



SEQUENCING THE UNKNOWN

1
00:00:22,470 --> 00:00:19,109

so

2
00:00:25,029 --> 00:00:22,480

experiment which is actually trying to

3
00:00:26,790 --> 00:00:25,039

get a sample that originated on the iss

4
00:00:29,349 --> 00:00:26,800

and the goal was really to show that you

5
00:00:32,389 --> 00:00:29,359

could go all the way from a sample to an

6
00:00:41,270 --> 00:00:32,399

answer all on board i am going to do

7
00:00:45,750 --> 00:00:43,910

last week we took some surface samples

8
00:00:47,990 --> 00:00:45,760

microbial surface samples there'll be

9
00:00:50,069 --> 00:00:48,000

enough dna after we magnify it to

10
00:00:52,150 --> 00:00:50,079

sequence it and then from that sequence

11
00:00:53,590 --> 00:00:52,160

then we can determine what type of

12
00:00:55,830 --> 00:00:53,600

bacteria it is so it's going to be

13
00:00:57,510 --> 00:00:55,840

really exciting for us i think to try

14

00:01:11,820 --> 00:00:57,520

and do this for the first time all on

15

00:01:19,670 --> 00:01:18,149

[Music]

16

00:01:21,270 --> 00:01:19,680

in that moment she's in the this

17

00:01:23,670 --> 00:01:21,280

microgravity science club box as she's

18

00:01:25,429 --> 00:01:23,680

collecting those cells my heart was just

19

00:01:29,429 --> 00:01:25,439

pounding because what she did had never

20

00:01:32,230 --> 00:01:29,439

been done our dna cake is in the pcr

21

00:01:34,310 --> 00:01:32,240

oven we'll look forward to getting lots

22

00:01:53,270 --> 00:01:34,320

and lots of dna from each of those three

23

00:01:56,469 --> 00:01:55,270

they're like we can just patch your cell

24

00:01:58,789 --> 00:01:56,479

phone in

25

00:02:00,630 --> 00:01:58,799

to the space to ground loops and you can

26

00:02:02,789 --> 00:02:00,640

just talk to peggy on your cell phone to

27

00:02:04,789 --> 00:02:02,799

do this there's hurricane raging

28

00:02:05,990 --> 00:02:04,799

literally outside but the folks in

29

00:02:07,910 --> 00:02:06,000

marshall they're on it they're going to

30

00:02:10,309 --> 00:02:07,920

make this happen science on station is

31

00:02:13,190 --> 00:02:10,319

not stopping because of hurricane harvey

32

00:02:15,350 --> 00:02:13,200

and right away we saw one microorganism

33

00:02:18,070 --> 00:02:15,360

pop up and then a second one i thought

34

00:02:22,840 --> 00:02:18,080

oh my gosh i am watching the first

35

00:02:30,150 --> 00:02:22,850

sequences ever of an unknown from space

36

00:02:34,949 --> 00:02:32,949

i checked several times like i ran like

37

00:02:36,790 --> 00:02:34,959

a biochemical test and then i ran two

38

00:02:39,110 --> 00:02:36,800

different sequencing tests we are a

39

00:02:40,470 --> 00:02:39,120

hundred percent sure that our samples

40

00:02:41,990 --> 00:02:40,480

that we got back on the ground are

41

00:02:43,830 --> 00:02:42,000

exactly the same

42

00:02:48,070 --> 00:02:43,840

that we got on orbit we did it

43

00:02:48,080 --> 00:02:57,990

[Music]

44

00:03:02,550 --> 00:03:00,229

as a microbiologist my goal is really to

45

00:03:04,229 --> 00:03:02,560

that when we go and we move beyond iss

46

00:03:06,309 --> 00:03:04,239

and we're headed towards mars or the

47

00:03:08,790 --> 00:03:06,319

moon or wherever we're headed to we have

48

00:03:10,790 --> 00:03:08,800

a process that the crew can have that

49

00:03:14,110 --> 00:03:10,800

great understanding of the environment

50

00:03:20,550 --> 00:03:14,120

based on molecular technology

