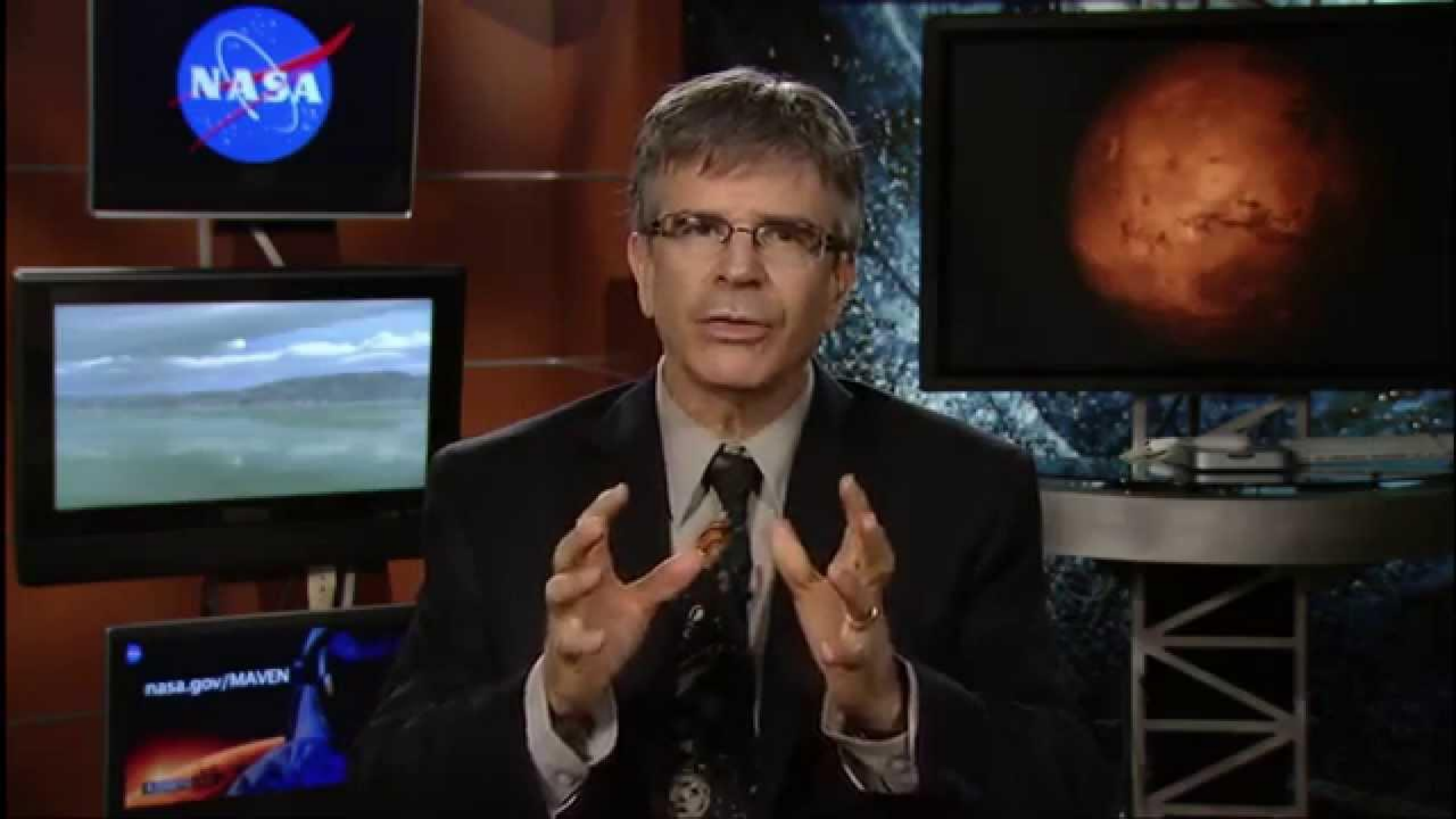
NASA
nasa.gov/MAVEN

1
00:00:00,080 --> 00:00:04,080
>>INTERVIEWER: Last November, NASA launched a new mission to Mars to investigate the mystery of how it

2
00:00:04,100 --> 00:00:08,280
became the red planet, and how it may have looked in the past. Now that mission

3
00:00:08,300 --> 00:00:12,290
is about to arrive, and here to join us from NASA's Goddard Space Flight Center in

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00:00:12,310 --> 00:00:16,310
Greenbelt, Maryland is NASA Goddard Chief Scientist Dr. Jim Garvin. Thank you

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00:00:16,330 --> 00:00:20,350
for joining us. >>JIM: Thanks for having me. >>INTERVIEWER: After nearly a year-long journey

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00:00:20,370 --> 00:00:24,360
MAVEN is finally arriving at Mars. Tell us about the MAVEN mission entering Mars'

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00:00:24,380 --> 00:00:28,380
atmosphere. >>INTERVIEWER: So MAVEN is an orbiting remote

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00:00:28,400 --> 00:00:32,400
sensing mission that will study how Mars' atmosphere, the

9
00:00:32,420 --> 00:00:36,420
cold atmosphere of today, interacts with space weather, loses parts of

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00:00:36,440 --> 00:00:40,470
itself to space, and connect that Mars of today to the Mars of the

11
00:00:40,490 --> 00:00:44,560
past, when we believe the atmosphere and conditions on Mars were warmer and

12
00:00:44,580 --> 00:00:48,570
wetter, more hospitable for life. So MAVEN is a time machine,

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00:00:48,590 --> 00:00:52,610

to put the Mars of today into the context of the Mars of the past, and ask, "How did

14
00:00:52,630 --> 00:00:56,650
it evolve?" Why is it the way it is today, why is it the red planet, not the

15
00:00:56,670 --> 00:01:00,670
blue planet? >>INTERVIEWER: What will MAVEN do as it orbits Mars?

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00:01:00,690 --> 00:01:04,710
>>JIM: So MAVEN's carrying a rich array of instruments that will allow us to

17
00:01:04,730 --> 00:01:08,760
measure for the first time how the atmosphere of Mars interacts with

18
00:01:08,780 --> 00:01:12,780
deep space, with the space weather particles from the Sun.

19
00:01:12,800 --> 00:01:16,820
It also carries instruments that will actually sample the chemistry of the

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00:01:16,840 --> 00:01:20,830
atmosphere as it's being lossed to space, and connect that chemistry to the

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00:01:20,850 --> 00:01:24,860
Mars chemistry of the past that we're measuring on the surface of Mars from rovers like

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00:01:24,880 --> 00:01:28,890
Curiosity. >>INTERVIEWER: What else is NASA doing to better understand

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00:01:28,910 --> 00:01:32,910
Mars, and what are our plans for the future? >>JIM: So right now, NASA has a rich array

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00:01:32,930 --> 00:01:36,970
of robotic missions exploring the red planet. We're on the surface

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00:01:36,990 --> 00:01:41,090
with two rovers, Curiosity and Opportunity. We have orbital

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00:01:41,110 --> 00:01:45,100
constellation measuring Mars from the Mars Reconnaissance Orbiter,

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00:01:45,120 --> 00:01:49,140
Mars Odyssey, and soon MAVEN. And we're planning new missions. A new rover mission

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00:01:49,160 --> 00:01:53,190
that will extend what Curiosity's doing to a new place, with new instruments

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00:01:53,210 --> 00:01:57,200
to actually capture pieces of Mars for return to Earth some day.

30
00:01:57,220 --> 00:02:01,250
All of these missions ask the question - Are there signs of

31
00:02:01,270 --> 00:02:05,300
past life recorded in the history of Mars? Its atmosphere, its rocks,

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00:02:05,320 --> 00:02:09,310
its ices. Can we tell, could we ever tell? And to open the

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00:02:09,330 --> 00:02:13,340
Martian frontier to the possibility of humans going there to explore

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00:02:13,360 --> 00:02:17,390
our neighborly, brotherly planet.

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00:02:17,410 --> 00:02:21,410
>>INTERVIEWER: How does studying the red planet's evolution help us understand the formation of other pla

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00:02:21,430 --> 00:02:25,450
including Earth? >>JIM: Well Mars is a canonical small rocky planet,

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00:02:25,470 --> 00:02:29,500
in our very interesting little solar system. But,

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00:02:29,520 --> 00:02:33,520

in the bigger scheme of things, we're discovering dozens if not hundreds of planets

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00:02:33,540 --> 00:02:37,610
around nearby stars. Exoplanets. These planets we think

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00:02:37,630 --> 00:02:41,690
have climates with atmospheres and histories as well. By understanding

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00:02:41,710 --> 00:02:45,720
the difference between Mars and its evolution to its state of today,

42
00:02:45,740 --> 00:02:49,740
the cold, dry, red planet, from its Mars of the past, perhaps a wet

43
00:02:49,760 --> 00:02:53,750
blueish planet like Earth, we'll be able to understand these other worlds

44
00:02:53,770 --> 00:02:57,760
that we're discovering, and also put our solar system into the bigger context

45
00:02:57,780 --> 00:03:01,810
of this universe. It's out there beckoning, calling to us.

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00:03:01,830 --> 00:03:05,820
>>INTERVIEWER: Sounds good, where can we learn more? >>JIM: Well you can

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00:03:05,840 --> 00:03:09,850
go to NASA's website, www.NASA.gov/MAVEN,

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00:03:09,870 --> 00:03:13,860
for the MAVEN mission, which will put MAVEN in context to our bigger

49
00:03:13,880 --> 00:03:17,880
journey to Mars. >>INTERVIEWER: Great, thanks so much for joining us. >>JIM: Thanks for having me.