
NASA
Space Tech Town Hall
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1
00:00:07,000 --> 00:00:11,470
This Week at NASA...

2
00:00:11,470 --> 00:00:18,599
As the 1.7-mile-long asteroid 1998 QE2 began
its relatively close flyby of Earth, telescope

3
00:00:18,599 --> 00:00:23,460
images were provided during a live broadcast
from the Jet Propulsion Laboratory, seen on

4
00:00:23,460 --> 00:00:25,730
NASA Television and nasa.gov.

5
00:00:25,730 --> 00:00:31,160
Among the insight provided from asteroid experts
at JPL and the Goldstone Deep Space Communications

6
00:00:31,160 --> 00:00:37,390
Complex, which used radar to track and image
the asteroid -- a discovery that QE2 has an

7
00:00:37,390 --> 00:00:40,649
orbiting moon about 600 meters wide.

8
00:00:40,649 --> 00:00:44,780
The program also featured NASA Administrator
Charlie Bolden, who discussed the agency's

9
00:00:44,780 --> 00:00:49,420
role in keeping the planet safe from asteroids
and other Near Earth Objects.

10
00:00:49,420 --> 00:00:54,210
"These are not National threats, these are
global threats.

11
00:00:54,210 --> 00:00:59,520
That's why the asteroid strategy and the second

segment of actually -- an effort to redirect

12
00:00:59,520 --> 00:01:01,739
an asteroid is so, so important."

13
00:01:01,739 --> 00:01:08,140
The May 31 QE2 fly-by -- some 3-point-6 million
miles from Earth is asteroid's the closest

14
00:01:08,140 --> 00:01:14,140
approach to our planet for at least the next
two centuries.

15
00:01:14,140 --> 00:01:19,130
NASA Deputy Administrator Lori Garver participated
in a "We the Geeks" Google+ Hangout on the

16
00:01:19,130 --> 00:01:20,810
White House website.

17
00:01:20,810 --> 00:01:26,159
Garver and others who hung out discussed asteroid
identification, characterization, resource

18
00:01:26,159 --> 00:01:28,170
utilization, and hazard mitigation.

19
00:01:28,170 --> 00:01:32,670
"We need to not only understand them but be
able to go to them and learn how to manipulate

20
00:01:32,670 --> 00:01:33,670
them.

21
00:01:33,670 --> 00:01:37,950
The President outlined on the long-term human
strategy to Mars that asteroids would be our

22
00:01:37,950 --> 00:01:39,080

next step."

23
00:01:39,080 --> 00:01:44,240
NASA recently announced plans to find, study,
capture and relocate an asteroid for exploration

24
00:01:44,240 --> 00:01:45,799
by astronauts.

25
00:01:45,799 --> 00:01:51,439
The asteroid initiative is a strategy to leverage
human and robotic activities while accelerating

26
00:01:51,439 --> 00:01:57,850
efforts to improve detection and characterization
of asteroids.

27
00:01:57,850 --> 00:02:01,439
Measurements taken by NASA's Mars Science
Laboratory (MSL) mission as it delivered the

28
00:02:01,439 --> 00:02:07,100
Curiosity rover to the Red Planet in 2012
are providing NASA the information it needs

29
00:02:07,100 --> 00:02:12,910
for designing systems to protect astronauts
from radiation exposure on future deep-space

30
00:02:12,910 --> 00:02:14,180
expeditions.

31
00:02:14,180 --> 00:02:19,910
MSL's Radiation Assessment Detector (RAD)
is the first instrument to measure the radiation

32
00:02:19,910 --> 00:02:25,420
environment during a Mars cruise mission from
inside a spacecraft that is similar to potential

33
00:02:25,420 --> 00:02:27,819
human exploration spacecraft.

34
00:02:27,819 --> 00:02:32,569
The findings will reduce uncertainty about
the effectiveness of radiation shielding and

35
00:02:32,569 --> 00:02:40,239
help space mission designers better protect
astronauts on future deep space missions.

36
00:02:40,239 --> 00:02:44,680
NASA Associate Administrator Robert Lightfoot
visited the Marshall Space Flight Center recently

37
00:02:44,680 --> 00:02:49,790
to discuss the future of human space exploration
and the critical role the Marshall workforce

38
00:02:49,790 --> 00:02:54,810
plays in development of the Space Launch System
-- the agency's new heavy lift rocket that

39
00:02:54,810 --> 00:02:58,490
will take humans farther into space than ever
before.

40
00:02:58,490 --> 00:03:03,120
And during a visit to Langley Research Center,
Lightfoot toured several facilities, including

41
00:03:03,120 --> 00:03:05,510
the materials research lab.

42
00:03:05,510 --> 00:03:10,489
Langley and the agency are looking at additive
manufacturing techniques as a way for astronauts

43
00:03:10,489 --> 00:03:17,870

in space to potentially create materials and
parts needed for their spacecraft.

44
00:03:17,870 --> 00:03:23,250
Associate Administrator for Space Technology
Mike Gazarik hosted a Town Hall meeting from

45
00:03:23,250 --> 00:03:28,489
NASA Headquarters to provide agency employees
with an overview of the new Space Technology

46
00:03:28,489 --> 00:03:31,600
mission directorate and discuss plans for
the upcoming year.

47
00:03:31,600 --> 00:03:35,720
"There are a number of technologies that can
really help our industry if we, the government

48
00:03:35,720 --> 00:03:40,489
can take some risks and show that the technologies
can solve the problems that need to be solved.

49
00:03:40,489 --> 00:03:42,400
These are tough challenges.

50
00:03:42,400 --> 00:03:43,630
That's kind of what we're about."

51
00:03:43,630 --> 00:03:48,230
The Space Technology Mission Directorate is
responsible for developing the crosscutting,

52
00:03:48,230 --> 00:03:53,560
pioneering, new technologies and capabilities
needed by the agency to achieve its current

53
00:03:53,560 --> 00:03:57,239
and future missions.

54
00:03:57,239 --> 00:04:02,349
NASA's Operation IceBridge has completed another
successful data-collecting campaign in the

55
00:04:02,349 --> 00:04:03,819
Arctic.

56
00:04:03,819 --> 00:04:08,989
Researchers aboard the P-3B airborne laboratory
gathered new information on ice elevation

57
00:04:08,989 --> 00:04:12,550
and thickness in and around Greenland and
the Arctic Ocean.

58
00:04:12,550 --> 00:04:17,190
The data will help improve computer models
of changing Arctic ice.

59
00:04:17,190 --> 00:04:21,620
Managed by Goddard Space Flight Center, the
six-year IceBridge mission is bridging the

60
00:04:21,620 --> 00:04:28,680
gap between NASA's ICESat satellite which
stopped working in 2009 and ICESat-2 -- set

61
00:04:28,680 --> 00:04:33,250
to launch in 2016.

62
00:04:33,250 --> 00:04:38,110
During a recent visit to NASA Ames, Associate
Administrator for Science John Grunsfeld received

63
00:04:38,110 --> 00:04:42,460
a progress update on the Center's science
projects, including the LADEE Mission, scheduled

64
00:04:42,460 --> 00:04:47,199

to launch later this year to study the thin
atmosphere around the Moon.

65
00:04:47,199 --> 00:04:52,190
Grunsfeld also was a featured speaker at the
Bay Area Maker Faire in nearby San Mateo,

66
00:04:52,190 --> 00:04:53,190
California.

67
00:04:53,190 --> 00:04:58,180
"I'm here at Maker Faire, gave a short talk,
but most of the time I'm walking around, watching

68
00:04:58,180 --> 00:05:01,620
people and looking at all the great stuff
that's here.

69
00:05:01,620 --> 00:05:05,650
And it's almost overwhelming, even for an
astronaut...that there are so many great ideas

70
00:05:05,650 --> 00:05:06,650
out there."

71
00:05:06,650 --> 00:05:11,240
The festival is a celebration of invention,
creativity and resourcefulness where "makers"

72
00:05:11,240 --> 00:05:16,720
show off their inventions and to share knowledge.

73
00:05:16,720 --> 00:05:23,950
On May 31, 2012, the successful splashdown
in the Pacific Ocean of the SpaceX Dragon

74
00:05:23,950 --> 00:05:29,040
capsule marked the completion of the first
U.S. commercial spaceflight to the International

75
00:05:29,040 --> 00:05:30,810
Space Station.

76
00:05:30,810 --> 00:05:35,410
During the mission, Dragon demonstrated its
ability to maneuver in orbit, safely approach

77
00:05:35,410 --> 00:05:39,910
the space station and be grappled and berthed
to the orbiting laboratory.

78
00:05:39,910 --> 00:05:46,889
Just over four months later, SpaceX, again
launched a Dragon stocked with cargo on CRS-1,

79
00:05:46,889 --> 00:05:51,990
the first ever commercial cargo resupply flight
to the ISS -- the flight signaled the return

80
00:05:51,990 --> 00:05:58,020
of America's capability to independently resupply
the orbiting laboratory -- a feat not achievable

81
00:05:58,020 --> 00:06:01,030
since the retirement of the space shuttle.

82
00:06:01,030 --> 00:06:02,750
And that's This Week @NASA.