1
00:00:07,440 --> 00:00:08,440
This Week at NASA…

2
00:00:08,440 --> 00:00:18,440
NASA Chief Technologist Bobby Braun helped
kick off Spinoff Day on Capitol Hill. The

3
00:00:18,440 --> 00:00:22,699
event at the Rayburn House Office Building
showcased companies whose products have been

4
00:00:22,699 --> 00:00:28,590
‘spun off,’ or derived, from newfound
NASA technologies and how they improve life

5
00:00:28,590 --> 00:00:29,590
here on Earth.

6
00:00:29,590 --> 00:00:34,710
“this new approach, this technology-enabled
approach, will allow NASA to produce more

7
00:00:34,710 --> 00:00:40,070
things like you see in the room today, not
just more science and exploration missions,

8
00:00:40,070 --> 00:00:42,460
but more Earth based spinoffs”

9
00:00:42,460 --> 00:00:47,180
NASA research and development has spawned
more than 1600 successfully-commercialized

10
00:00:47,180 --> 00:00:53,950
applications in health and medicine, public
safety, consumer goods, transportation, environmental

11
00:00:53,950 --> 00:00:58,760
resources, computer technology, and industrial

productivity.

12
00:00:58,760 --> 00:01:04,820
To learn more about how NASA ‘spinoffs’
continue to benefit our society, visit: www.nasa.gov/spinoffs.

13
00:01:04,820 --> 00:01:14,610
A six-member team of aquanauts is testing
exploration concepts off Florida's east coast

14
00:01:14,610 --> 00:01:20,040
in the difficult and often dangerous work
environment of the ocean. The team participating

15
00:01:20,040 --> 00:01:26,110
in the 14th expedition of the NASA Extreme
Environment Mission Operations -- NEEMO is

16
00:01:26,110 --> 00:01:32,820
Canadian astronaut Chris Hadfield, NASA astronaut
and flight surgeon Tom Marshburn, Lunar Electric

17
00:01:32,820 --> 00:01:39,460
Rover Deputy Project Manager Andrew Abercromby,
research scientist Steve Chappell and habitat

18
00:01:39,460 --> 00:01:43,270
technicians James Talacek and Nate Bender.

19
00:01:43,270 --> 00:01:49,390
During the 14-day undersea mission, the NEEMO
crew lives and works aboard the Aquarius Underwater

20
00:01:49,390 --> 00:01:54,970
Laboratory, where they’ll perform life science
experiments focused on human behavior, performance

21
00:01:54,970 --> 00:02:01,230
and physiology. They’ll also venture out
into the depths to simulate spacewalks, and

22
00:02:01,230 --> 00:02:06,170
operate and maneuver mockups of vehicles future
space explorers might use in setting up a

23
00:02:06,170 --> 00:02:09,590
habitat on another planet.

24
00:02:09,590 --> 00:02:15,510
NASA's Mars Exploration Rover, Opportunity,
is the new robotic record-holder for longevity

25
00:02:15,510 --> 00:02:20,750
on the Red Planet. Opportunity surpassed the
duration mark set by NASA's Viking Lander

26
00:02:20,750 --> 00:02:26,150
I of six years and 116 days operating on the
surface of Mars.

27
00:02:26,150 --> 00:02:30,730
“Spirit has likely passed that record, but
right now Spirit is deeply asleep, so we haven’t

28
00:02:30,730 --> 00:02:35,010
heard from the rover in about two weeks, but
once she wakes up she’ll reclaim the title

29
00:02:35,010 --> 00:02:38,540
as the longest lived asset on the surface
of Mars.”

30
00:02:38,540 --> 00:02:44,040
Opportunity's twin rover, Spirit, began working
on Mars three weeks before Opportunity. Spirit

31
00:02:44,040 --> 00:02:46,690
has been in ‘hibernation’ mode since March
22. Both Spirit and Opportunity were designed

32
00:02:46,690 --> 00:02:50,970
for 90-day missions.
Viking Lander 1 was the first successful mission

33
00:02:50,970 --> 00:03:01,340
to the surface of Mars, touching down on July
20, 1976. It operated until Nov. 13, 1982.

34
00:03:01,340 --> 00:03:07,640
Recent studies sponsored by NASA suggest that
Omega-3 fatty acids found in fish oil may

35
00:03:07,640 --> 00:03:14,000
play a role in mitigating bone breakdown.
Bone density loss, a problem astronauts experience

36
00:03:14,000 --> 00:03:19,599
during long-duration spaceflight, has long
been a subject of NASA research. The fish

37
00:03:19,599 --> 00:03:24,740
oil connection could have broader implications
not only for space travelers, but also for

38
00:03:24,740 --> 00:03:30,010
those susceptible to osteoporosis here on
Earth. The studies' results are published

39
00:03:30,010 --> 00:03:40,130
in the current issue of the Journal of Bone
and Mineral Research.

40
00:03:40,130 --> 00:03:45,630
Astronaut Jeff Williams, Expedition 22 Commander
of the International Space Station gave a

41
00:03:45,630 --> 00:03:50,280
special presentation at the National Air and
Space Museum in Washington about his recent

42
00:03:50,280 --> 00:03:55,650
six month mission aboard the complex. Williams
shared high-definition video from his mission

43
00:03:55,650 --> 00:03:59,060
with a full house, then took questions from
the audience.

44
00:03:59,060 --> 00:04:01,069
“How did it feel coming back on earth?”

45
00:04:01,069 --> 00:04:05,120
“When you return to Earth, the brain is
not used to paying attention to that because

46
00:04:05,120 --> 00:04:10,010
it hasn’t been there so it takes a little
while to regain your sense of balance.”

47
00:04:10,010 --> 00:04:16,160
Williams also explained the ISS’s role in
beyond-Earth exploration. Williams has lived

48
00:04:16,160 --> 00:04:23,099
a total of twelve months on the space station
during three different expeditions.

49
00:04:23,099 --> 00:04:28,199
The Jet Propulsion Laboratory held its annual
two-day open house for adults and kids alike.

50
00:04:28,199 --> 00:04:32,930
“This is a chance for all these people to
come out and be proud and boastful about the

51
00:04:32,930 --> 00:04:37,630
things that they’re doing, and get a little
energy back from this amazing crowd of people.”

52

00:04:37,630 --> 00:04:42,250
The fun-filled and educational experience
celebrated the center's accomplishments, and

53
00:04:42,250 --> 00:04:47,970
featured exhibits and demonstrations of JPL’s
ongoing exploration research. Jet Propulsion

54
00:04:47,970 --> 00:04:52,740
Laboratory scientists and engineers answered
questions about propelling spacecraft to other

55
00:04:52,740 --> 00:04:58,090
planets, using space technologies to explore
Earth, and searching for planets beyond our

56
00:04:58,090 --> 00:05:01,550
solar system.

57
00:05:01,550 --> 00:05:05,900
On loan from the Smithsonian’s National
Air and Space Museum in Washington was Hubble

58
00:05:05,900 --> 00:05:11,580
Telescope’s Wide Field and Planetary Camera
2. Nicknamed "The Camera That Saved Hubble,"

59
00:05:11,580 --> 00:05:17,310
WFPC-2 was developed and built at JPL, and
will remain on display at the center for the

60
00:05:17,310 --> 00:05:18,360
next five months.

61
00:05:18,360 --> 00:05:27,990
Employees of the Glenn Research Center were
visited by members of two space shuttle crews.

62
00:05:27,990 --> 00:05:36,669
Terry Virts, who served as Pilot on STS-130,

and STS-131 Mission Specialist Dottie Metcalf-Lindenburger

63
00:05:36,669 --> 00:05:39,520
shared details of their spaceflight experiences.

64
00:05:39,520 --> 00:05:44,419
“Things float around, and it’s a real
pain; weightlessness is a real pain. If you’re

65
00:05:44,419 --> 00:05:46,410
ever designing hardware you need to think
about that.”

66
00:05:46,410 --> 00:05:52,910
On STS-131, Metcalf-Lindenburger and the other
members of space shuttle Discovery’s crew

67
00:05:52,910 --> 00:05:57,550
delivered to the International Space Station
a multi-purpose logistics module filled with

68
00:05:57,550 --> 00:06:04,050
science racks for use in the ISS’s laboratories.
Space shuttle Endeavour, with Virts on its

69
00:06:04,050 --> 00:06:09,780
stick, carried up the space station’s last
major modules, Tranquility and its seven-windowed

70
00:06:09,780 --> 00:06:16,460
cupola, on STS-130. Tranquility is now the
life support hub of the space station, while

71
00:06:16,460 --> 00:06:22,820
the Cupola provides a spectacular panoramic
view of our planet.

72
00:06:22,820 --> 00:06:28,070
More than 200 cyclists took part in the Ames
Research Center’s second annual Tour de

73
00:06:28,070 --> 00:06:31,450
Ames Bicycle Race and Fun Ride.

74
00:06:31,450 --> 00:06:39,490
The event kicked off with a five-minute safety
briefing and safety inspection, followed by

75
00:06:39,490 --> 00:06:46,790
a 5.5-mile trek that took riders over the
perimeter roads of the Ames Moffett Airfield.

76
00:06:46,790 --> 00:06:51,680
Tour de Ames was sponsored by the Ames Bicycle
Club and other center organizations.

77
00:06:51,680 --> 00:06:55,889
The second annual Tour de Ames – this is
something we want to do every year because

78
00:06:55,889 --> 00:07:00,039
we believe it’s something that members of
Ames Moffet can get behind. It’s something

79
00:07:00,039 --> 00:07:06,340
they really enjoy.”
Yeah, we just finished 1-2-3, and I’m very

80
00:07:06,340 --> 00:07:07,340
happy!”

81
00:07:07,340 --> 00:07:08,990
And that’s This Week at NASA!