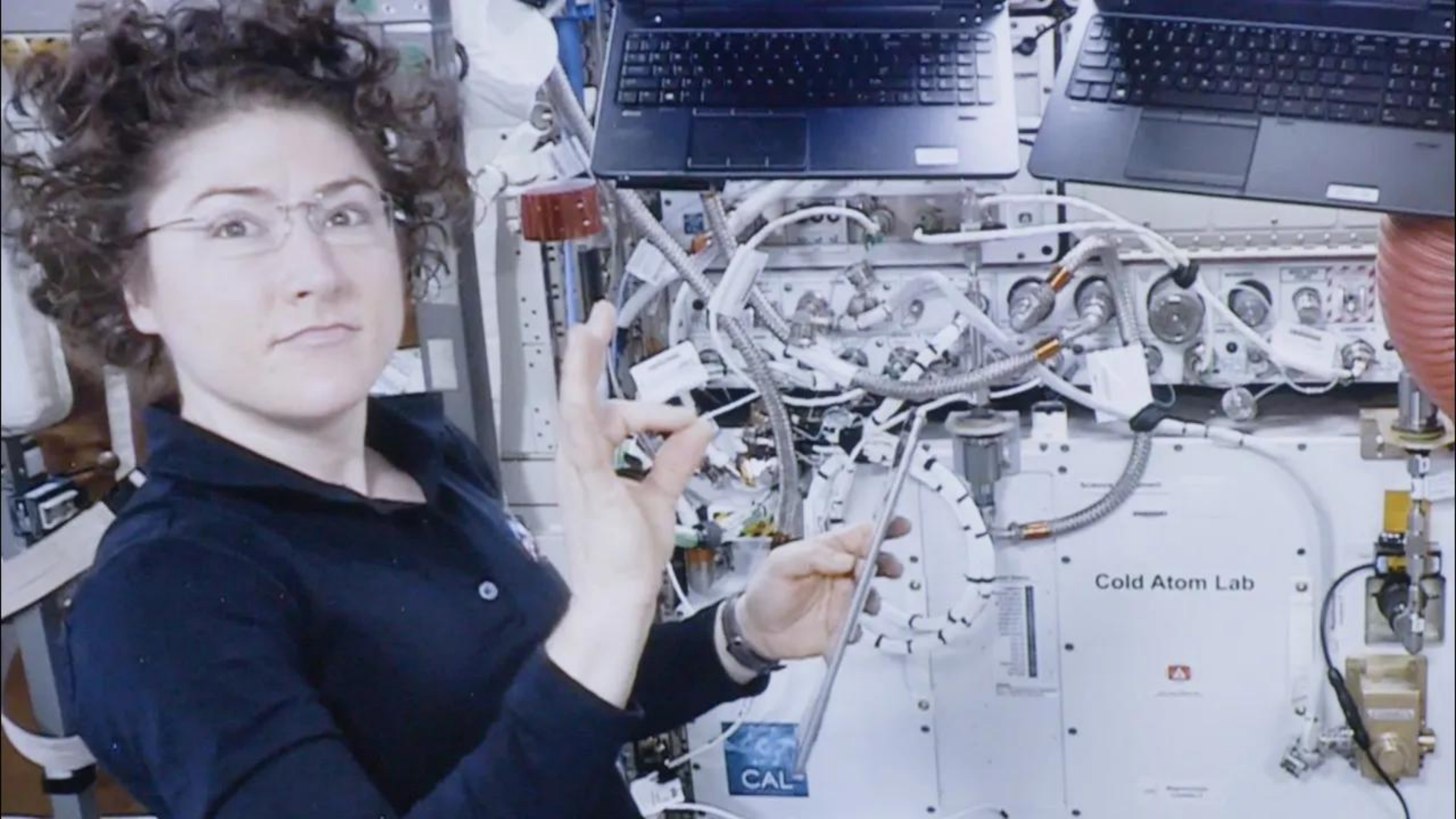
Cold Atom Lab
CAL

1
00:00:00,430 --> 00:00:44,549
[Music]

2
00:00:48,709 --> 00:00:46,310
the cold adam laboratory

3
00:00:50,709 --> 00:00:48,719
is in many ways the coolest thing and

4
00:00:52,869 --> 00:00:50,719
the coldest thing we've ever done

5
00:00:53,990 --> 00:00:52,879
on the international space station it is

6
00:00:57,430 --> 00:00:54,000
allowing us

7
00:00:59,349 --> 00:00:57,440
to investigate cool quantum gases

8
00:01:01,510 --> 00:00:59,359
and make breakthroughs in areas of

9
00:01:04,950 --> 00:01:01,520
physics that up until now have been

10
00:01:07,109 --> 00:01:04,960
unavailable to us nasa built the

11
00:01:08,950 --> 00:01:07,119
international space station

12
00:01:10,950 --> 00:01:08,960
to do the kind of research that we're

13
00:01:12,469 --> 00:01:10,960

doing in the cold adam lab

14
00:01:15,030 --> 00:01:12,479
this is the first time we're able to

15
00:01:19,030 --> 00:01:15,040
study this fifth state of matter

16
00:01:20,230 --> 00:01:19,040
in space bose einstein condensation is

17
00:01:23,510 --> 00:01:20,240
an amazing feat

18
00:01:26,630 --> 00:01:23,520
of engineering in itself but

19
00:01:27,910 --> 00:01:26,640
this type of physics is difficult to do

20
00:01:29,670 --> 00:01:27,920
in ground-based experiments

21
00:01:31,350 --> 00:01:29,680
and so doing this in microgravity is

22
00:01:34,789 --> 00:01:31,360
going to allow us to really

23
00:01:36,230 --> 00:01:34,799
see what's going on so you have

24
00:01:39,350 --> 00:01:36,240
something cool how do you make it cooler

25
00:01:43,590 --> 00:01:41,830
our ability to study cold atoms is

26
00:01:45,030 --> 00:01:43,600
really going to advance our knowledge in

27
00:01:46,789 --> 00:01:45,040
areas that will help us

28
00:01:48,069 --> 00:01:46,799
in quantum computing quantum

29
00:01:52,230 --> 00:01:48,079
communications