
NASA
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1
00:00:03,710 --> 00:00:01,819
this is Mission Control Houston welcome

2
00:00:06,740 --> 00:00:03,720
to today's ISS update it is Monday

3
00:00:08,120 --> 00:00:06,750
October 15 2012 this is a live view

4
00:00:10,600 --> 00:00:08,130
inside the space station flight control

5
00:00:13,310 --> 00:00:10,610
room here at the Johnson Space Center

6
00:00:14,690 --> 00:00:13,320
right now clay Anderson the Capcom is

7
00:00:15,890 --> 00:00:14,700
talking with the crew up onboard the

8
00:00:17,269 --> 00:00:15,900
station and giving them some

9
00:00:19,070 --> 00:00:17,279
instructions about some repair work

10
00:00:20,960 --> 00:00:19,080
they're going to be doing standing

11
00:00:25,730 --> 00:00:20,970
beside him is Bob Dempsey the flight

12
00:00:26,960 --> 00:00:25,740
director the crew is very busy today

13
00:00:28,849 --> 00:00:26,970

working on a variety of different

14
00:00:31,880 --> 00:00:28,859
experiments unloading some cargo from

15
00:00:33,920 --> 00:00:31,890
the SpaceX Dragon spacecraft yuri

16
00:00:36,770 --> 00:00:33,930
malenchenko is working on what's called

17
00:00:38,360 --> 00:00:36,780
the relaxation experiment this is not

18
00:00:40,400 --> 00:00:38,370
what it sounds like this is actually an

19
00:00:42,770 --> 00:00:40,410
experiment that observes the earth below

20
00:00:44,060 --> 00:00:42,780
and takes a look at chemical reactions

21
00:00:47,060 --> 00:00:44,070
in the upper reaches of the atmosphere

22
00:00:48,740 --> 00:00:47,070
he is also getting ready to do some leak

23
00:00:52,100 --> 00:00:48,750
checks on some of the valves and the

24
00:00:54,380 --> 00:00:52,110
Russian segment Sonny Williams who is

25
00:00:55,970 --> 00:00:54,390
the current commander of expedition 33

26
00:00:57,439 --> 00:00:55,980
is working on some air quality

27
00:00:59,330 --> 00:00:57,449
monitoring they do this from time to

28
00:01:01,279 --> 00:00:59,340
time just to make sure that the air

29
00:01:04,280 --> 00:01:01,289
aboard the station is acceptable they

30
00:01:06,530 --> 00:01:04,290
also simple the surfaces there from time

31
00:01:08,240 --> 00:01:06,540
to time she's going to be working on

32
00:01:10,940 --> 00:01:08,250
replacing the water processor assembly

33
00:01:13,039 --> 00:01:10,950
pump which is what the crew is talking

34
00:01:15,230 --> 00:01:13,049
with now with the ground controllers

35
00:01:17,359 --> 00:01:15,240
she's also configuring some software on

36
00:01:18,920 --> 00:01:17,369
the Express laptop computers this is one

37
00:01:20,960 --> 00:01:18,930
of the laptops on board that helps

38
00:01:24,679 --> 00:01:20,970

maintain and run all the different

39
00:01:26,270 --> 00:01:24,689
experiment racks inside she's going to

40
00:01:28,609 --> 00:01:26,280
be transferring some samples from the

41
00:01:30,830 --> 00:01:28,619
Melfi one this is one of the minus 80

42
00:01:33,200 --> 00:01:30,840
laboratory freezers that is onboard that

43
00:01:35,359 --> 00:01:33,210
keeps samples at extremely cold

44
00:01:37,760 --> 00:01:35,369
temperatures to what's called the

45
00:01:41,450 --> 00:01:37,770
glacier which is another basically just

46
00:01:42,770 --> 00:01:41,460
a freezer for different samples she's

47
00:01:45,230 --> 00:01:42,780
also going to be working with us know

48
00:01:47,060 --> 00:01:45,240
what is called the micro six experiment

49
00:01:49,370 --> 00:01:47,070
this is something that was flown up on

50
00:01:51,830 --> 00:01:49,380
board the SpaceX Dragon it's one of the

51
00:01:54,830 --> 00:01:51,840
newest experiments onboard it takes a

52
00:01:56,830 --> 00:01:54,840
look at a certain kind of yeast that is

53
00:01:59,330 --> 00:01:56,840
present in pretty much everybody's body

54
00:02:01,219 --> 00:01:59,340
this yeast that's called Candida

55
00:02:04,190 --> 00:02:01,229
albicans Hill helps us maintain a

56
00:02:06,499 --> 00:02:04,200
healthy personal ecosystem inside

57
00:02:09,499 --> 00:02:06,509
ourselves but when our immune systems

58
00:02:10,699 --> 00:02:09,509
get stressed this yeast can start sort

59
00:02:12,589 --> 00:02:10,709
of growing out of control and cause

60
00:02:13,550 --> 00:02:12,599
infections so they're going to be taking

61
00:02:16,220 --> 00:02:13,560
a look at how

62
00:02:18,350 --> 00:02:16,230
these East grow in space compared with

63
00:02:20,059 --> 00:02:18,360

how they grow here on earth the hope is

64
00:02:22,910 --> 00:02:20,069
that scientists on the ground can learn

65
00:02:24,979 --> 00:02:22,920
how to combat infections because as we

66
00:02:28,160 --> 00:02:24,989
look to go further into space spend more

67
00:02:29,390 --> 00:02:28,170
time both in low-earth orbit and also as

68
00:02:31,610 --> 00:02:29,400
we look toward going to an asteroid

69
00:02:32,809 --> 00:02:31,620
maybe Mars one of these days controlling

70
00:02:34,400 --> 00:02:32,819
infections is going to be really

71
00:02:36,110 --> 00:02:34,410
important so they're going to take a

72
00:02:39,140 --> 00:02:36,120
look at how this yeast behaves in space

73
00:02:42,770 --> 00:02:39,150
and how they can combat infections using

74
00:02:46,670 --> 00:02:42,780
this yeast as an example in addition to

75
00:02:48,800 --> 00:02:46,680
the micro six okay aki hoshide a another

76
00:02:50,960 --> 00:02:48,810
member of expedition 33 is working on

77
00:02:53,090 --> 00:02:50,970
some medical experiments including one

78
00:02:54,800 --> 00:02:53,100
that takes a look at energy levels up

79
00:02:56,890 --> 00:02:54,810
onboard the station what they do is

80
00:02:58,729 --> 00:02:56,900
examine what the astronauts eat

81
00:03:00,770 --> 00:02:58,739
basically taking a look at what they

82
00:03:04,009 --> 00:03:00,780
ingest on their bodies and they record

83
00:03:06,050 --> 00:03:04,019
in very detailed form exactly how they

84
00:03:08,150 --> 00:03:06,060
expend that energies of basically taking

85
00:03:10,009 --> 00:03:08,160
a look at the mathematical equation of

86
00:03:12,380 --> 00:03:10,019
how much energy goes in and how much

87
00:03:14,870 --> 00:03:12,390
energy two astronauts expand the goal of

88
00:03:16,910 --> 00:03:14,880

this experiment is to determine exactly

89
00:03:18,920 --> 00:03:16,920
what the food requirements are for the

90
00:03:21,229 --> 00:03:18,930
astronauts up on board the space station

91
00:03:24,590 --> 00:03:21,239
while they live up there for about six

92
00:03:26,240 --> 00:03:24,600
months he is also relocating another

93
00:03:29,420 --> 00:03:26,250
piece of equipment from another

94
00:03:30,920 --> 00:03:29,430
experiment called elite s2 this is an

95
00:03:33,500 --> 00:03:30,930
experiment that takes a look at posture

96
00:03:35,059 --> 00:03:33,510
and body motion and the astronauts put

97
00:03:36,559 --> 00:03:35,069
on different kinds of markers almost

98
00:03:38,660 --> 00:03:36,569
like how they do the movies these days

99
00:03:40,940 --> 00:03:38,670
in Hollywood and it determines exactly

100
00:03:44,270 --> 00:03:40,950
what their body position is and records

101
00:03:45,650 --> 00:03:44,280
that through a series of cameras hosted

102
00:03:48,050 --> 00:03:45,660
a is also going to be recharging some of

103
00:03:49,849 --> 00:03:48,060
the batteries in the spacesuits inside

104
00:03:52,400 --> 00:03:49,859
the quest airlock he's also going to be

105
00:03:55,220 --> 00:03:52,410
helping Williams transfer those samples

106
00:03:58,520 --> 00:03:55,230
we talked about from the Melfi to one of

107
00:04:00,379 --> 00:03:58,530
the glaciers on board he is also going

108
00:04:02,930 --> 00:04:00,389
to be transferring the glacier that flew

109
00:04:04,430 --> 00:04:02,940
up on board dragon this is an actual big

110
00:04:06,800 --> 00:04:04,440
box that we've talked about before

111
00:04:09,229 --> 00:04:06,810
during our dragon coverage that will

112
00:04:10,640 --> 00:04:09,239
eventually be returned to dragon full of

113
00:04:12,890 --> 00:04:10,650

samples that have been onboard the

114
00:04:14,990 --> 00:04:12,900
station and the samples will finally

115
00:04:17,000 --> 00:04:15,000
come home after waiting for Dragon to

116
00:04:18,949 --> 00:04:17,010
arrive that is one of the biggest

117
00:04:21,560 --> 00:04:18,959
benefits that the SpaceX Dragon vehicle

118
00:04:23,420 --> 00:04:21,570
gives us is the ability to actually

119
00:04:24,690 --> 00:04:23,430
return science from the International

120
00:04:28,410 --> 00:04:24,700
Space Station and bring it

121
00:04:30,270 --> 00:04:28,420
for further research here on earth and

122
00:04:32,670 --> 00:04:30,280
finally aki hosted a is going to be

123
00:04:34,770 --> 00:04:32,680
taking a look at another experiment that

124
00:04:36,510 --> 00:04:34,780
came up on board the dragon vehicle is

125
00:04:39,390 --> 00:04:36,520
called the resist tube you'll experiment

126
00:04:40,830 --> 00:04:39,400
this is a plant experiment that takes a

127
00:04:44,060 --> 00:04:40,840
look at how different types of plants

128
00:04:46,920 --> 00:04:44,070
grow up in space and the lack of gravity

129
00:04:49,290 --> 00:04:46,930
fifty percent of the energy that plants

130
00:04:51,060 --> 00:04:49,300
require goes into just maintaining their

131
00:04:53,130 --> 00:04:51,070
structure and just overcoming the battle

132
00:04:55,680 --> 00:04:53,140
with gravity but of course up in space

133
00:04:58,050 --> 00:04:55,690
that is not a worry and not an issue

134
00:04:59,910 --> 00:04:58,060
those plants that do not have to react

135
00:05:02,430 --> 00:04:59,920
to gravity so they're going to take a

136
00:05:04,860 --> 00:05:02,440
look at the actual cell structure of

137
00:05:06,990 --> 00:05:04,870
these plants as they grow without the

138
00:05:10,410 --> 00:05:07,000

influence of gravity how they use that

139
00:05:12,360 --> 00:05:10,420
energy and it will impact genetically

140
00:05:14,670 --> 00:05:12,370
modified plants and other things like

141
00:05:16,140 --> 00:05:14,680
that here on earth in the future of

142
00:05:17,700 --> 00:05:16,150
course if you would like to take a look

143
00:05:19,830 --> 00:05:17,710
at any of these experiments and read

144
00:05:21,810 --> 00:05:19,840
more about them see some pictures of the

145
00:05:23,940 --> 00:05:21,820
astronauts and the crew members working

146
00:05:29,040 --> 00:05:23,950
with these experiments just log on to

147
00:05:34,170 --> 00:05:29,050
the NASA website at WWDC gov / station