
Payload Operations Integration Center
NASA Marshall Space Flight Center
Huntsville, Alabama
GMT 279:19:14:32
CDT 279:14:14:32
PAYLOAD OPS DIRECTOR
GMT 279:19:14:32
CDT 279:14:14:33
GMT 279:19:14:32
CDT 279:14:14:32
CAROL
NASA
SPACESTATION
LIVE

1
00:00:08,470 --> 00:00:06,710
while we focus on the midpoint of the

2
00:00:10,310 --> 00:00:08,480
one-year mission it's worth noting that

3
00:00:12,709 --> 00:00:10,320
months even years of planning have gone

4
00:00:14,470 --> 00:00:12,719
into it as far as research activities go

5
00:00:15,749 --> 00:00:14,480
lori meigs at nasa's marshall space

6
00:00:17,670 --> 00:00:15,759
flight center caught up with some of the

7
00:00:19,590 --> 00:00:17,680
managers for the payloads on board to

8
00:00:21,510 --> 00:00:19,600
find out how ground teams have and

9
00:00:24,950 --> 00:00:21,520
continue to get the most research to

10
00:00:28,070 --> 00:00:26,150
here at the payload operations

11
00:00:30,470 --> 00:00:28,080
integration center we like to say we

12
00:00:31,830 --> 00:00:30,480
make science happen and to do that we

13
00:00:33,990 --> 00:00:31,840

have to make sure that the science is

14
00:00:35,990 --> 00:00:34,000
done on the correct days it's done

15
00:00:38,150 --> 00:00:36,000
properly and it's stowed so that we can

16
00:00:40,069 --> 00:00:38,160
get all that data back to earth and

17
00:00:41,750 --> 00:00:40,079
that's not easy but that's the job here

18
00:00:42,790 --> 00:00:41,760
for the ground team members and flight

19
00:00:44,069 --> 00:00:42,800
controllers here in the payload

20
00:00:45,990 --> 00:00:44,079
operations integration center today

21
00:00:47,270 --> 00:00:46,000
we're going to talk about the one-year

22
00:00:48,709 --> 00:00:47,280
crew it's a little bit different more

23
00:00:50,709 --> 00:00:48,719
than six months this time so we want to

24
00:00:53,029 --> 00:00:50,719
talk first to becky grimaldi she is a

25
00:00:55,430 --> 00:00:53,039
payload operations manager for this

26
00:00:57,750 --> 00:00:55,440
expedition and becky you've worked

27
00:00:59,910 --> 00:00:57,760
tirelessly i'm sure over the past

28
00:01:01,349 --> 00:00:59,920
six months tell us some of the

29
00:01:03,990 --> 00:01:01,359
highlights of the last six months of the

30
00:01:05,030 --> 00:01:04,000
one year crew for science

31
00:01:06,950 --> 00:01:05,040
we've had

32
00:01:08,950 --> 00:01:06,960
several big things that we did one of

33
00:01:10,310 --> 00:01:08,960
the biggest ones we did the first

34
00:01:12,710 --> 00:01:10,320
session of the fluid shifts

35
00:01:14,789 --> 00:01:12,720
investigation which involves several

36
00:01:17,270 --> 00:01:14,799
sessions that they are studying both one

37
00:01:19,590 --> 00:01:17,280
year crew members both misha and scott

38
00:01:21,429 --> 00:01:19,600

and uh the final session is done

39
00:01:23,270 --> 00:01:21,439
actually in the russian segment using

40
00:01:25,670 --> 00:01:23,280
the chibis hardware which is a lower

41
00:01:27,030 --> 00:01:25,680
body negative pressure device that the

42
00:01:30,789 --> 00:01:27,040
crew gets in it's like a big pair of

43
00:01:33,109 --> 00:01:30,799
pants and um they scan them with a lot

44
00:01:34,550 --> 00:01:33,119
of the equipment that they use with that

45
00:01:36,710 --> 00:01:34,560
when they're outside the of that

46
00:01:38,630 --> 00:01:36,720
equipment to see the changes when they

47
00:01:41,109 --> 00:01:38,640
when they put that lower body negative

48
00:01:42,789 --> 00:01:41,119
pressure on the on the subject so they

49
00:01:45,270 --> 00:01:42,799
take an ultrasound and they scan

50
00:01:46,630 --> 00:01:45,280
ultrasound they take an uh a lot of

51
00:01:48,069 --> 00:01:46,640
equipment that you might have when

52
00:01:49,510 --> 00:01:48,079
you're getting your vision tested

53
00:01:52,069 --> 00:01:49,520
because part of the fluid shifts

54
00:01:54,870 --> 00:01:52,079
investigation is to study changes

55
00:01:57,270 --> 00:01:54,880
in vision because they believe that some

56
00:01:59,590 --> 00:01:57,280
of the the pressure in your body is

57
00:02:01,510 --> 00:01:59,600
changing the the crewman's eyes so it's

58
00:02:02,950 --> 00:02:01,520
pretty much studying the changes in that

59
00:02:04,550 --> 00:02:02,960
the fluid pressure of the eye so they

60
00:02:06,789 --> 00:02:04,560
use several pieces of equipment

61
00:02:09,669 --> 00:02:06,799
including the ultrasound to study the

62
00:02:11,510 --> 00:02:09,679
changes of that pressure to see uh to

63
00:02:13,589 --> 00:02:11,520

try to understand why some of the crew

64
00:02:15,589 --> 00:02:13,599
experienced changes in their vision that

65
00:02:16,790 --> 00:02:15,599
is a great one any others that stand out

66
00:02:20,229 --> 00:02:16,800
to you

67
00:02:22,390 --> 00:02:20,239
we started the um the one year mission

68
00:02:24,550 --> 00:02:22,400
investigation of the twin study which is

69
00:02:26,309 --> 00:02:24,560
specifically obviously just for scott

70
00:02:28,550 --> 00:02:26,319
and his brother mark are both

71
00:02:31,430 --> 00:02:28,560
participating and it's a very unique

72
00:02:32,550 --> 00:02:31,440
opportunity to to study twins

73
00:02:33,990 --> 00:02:32,560
and

74
00:02:36,150 --> 00:02:34,000
a lot of the dna

75
00:02:37,990 --> 00:02:36,160
type studies that they can do on twins

76
00:02:39,670 --> 00:02:38,000
and how how the twin on the ground is

77
00:02:41,270 --> 00:02:39,680
doing the same investigations as scott's

78
00:02:43,430 --> 00:02:41,280
doing on orbit and then they can compare

79
00:02:46,229 --> 00:02:43,440
and really learn a lot about the dna and

80
00:02:47,110 --> 00:02:46,239
how the twin part of that science is is

81
00:02:49,350 --> 00:02:47,120
linked

82
00:02:53,190 --> 00:02:49,360
together to the dna now how does your

83
00:02:55,430 --> 00:02:53,200
team here really assist with all of this

84
00:02:56,869 --> 00:02:55,440
we started about a year ago from almost

85
00:02:58,949 --> 00:02:56,879
right now six months before the

86
00:03:00,949 --> 00:02:58,959
increment even started getting all the

87
00:03:02,309 --> 00:03:00,959
products and everything ready training

88
00:03:04,229 --> 00:03:02,319

the crew

89
00:03:05,830 --> 00:03:04,239
we have to review to make sure what the

90
00:03:07,750 --> 00:03:05,840
ops that we're going to do and when we

91
00:03:09,190 --> 00:03:07,760
have to develop training products for

92
00:03:11,030 --> 00:03:09,200
the crew we have to develop training

93
00:03:13,589 --> 00:03:11,040
products for ourselves we have to

94
00:03:15,509 --> 00:03:13,599
develop the crew procedures um how we're

95
00:03:17,270 --> 00:03:15,519
going to plan how much crew time the

96
00:03:18,869 --> 00:03:17,280
activities actually take we have to

97
00:03:20,710 --> 00:03:18,879
develop all those products we started

98
00:03:22,710 --> 00:03:20,720
that about a year ago

99
00:03:25,030 --> 00:03:22,720
and then six months ago we started the

100
00:03:26,789 --> 00:03:25,040
actual increment when the crew got there

101
00:03:28,789 --> 00:03:26,799
and we're continuing to update those

102
00:03:30,789 --> 00:03:28,799
products and update everything that they

103
00:03:31,910 --> 00:03:30,799
need train the crew make sure that they

104
00:03:33,509 --> 00:03:31,920
have everything that they need to

105
00:03:35,589 --> 00:03:33,519
actually do the operations throughout

106
00:03:37,509 --> 00:03:35,599
the past six months that we've been here

107
00:03:39,670 --> 00:03:37,519
and so let's shift gears and talk about

108
00:03:41,910 --> 00:03:39,680
the next six months now stephanie dudley

109
00:03:43,910 --> 00:03:41,920
joins me and she is a payload operations

110
00:03:45,750 --> 00:03:43,920
manager as well and stephanie first of

111
00:03:48,630 --> 00:03:45,760
all before we start that tell me what a

112
00:03:51,670 --> 00:03:48,640
payload operations manager does

113
00:03:54,149 --> 00:03:51,680

so the payload ops manager is managing

114
00:03:56,229 --> 00:03:54,159
obviously the global priorities for the

115
00:03:57,910 --> 00:03:56,239
six-month increment so the pod on

116
00:03:59,910 --> 00:03:57,920
console that you see here is in charge

117
00:04:01,750 --> 00:03:59,920
of the shift the ops that are happening

118
00:04:03,750 --> 00:04:01,760
right now and

119
00:04:04,789 --> 00:04:03,760
the palm payload ops manager is kind of

120
00:04:07,030 --> 00:04:04,799
managing

121
00:04:10,070 --> 00:04:07,040
in in the six months what do we need to

122
00:04:12,550 --> 00:04:10,080
accomplish so assisting with that global

123
00:04:14,390 --> 00:04:12,560
knowledge of what needs to get done when

124
00:04:16,069 --> 00:04:14,400
so the next six months uncharted

125
00:04:17,830 --> 00:04:16,079
territory we're getting into now all of

126
00:04:20,789 --> 00:04:17,840
this data that we're gonna start getting

127
00:04:23,270 --> 00:04:20,799
back is is for the first time yes uh

128
00:04:24,950 --> 00:04:23,280
it's it's new um this would be the first

129
00:04:26,950 --> 00:04:24,960
time obviously that we've got a one-year

130
00:04:29,990 --> 00:04:26,960
crew so starting now all of this is is

131
00:04:32,469 --> 00:04:30,000
new for nasa so we're going to have the

132
00:04:34,469 --> 00:04:32,479
first flu vaccine on orbit

133
00:04:36,070 --> 00:04:34,479
this is part of the twin study so

134
00:04:37,430 --> 00:04:36,080
scott's going to take it on board mark

135
00:04:39,670 --> 00:04:37,440
will take it on the ground and we have

136
00:04:41,990 --> 00:04:39,680
some investigations to see how

137
00:04:44,469 --> 00:04:42,000
their dna changes based on the vaccine

138
00:04:46,230 --> 00:04:44,479

on board so lots of

139
00:04:48,390 --> 00:04:46,240
good stuff that we're doing

140
00:04:50,310 --> 00:04:48,400
a lot of human health that will help in

141
00:04:52,710 --> 00:04:50,320
future deep space missions as well as

142
00:04:54,230 --> 00:04:52,720
for us here on earth yes exactly one of

143
00:04:57,350 --> 00:04:54,240
our major risks to long-term space

144
00:05:00,070 --> 00:04:57,360
flight is i changes what becky already

145
00:05:02,150 --> 00:05:00,080
mentioned our fluid shifts experiment is

146
00:05:03,189 --> 00:05:02,160
measuring those changes we also have for

147
00:05:05,189 --> 00:05:03,199
instance

148
00:05:07,110 --> 00:05:05,199
the veggie experiment we're harvesting

149
00:05:08,310 --> 00:05:07,120
plants in space so all the things that

150
00:05:11,909 --> 00:05:08,320
we're doing are looking toward that

151
00:05:14,230 --> 00:05:11,919
long-term goal but one year in space

152
00:05:16,390 --> 00:05:14,240
i know that scott probably trained for

153
00:05:18,390 --> 00:05:16,400
these experiments what probably two

154
00:05:20,550 --> 00:05:18,400
years ago or more or more

155
00:05:23,110 --> 00:05:20,560
how does he remember that how do you

156
00:05:24,790 --> 00:05:23,120
guys help him remember what to do right

157
00:05:26,310 --> 00:05:24,800
so that's part of our job is make sure

158
00:05:28,469 --> 00:05:26,320
that he has what he needs when he needs

159
00:05:30,710 --> 00:05:28,479
it so that includes for instance we send

160
00:05:32,070 --> 00:05:30,720
him videos short overviews of the

161
00:05:34,469 --> 00:05:32,080
activities that he's going to do each

162
00:05:36,390 --> 00:05:34,479
day just in time so

163
00:05:39,270 --> 00:05:36,400

give him a refresher just before he does

164
00:05:41,510 --> 00:05:39,280
the activity so that he he gets that

165
00:05:43,270 --> 00:05:41,520
refresher from what he got on the ground

166
00:05:44,710 --> 00:05:43,280
all right well that's exciting we can't

167
00:05:46,310 --> 00:05:44,720
wait for the next six months thank you

168
00:05:48,230 --> 00:05:46,320
both for joining us and sharing us

169
00:05:49,749 --> 00:05:48,240
sharing with us what you guys have done

170
00:05:51,350 --> 00:05:49,759
over the past six months and we look

171
00:05:52,870 --> 00:05:51,360
forward to the next six months of the

172
00:05:54,150 --> 00:05:52,880
one-year crew that will do it for us

173
00:05:55,990 --> 00:05:54,160
here from the payload operations