
SATELLITE SERVICING CAPABILITIES OFFICE
SSCO
NASA • GODDARD SPACE FLIGHT CENTER
@NASAGoddard

1
00:00:07,029 --> 00:00:13,620
This Week at NASA…

2
00:00:13,620 --> 00:00:18,480
The next three humans in space are now at
their launch site in Kazakhstan after finishing

3
00:00:18,480 --> 00:00:22,590
their final training and prelaunch activities
outside Moscow.

4
00:00:22,590 --> 00:00:28,099
NASA Flight Engineer Chris Cassidy, and Soyuz
Commander Pavel Vinogradov and Flight Engineer

5
00:00:28,099 --> 00:00:33,140
Alexander Misurkin of the Russian Federal
Space Agency are scheduled to liftoff from

6
00:00:33,140 --> 00:00:38,260
the Baikonur Cosmodrome this Thursday, Mar.
28, U.S. time, and head for the International

7
00:00:38,260 --> 00:00:40,969
Space Station on Expedition 35/36.

8
00:00:40,969 --> 00:00:46,100
“We all really love what we do, to fly in
space and it’s a really special opportunity

9
00:00:46,100 --> 00:00:50,899
that we get to have as individuals and we
wish we could share the whole great experience

10
00:00:50,899 --> 00:00:53,949
with everybody that loves space like we do.”

11
00:00:53,949 --> 00:00:58,670
There, they’ll join Station Commander Chris

Hadfield of the Canadian Space Agency and

12
00:00:58,670 --> 00:01:04,250
Flight Engineers Tom Marshburn of NASA and
Roman Romanenko of the Russian Federal Space

13
00:01:04,250 --> 00:01:05,600
Agency.

14
00:01:05,600 --> 00:01:10,300
Some 150 scientific and research experiments
are being conducted in the world's only

15
00:01:10,300 --> 00:01:15,909
laboratory in microgravity to benefit our
lives here on Earth.

16
00:01:15,909 --> 00:01:19,840
"This is not an American issue.

17
00:01:19,840 --> 00:01:22,780
Anything that we do protects the planet."

18
00:01:22,780 --> 00:01:27,940
Administrator Charles Bolden told a House
hearing on Capitol Hill that NASA is working

19
00:01:27,940 --> 00:01:34,090
to better identify and track meteors and asteroids
that pose a potential threat to Earth.

20
00:01:34,090 --> 00:01:38,830
Appearing with Bolden were White House Science
Advisor John Holdren and General William Shelton,

21
00:01:38,830 --> 00:01:41,039
Commander of the U.S. Air Force Space Command.

22
00:01:41,039 --> 00:01:45,229

“Consistent with NASA’s role, as established
by Congress and prescribed in the President’s

23
00:01:45,229 --> 00:01:51,960
National Space Policy, NASA has taken a leadership
role to pursue capabilities to detect, track

24
00:01:51,960 --> 00:01:57,439
and characterize Near Earth Objects to reduce
the risks of harm to humans from an unexpected

25
00:01:57,439 --> 00:01:59,079
impact on our planet.”

26
00:01:59,079 --> 00:02:03,759
The hearing comes following the passage of
Earth by several Asteroids – the closest,

27
00:02:03,759 --> 00:02:09,690
Asteroid 2012 DA14 -- passed just 17-thousand
miles from our planet on February 15.

28
00:02:09,690 --> 00:02:17,459
It was preceded that same day by the surprise
explosion of a meteor over Russia.

29
00:02:17,459 --> 00:02:22,080
NASA Deputy Administrator Lori Garver was
among the honored guests of the Italian Embassy

30
00:02:22,080 --> 00:02:27,690
in Washington, DC as representatives of Italy
and the United States signed an agreement

31
00:02:27,690 --> 00:02:32,120
extending the two nation’s 50 years of cooperation
in space.

32
00:02:32,120 --> 00:02:37,190
Garver spoke about the many Italian Space

Agency contributions to NASA missions, including

33
00:02:37,190 --> 00:02:42,370
Cassini and the Alpha Magnetic Spectrometer
aboard the International Space Station.

34
00:02:42,370 --> 00:02:46,950
Throughout the 50-year partnership, NASA has
signed nearly 200 agreements with various

35
00:02:46,950 --> 00:02:49,221
space and aeronautics organizations in Italy.

36
00:02:49,221 --> 00:02:54,450
“But I guess it shouldn’t be at all surprising
that the people that brought us the renaissance

37
00:02:54,450 --> 00:02:59,700
are also bringing us these remarkable discoveries
in space.

38
00:02:59,700 --> 00:03:05,549
Fifty years of exploring space with you has
brought us a tremendous amount, but we really

39
00:03:05,549 --> 00:03:11,890
continue to look forward to that next renaissance
in space exploration.”

40
00:03:11,890 --> 00:03:17,099
Garver also highlighted the contributions
of Italy’s five flown astronauts, as well

41
00:03:17,099 --> 00:03:23,430
as Samantha Cristoforetti, scheduled to become
the first Italian woman astronaut, on Expedition

42
00:03:23,430 --> 00:03:24,629
42/43.

43
00:03:24,629 --> 00:03:33,599
“So at any time on the space station we
have between 130 and 150 experiments running.”

44
00:03:33,599 --> 00:03:39,720
Astronaut Luca Parmitano is slated to be the
sixth Italian in space when he, NASA astronaut

45
00:03:39,720 --> 00:03:44,780
Karen Nyberg, and cosmonaut Fyodor Yurchikhin
of the Russian Federal Space Agency launch

46
00:03:44,780 --> 00:03:47,800
to the International Space Station later this
spring.

47
00:03:47,800 --> 00:03:53,430
The three members of the Expedition 36/37
crew were at the Johnson Space Center to preview

48
00:03:53,430 --> 00:03:57,760
their mission and its focus on scientific
research aboard the space station.

49
00:03:57,760 --> 00:04:01,140
“We’ve seen a lot of astronauts come back
with blurred eyesight.

50
00:04:01,140 --> 00:04:07,209
They’re doing a study now to really look
deep into that – and so, I volunteered to

51
00:04:07,209 --> 00:04:10,980
get into that because I think that’s very
important especially as we start traveling

52
00:04:10,980 --> 00:04:11,980
further out.”

53

00:04:11,980 --> 00:04:15,500
The trio is scheduled to launch from Kazakhstan
on May 28.

54
00:04:15,500 --> 00:04:21,100
When they arrive at the station, Nyberg, Parmitano
and Yurchikhin will join NASA astronaut Chris

55
00:04:21,100 --> 00:04:27,030
Cassidy and Russian cosmonauts Pavel Vinogradov
and Alexsandr Misurkin onboard the world's

56
00:04:27,030 --> 00:04:30,300
only laboratory in microgravity.

57
00:04:30,300 --> 00:04:38,090
Meanwhile, NASA Astronaut Suni Williams and
Aki Hoshide of the Japan Aerospace Exploration

58
00:04:38,090 --> 00:04:45,150
Agency, both of whom spent 125 days aboard
the station on Expedition 32/33, made several

59
00:04:45,150 --> 00:04:51,630
appearances in the National Capitol region
to share their extraordinary spaceflight experiences.

60
00:04:51,630 --> 00:04:56,590
During a visit to Goddard Space Flight Center,
the pair met with Center Director Chris Scolese

61
00:04:56,590 --> 00:05:00,780
and Senate Appropriations Committee Chairwoman
Barbara Mikulski.

62
00:05:00,780 --> 00:05:05,660
They also delighted Goddard employees with
mission highlights and a question-and-answer

63
00:05:05,660 --> 00:05:06,660

session.

64
00:05:06,660 --> 00:05:08,340
“This is not just about us and our vacation.

65
00:05:08,340 --> 00:05:15,650
It’s about the future astronauts and space
explorers and the future of human kind exploring.

66
00:05:15,650 --> 00:05:21,060
And I think Goddard is a huge part of that
and so for that matter we’d just like to

67
00:05:21,060 --> 00:05:25,250
say thank you to you too for giving us that
opportunity and letting us share it with you.”

68
00:05:25,250 --> 00:05:29,990
The duo also visited the Goddard Child Development
Center, where they chatted with the youngsters

69
00:05:29,990 --> 00:05:32,590
about their jobs and the fun they’ve had
in space.

70
00:05:32,590 --> 00:05:34,100
“Alright, come on back.

71
00:05:34,100 --> 00:05:36,889
There’s more to show you.”

72
00:05:36,889 --> 00:05:42,139
The weeklong visit also included a Women in
Aerospace event on Capitol Hill celebrating

73
00:05:42,139 --> 00:05:43,880
Women’s History Month.

74
00:05:43,880 --> 00:05:46,440

Williams was the featured speaker at the gathering.

75
00:05:46,440 --> 00:05:51,410
Also speaking to members of Congress, WIA
Board Members, college students in area STEM

76
00:05:51,410 --> 00:05:56,950
programs and others in attendance was Deputy
Administrator Lori Garver.

77
00:05:56,950 --> 00:06:02,810
Williams and Hoshide capped off their visit
with a Google Plus Hangout at NASA Headquarters.

78
00:06:02,810 --> 00:06:08,919
“We’ve got this unique environment that
kids see as something they’d like to do

79
00:06:08,919 --> 00:06:09,919
when they grow up.”

80
00:06:09,919 --> 00:06:15,080
Also at Headquarters, space station Program
Scientist Julie Robinson was among the featured

81
00:06:15,080 --> 00:06:19,930
speakers at an all-day workshop at which members
of the NASA family learned more about the

82
00:06:19,930 --> 00:06:26,039
ISS, how it enables exploration and improves
life on Earth and how to share that knowledge

83
00:06:26,039 --> 00:06:27,270
with others.

84
00:06:27,270 --> 00:06:33,990
Like it has previously at NASA centers, “ISS
Research 101” highlighted significant accomplishments

85
00:06:33,990 --> 00:06:38,360
of the orbiting laboratory and the benefits
of research and technology development underway

86
00:06:38,360 --> 00:06:42,130
on the ISS.

87
00:06:42,130 --> 00:06:46,940
The Planck space mission has released the
most accurate and detailed map ever made of

88
00:06:46,940 --> 00:06:52,729
the oldest light in the universe, revealing
new information about its age, contents and

89
00:06:52,729 --> 00:06:54,020
origins.

90
00:06:54,020 --> 00:06:59,690
The results suggest the universe is expanding
more slowly than scientists thought, and is

91
00:06:59,690 --> 00:07:04,520
13.8 billion years old, 100 million years
older than previous estimates.

92
00:07:04,520 --> 00:07:10,250
The data also show there is less dark energy
and more matter, both normal and dark matter,

93
00:07:10,250 --> 00:07:12,569
in the universe than previously known.

94
00:07:12,569 --> 00:07:16,660
Dark matter is an invisible substance that
only can be seen through the effects of its

95
00:07:16,660 --> 00:07:20,199
gravity, while dark energy is pushing our

universe apart.

96
00:07:20,199 --> 00:07:22,889
The nature of both remains a mystery.

97
00:07:22,889 --> 00:07:30,919
Planck is a European Space Agency mission
with significant participation by NASA.

98
00:07:30,919 --> 00:07:35,849
Another first: remember that new Landsat satellite
launched last month?

99
00:07:35,849 --> 00:07:38,889
Here is the first pair of images it's taken.

100
00:07:38,889 --> 00:07:44,120
The natural-color images show the intersection
of the United States Great Plains and the

101
00:07:44,120 --> 00:07:48,110
Front Range of the Rocky Mountains in Wyoming
and Colorado.

102
00:07:48,110 --> 00:07:52,449
Green coniferous forests in the mountains
stretch down to the brown plains with Denver

103
00:07:52,449 --> 00:07:55,361
and other cities strung south to north.

104
00:07:55,361 --> 00:08:02,009
The Landsat Data Continuity Mission, or LDCM
spacecraft acquired the images on March 18

105
00:08:02,009 --> 00:08:08,620
using two sensors collecting data simultaneously
over the same ground path.

106

00:08:08,620 --> 00:08:14,180
“Success Through Interdependence” was
the theme of this year’s Robert H. Goddard

107
00:08:14,180 --> 00:08:17,009
Memorial Symposium held in Greenbelt, Maryland.

108
00:08:17,009 --> 00:08:22,520
The annual event brings together leaders in
government, industry and academia to discuss

109
00:08:22,520 --> 00:08:26,500
the space program in general and NASA’s
strategic plan.

110
00:08:26,500 --> 00:08:30,699
One of this year’s keynote speakers was
NASA Administrator Charlie Bolden.

111
00:08:30,699 --> 00:08:32,570
“We’re heading in the right direction.

112
00:08:32,570 --> 00:08:35,160
We have destinations.

113
00:08:35,160 --> 00:08:40,220
You know I can’t tell you which asteroid,
but there is going to be an asteroid in 2025.

114
00:08:40,220 --> 00:08:41,640
I can tell you Mars.

115
00:08:41,640 --> 00:08:48,590
I can’t tell you what landing site when
we finally fly a crew-ed mission to the surface.

116
00:08:48,590 --> 00:08:50,220
But I can tell you Mars.”

117

00:08:50,220 --> 00:08:56,040
Goddard Center Director Chris Scolese served
as the Symposium's Honorary Chairperson.

118
00:08:56,040 --> 00:09:01,380
This was the Fifty-First annual Goddard Memorial
Symposium, held in honor of Dr. Robert H.

119
00:09:01,380 --> 00:09:06,600
Goddard, the father of modern rocketry.

120
00:09:06,600 --> 00:09:12,450
This year's lineup at the South by Southwest
festival in Austin, Texas had an entry never

121
00:09:12,450 --> 00:09:18,900
before seen here; the full scale model of
the next great observatory, the James Webb

122
00:09:24,070 --> 00:09:20,340
Space Telescope.

123
00:09:24,070 --> 00:09:28,890
Some of the major components will go down
to Johnson Space Center to be tested in the

124
00:09:28,890 --> 00:09:30,130
huge Chamber A facility."

125
00:09:30,130 --> 00:09:34,310
"And the whole idea that we can learn about
our own history from the beginning of time

126
00:09:34,310 --> 00:09:35,820
until now.

127
00:09:35,820 --> 00:09:39,010
People are thrilled that we can do this and
they're thrilled that we are doing this."

128
00:09:39,010 --> 00:09:42,440
The tennis-court sized spacecraft didn’t
come alone.

129
00:09:42,440 --> 00:09:47,720
NASA with its partners including Northrop
Grumman set up a tent that hosted a number

130
00:09:47,720 --> 00:09:51,360
of activities designed to educate and enlighten.

131
00:09:51,360 --> 00:09:55,470
“It’s a great way to show the kids what
they can be when they grow up.”

132
00:09:55,470 --> 00:09:58,780
“Welcome to our South by Southwest NASA
Social”

133
00:09:58,780 --> 00:10:01,400
“All different kind of walks of life…

134
00:10:01,400 --> 00:10:05,500
all gathering based on science and NASA.

135
00:10:05,500 --> 00:10:06,630
It’s genius!”

136
00:10:06,630 --> 00:10:11,310
“Actually being able to talk with the person
is really a way to connect and actually feel

137
00:10:11,310 --> 00:10:15,500
like it’s real like they’re a part of
it.”

138
00:10:15,500 --> 00:10:20,350
What else some attendees could be a part of
… the finale to NASA’s 3-day exhibit.

139
00:10:20,350 --> 00:10:25,720
“We decided that one way to reach out to
kids and the community and really bring them

140
00:10:25,720 --> 00:10:30,760
into this event and teach them about astronomy
and science would be to attempt to break a

141
00:10:30,760 --> 00:10:35,410
Guinness World Record for the largest outdoor
astronomy lesson.”

142
00:10:35,410 --> 00:10:42,700
With 526 people staying for the 30 minute
astronomy class, the record was broken.

143
00:10:42,700 --> 00:10:47,830
Not only were they a part of history, they
also learned about light and color…

144
00:10:47,830 --> 00:10:58,770
giving them a window into how astronomers
will use Webb to explore the universe.

145
00:10:58,770 --> 00:11:08,790
My name is Barbara Janoiko and I'm a project
manager for NASA's analog missions.

146
00:11:08,790 --> 00:11:12,810
An analog is an environment that is similar
to space flight.

147
00:11:12,810 --> 00:11:17,040
It has similar characteristics whether it
be environment or terrain.

148
00:11:17,040 --> 00:11:22,890
We conduct these missions in the field or
simulations here onsite at NASA to simulate

149
00:11:22,890 --> 00:11:26,030
operations for exploration missions.

150
00:11:26,030 --> 00:11:31,450
No matter what the destination is that NASA
goes to explore, we can use the analog missions

151
00:11:31,450 --> 00:11:32,450
to get there.

152
00:11:32,450 --> 00:11:36,250
We test out the operations concepts and hardware
that would go to space.

153
00:11:36,250 --> 00:11:42,710
We learn our lessons early in the design before
the hardware gets too far along in its development

154
00:11:42,710 --> 00:11:45,270
and so we save costs later on.

155
00:11:45,270 --> 00:11:51,700
The past 2 years, we have done an asteroid
mission study which included both undersea

156
00:11:51,700 --> 00:11:54,420
missions as well as simulations here onsite.

157
00:11:54,420 --> 00:12:00,290
I started off a cooperative education student
and got a lot of different experiences both

158
00:12:00,290 --> 00:12:02,760
in mission operations as well as engineering.

159
00:12:02,760 --> 00:12:08,820
And started off my career with NASA in a spacesuit
in extravehicular activity tools group.

160
00:12:08,820 --> 00:12:11,320
My job is really exciting.

161
00:12:11,320 --> 00:12:16,490
The team included the astronauts and all of
the engineers are great.

162
00:12:16,490 --> 00:12:17,910
Everybody comes from a different discipline.

163
00:12:17,910 --> 00:12:24,360
We have folks with operations experience and
engineering experience and we all work together

164
00:12:24,360 --> 00:12:28,630
to train the astronauts to conduct realistic
missions.

165
00:12:28,630 --> 00:12:32,110
My advice would be to do what you love.

166
00:12:32,110 --> 00:12:37,300
Study what you enjoy and if you love your
job, then it's not a job.

167
00:12:37,300 --> 00:12:42,550
You enjoy going there every day and it's not
a chore.

168
00:12:42,550 --> 00:12:47,130
So just have fun.

169
00:12:47,130 --> 00:12:51,610
Stennis Space Center hosted a daylong Women’s
History Month event for high school girls

170
00:12:51,610 --> 00:12:57,940
in Mississippi and Louisiana to foster a discussion

about pursuing educational opportunities in

171
00:12:57,940 --> 00:13:00,550
science, technology, engineering and mathematics.

172
00:13:00,550 --> 00:13:06,360
The GEMS event – Girls Excited About Math
and Science – included activities such as

173
00:13:06,360 --> 00:13:13,050
speed mentoring, a cryogenics demonstration,
a dress for success fashion show, and a college

174
00:13:13,050 --> 00:13:15,970
and career expo.

175
00:13:15,970 --> 00:13:27,000
More than 60 teams of American and international
high school students took part in the Orlando

176
00:13:27,000 --> 00:13:33,140
Regional FIRST Robotics Competition to see
who could best design, build and operate a

177
00:13:33,140 --> 00:13:37,950
robot capable of accurately throwing a Frisbee
and climbing a pyramid.

178
00:13:37,950 --> 00:13:42,190
Held at the University of Central Florida
Arena, the privately funded event included

179
00:13:42,190 --> 00:13:45,280
several teams that used NASA help to develop
their machines.

180
00:13:45,280 --> 00:13:49,830
“This is what NASA does, if you look at
where we're going as we explore into the future,

181
00:13:49,830 --> 00:13:51,360
what do we do first?

182
00:13:51,360 --> 00:13:53,030
We send robots as precursors.

183
00:13:53,030 --> 00:13:58,680
Many of the same skills you use in developing
your robots are the same skills that go into

184
00:13:58,680 --> 00:14:04,290
the Mars Science Lab Curiosity, they're just
a little more refined than what we're using

185
00:14:04,290 --> 00:14:06,200
on the floor today."

186
00:14:06,200 --> 00:14:11,010
Among the teams mentored by Kennedy Space
Center employees were the Horsepower and Bionic

187
00:14:11,010 --> 00:14:17,140
Tigers squads, both of whom used NASA expertise
to rebuild their robots overnight after their

188
00:14:17,140 --> 00:14:19,910
transport carriers were involved in a traffic
accident.

189
00:14:19,910 --> 00:14:24,430
The Kennedy-assisted Pink Team finished second.

190
00:14:24,430 --> 00:14:29,140
The competition continues in St. Louis, where
the regional finishers will compete for the

191
00:14:29,140 --> 00:14:33,550
national title next month.

192
00:14:33,550 --> 00:14:36,600
NASA celebrates two anniversaries this week.

193
00:14:36,600 --> 00:14:43,940
48 years ago, on March 23, 1965, the first
manned Gemini mission was launched from Cape

194
00:14:43,940 --> 00:14:46,200
Canaveral’s Complex 19.

195
00:14:46,200 --> 00:14:52,950
Piloted by astronauts Virgil "Gus" Grissom
and John Young, the three-orbit Gemini 3 mission

196
00:14:52,950 --> 00:14:58,380
tested spacecraft and launch vehicle systems
for future long-duration flights; how the

197
00:14:58,380 --> 00:15:03,810
capsule could be maneuvered in orbit, then
controlled for reentry and landing.

198
00:15:03,810 --> 00:15:10,770
The Gemini program helped set the stage for
NASA’s moon landings.

199
00:15:10,770 --> 00:15:17,640
And 21 years ago, on March 24, 1992, space
shuttle Atlantis launched from the Kennedy

200
00:15:17,640 --> 00:15:19,670
Space Center on STS-45.

201
00:15:19,670 --> 00:15:26,860
The nine-day mission brought to orbit a variety
of instruments for conducting scientific research,

202
00:15:26,860 --> 00:15:34,210
including atmospheric chemistry, solar radiation,

space plasma physics and ultraviolet astronomy.

203
00:15:34,210 --> 00:15:39,570
The seven-member crew was commanded by none other than future NASA Administrator, Charlie

204
00:15:39,570 --> 00:15:40,570
Bolden.

205
00:15:40,570 --> 00:15:43,070
And that’s This Week @NASA.