure the hydrogels stay

112
00:05:03,880 --> 00:05:01,310
intact it's one of the first items that

113
00:05:05,890 --> 00:05:03,890

astronauts must remove from Dragon then

114

00:05:06,640 --> 00:05:05,900

with the experiment finally aboard the

115

00:05:08,440 --> 00:05:06,650

space station

116

00:05:14,020 --> 00:05:08,450

it's time to conduct science in

117

00:05:16,270 --> 00:05:14,030

microgravity this was fantastic for me

118

00:05:19,450 --> 00:05:16,280

this is what I do this means a lot to me

119

00:05:20,590 --> 00:05:19,460

as a clinician and so it was really neat

120

00:05:24,970 --> 00:05:20,600

to be able to perform that sort of