COUNTDOWN TO MARS

DR. PARAG VAISHAMPAYAN

1
00:00:13,759 --> 00:00:16,080
So, as an astrobiologist, I'm really interested

2
00:00:16,080 --> 00:00:21,760
in understanding how life can exist
on extreme environments here on Earth.

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00:00:21,760 --> 00:00:25,920
Mars 2020, or Perseverance,
is giving us an unique opportunity to

4
00:00:25,920 --> 00:00:29,560
actually look for signs of life
on Mars.

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00:00:29,560 --> 00:00:31,439
Mars missions have explored

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00:00:31,439 --> 00:00:35,520
and indicated that the martian surface was quite wet

7
00:00:35,520 --> 00:00:39,680
than the cold and dry planet as it is
today.

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00:00:39,680 --> 00:00:43,680
These conditions lasted long enough to support life.

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00:00:43,680 --> 00:00:47,440
So, as a microbiologist, I'm really
interested in understanding

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00:00:47,440 --> 00:00:52,380
how life would have evolved and
sustained on Martian conditions.

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00:00:52,500 --> 00:00:56,239
So, my research involves
actually simulating conditions in the

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00:00:56,239 --> 00:00:59,199
lab, or going to the extreme environments on Earth

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00:00:59,199 --> 00:01:02,640
and finding out what kind of life can survive

14
00:01:02,640 --> 00:01:05,860
and how it can survive in these extreme
conditions?

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00:01:09,120 --> 00:01:12,240
The most exciting part about the Mars
Perseverance rover

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00:01:12,240 --> 00:01:18,080
is it will look for signs of ancient
life forms, or the microbial life forms, on Mars.

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00:01:18,620 --> 00:01:24,320
Since we are exploring these pristine samples
on Mars, it's very important for us to

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00:01:24,320 --> 00:01:27,840
keep the rover itself
clean, so that we don't contaminate the

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00:01:27,840 --> 00:01:30,500
Martian surface,
and that's exactly what

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00:01:30,620 --> 00:01:35,260
planetary protection researchers
at nasa's jet propulsion laboratory are doing.

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00:01:35,360 --> 00:01:39,759
I'm honored and privileged
to be part of that group. So, my team is

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00:01:39,759 --> 00:01:43,359
actually looking for
DNA contents on the spacecraft.

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00:01:43,359 --> 00:01:46,480
We call it as: genetic inventory.