1
00:00:00,170 --> 00:00:03,810
An extended stay in space for one of our astronauts
…

2
00:00:03,810 --> 00:00:07,400
A new resupply mission to the space station
…

3
00:00:07,400 --> 00:00:12,269
And locating the universe’s first type of
molecule … a few of the stories to tell

4
00:00:12,269 --> 00:00:15,519
you about – This Week at NASA!

5
00:00:15,519 --> 00:00:20,170
NASA and its International Space Station partners
have made new crew assignments and set a new

6
00:00:20,170 --> 00:00:25,600
schedule for station expeditions that includes
an expected record-setting flight for our

7
00:00:25,600 --> 00:00:27,369
Christina Koch.

8
00:00:27,369 --> 00:00:33,169
Instead of returning to Earth this October,
Koch will remain in orbit until February 2020

9
00:00:33,169 --> 00:00:37,480
– which will set a new record for the longest
single spaceflight by a woman.

10
00:00:37,480 --> 00:00:44,600
The previous mark of 288 days was set by our
Peggy Whitson on Expeditions 50 through 52,

11
00:00:44,600 --> 00:00:46,660

from 2016 through 2017.

12
00:00:46,660 --> 00:00:51,370
“I do think examples matter, and so it’s
important that people just see that it’s

13
00:00:51,370 --> 00:00:57,640
normal for people of all shapes, sizes, genders
to be able to fulfill the dreams that they

14
00:00:57,640 --> 00:00:58,640
have.”

15
00:00:58,640 --> 00:01:03,229
Two other NASA astronauts – Jessica Meir
and Andrew Morgan – have also been assigned

16
00:01:03,229 --> 00:01:07,060
to future space station crews.

17
00:01:07,060 --> 00:01:12,210
On April 17, Northrop Grumman launched a Cygnus
cargo spacecraft to the space station from

18
00:01:12,210 --> 00:01:17,590
our Wallops Flight Facility, in Virginia,
atop the company’s Antares rocket.

19
00:01:17,590 --> 00:01:22,820
The Cygnus – loaded with 7,500 pounds of
research, hardware and crew supplies – is

20
00:01:22,820 --> 00:01:28,210
named in honor of Roger Chaffee, one of the
three NASA astronauts who died in the Apollo

21
00:01:28,210 --> 00:01:30,659
1 fire in January 1967.

22

00:01:30,659 --> 00:01:37,179
The Cygnus is scheduled to remain at the station
until July 23.

23
00:01:37,179 --> 00:01:42,409
Among the cargo on Northrop Grumman's Cygnus
spacecraft are three free-flying robots that

24
00:01:42,409 --> 00:01:44,890
are part of the Astrobee project.

25
00:01:44,890 --> 00:01:49,850
The cubed robots are a follow-on to the SPHERES
robots already on the space station.

26
00:01:49,850 --> 00:01:55,530
They are designed to help develop and test
technologies for use in zero-gravity, and

27
00:01:55,530 --> 00:01:59,049
help station astronauts do routine chores.

28
00:01:59,049 --> 00:02:04,740
Astrobee robots can operate in a fully automated
mode or be controlled remotely from the ground

29
00:02:04,740 --> 00:02:11,050
– freeing up astronauts to do work on other
important tasks.

30
00:02:11,050 --> 00:02:15,909
Helium hydride – the first type of molecule
to ever form in the universe – has been

31
00:02:15,909 --> 00:02:18,920
detected in space for the first time ever.

32
00:02:18,920 --> 00:02:23,760
Our SOFIA airborne observatory discovered
the molecule's signature in a planetary

33
00:02:23,760 --> 00:02:28,810
nebula near the constellation Cygnus – some
3,000 light-years away from us.

34
00:02:28,810 --> 00:02:34,390
The molecule first formed about 100,000 years
after the big bang, when atoms of helium and

35
00:02:34,390 --> 00:02:36,409
hydrogen combined.

36
00:02:36,409 --> 00:02:41,090
Researchers have long believed helium hydride
should be present in some parts of the modern

37
00:02:41,090 --> 00:02:46,790
universe, but it had never been detected in
space — until now.

38
00:02:46,790 --> 00:02:52,030
Data from our Lunar Atmosphere and Dust Environment
Explorer, or LADEE mission, which ended in

39
00:02:52,030 --> 00:02:58,239
April 2014, show that meteoroids that strike
the Moon can release water from hydrated soil

40
00:02:58,239 --> 00:03:00,870
just below the lunar surface.

41
00:03:00,870 --> 00:03:05,450
Models had predicted that meteoroid impacts
could release water vapor from the Moon, but

42
00:03:05,450 --> 00:03:08,930
scientists had not yet observed the phenomenon.

43
00:03:08,930 --> 00:03:13,879

The findings will help us understand the history of lunar water — a potential resource for

44
00:03:13,879 --> 00:03:21,230
sustaining long term operations on the Moon and human exploration of deep space.

45
00:03:21,230 --> 00:03:27,969
Former astronaut and long-duration spaceflight pioneer Owen Garriott, died April 15, at his

46
00:03:27,969 --> 00:03:30,560
home in Huntsville, Alabama.

47
00:03:30,560 --> 00:03:36,110
Garriott flew aboard the Skylab space station during the Skylab 3 mission and on the Space

48
00:03:36,110 --> 00:03:40,680
Shuttle Columbia for the STS-9/Spacelab-1 mission.

49
00:03:40,680 --> 00:03:44,000
He spent a total of 70 days in space.

50
00:03:44,000 --> 00:03:46,920
Owen Garriott was 88 years old.

51
00:03:46,920 --> 00:03:51,280
That’s what’s up this week @NASA …