
JAXA

1
00:00:01,360 --> 00:00:03,539
Station this is Houston. Are you ready for the event?

2
00:00:06,399 --> 00:00:08,399
Yes, I'm ready for the event.

3
00:00:11,019 --> 00:00:14,699
KMA Radio, this is Mission control, Houston, please call station for a voice check

4
00:00:16,240 --> 00:00:20,070
Station this is Mike Peterson with KMA Radio. How do you hear me?

5
00:00:25,150 --> 00:00:27,900
Your first words were cut off, but I think I hear you

6
00:00:32,349 --> 00:00:37,409
Peggy thank you very much for doing this you with us and thanks to NASA as well.

7
00:00:37,809 --> 00:00:43,619
First of all, the last time we talked to you was back in November from Baikonur Cosmodrome,

8
00:00:43,809 --> 00:00:47,459
just before you are launched to the International Space Station.

9
00:00:48,430 --> 00:00:54,449
Talk about the decision to exchange the mission from a program were originally expected to come down

10
00:00:54,910 --> 00:00:57,239
through early September what went into that decision?

11
00:01:01,359 --> 00:01:07,379
Actually, it was just a coincident of incidents that happen here on board

12
00:01:08,770 --> 00:01:10,030
there

13
00:01:10,030 --> 00:01:13,290

Russians decided a we're only going to have a total of

14
00:01:14,110 --> 00:01:21,479
one crew member instead of the normal two that they would have on board two or three and so during that time

15
00:01:22,630 --> 00:01:26,339
we wanted to have a crew of three on board instead of just two crew

16
00:01:26,340 --> 00:01:31,860
so I agreed to stay on and come home with the next foot Soyuz the subsequent Soyuz.

17
00:01:32,439 --> 00:01:35,219
Which should have me coming home in early September then,

18
00:01:37,119 --> 00:01:43,559
By the time you return in September you log something like 600 days in space.

19
00:01:44,229 --> 00:01:49,648
In the time you've been aboard in this third stay have you noticed any changes in your health or your

20
00:01:49,990 --> 00:01:53,460
your body in the additional time that you've been aboard the space station?

21
00:01:57,670 --> 00:02:01,680
Actually, I don't think the changes are particularly noticeable while you're up here.

22
00:02:02,200 --> 00:02:05,040
I think it'll be like it always has been a

23
00:02:05,590 --> 00:02:08,580
much more so being a fair to to return to that

24
00:02:09,550 --> 00:02:11,550
1g life on the Planet Earth

25
00:02:12,160 --> 00:02:14,060
It takes me

26
00:02:14,060 --> 00:02:18,640
You know the first couple of days are difficult from a neurovestibular

27
00:02:19,370 --> 00:02:24,819
perspective and then after that it's even though, we're I maintain my muscle strength

28
00:02:24,819 --> 00:02:27,909
I think very well doing all the exercise that we do up here

29
00:02:28,790 --> 00:02:35,319
I find that the fast twitch muscles the things that require faster response times are

30
00:02:37,480 --> 00:02:44,940
slow to pick up and remember that you're back on Earth and and because up here things don't require a lot of

31
00:02:45,700 --> 00:02:49,860
speed or motion to get things moving and so those muscles

32
00:02:50,560 --> 00:02:52,620
forget how they're supposed to work, I think.

33
00:02:54,650 --> 00:03:01,150
The information that you're gleaning from the additional time in space as NASA plans for

34
00:03:01,610 --> 00:03:05,919
long rings missions to Mars perhaps back to the Moon.

35
00:03:06,019 --> 00:03:11,109
How is that going to be helpful in NASA's planning for the long range space missions in the future?

36
00:03:14,660 --> 00:03:21,880
Well, it's good for us to have additional people that are staying a little bit longer on board the space station to tr

37
00:03:21,880 --> 00:03:28,329
those slightly longer durations. Right now We've got a pretty good database of six months fliers

38
00:03:29,480 --> 00:03:32,410

onboard station and so it's the

39
00:03:32,930 --> 00:03:38,110
natural extension is important for us particularly if we go on trips to mars where?

40
00:03:38,450 --> 00:03:43,030
Those trips may last anywhere between six and nine months just to get there

41
00:03:43,300 --> 00:03:48,660
so we need to have a good understanding of how our bodies are going to respond when we get back to a

42
00:03:49,580 --> 00:03:54,760
gravity environment and an understanding of what happens over the course of that time period.

43
00:03:55,400 --> 00:04:01,000
So this is an additional data point for NASA

44
00:04:01,880 --> 00:04:09,070
and of course just the generic science that we're able to accomplish with more crewmembers on board here ha

45
00:04:11,090 --> 00:04:17,739
Speaking of the crew members you've had kind of a change in personnel in the months that you've been aboar

46
00:04:18,140 --> 00:04:23,169
Some of the Russian crew members and other international crew members have come and gone.

47
00:04:23,450 --> 00:04:27,219
What's it like to have to adjust to have new crew members

48
00:04:27,979 --> 00:04:29,979
come aboard the station

49
00:04:29,990 --> 00:04:32,530
during the last few months, so what goes into that?

50
00:04:35,539 --> 00:04:39,939
Well actually during Expedition 16 we were also changing out crew members

51
00:04:40,580 --> 00:04:44,680
via the shuttle so one of out of three of the crew members was changing.

52
00:04:45,289 --> 00:04:49,329
It was a kind of a dramatic change for me to go from the

53
00:04:49,880 --> 00:04:55,630
original crew that was with us for the first five months or so five and a half six months

54
00:04:56,270 --> 00:05:00,039
and to have two of those crew members leave.

55
00:05:00,440 --> 00:05:04,719
One Shane had left on on a previous Soyuz flight

56
00:05:04,720 --> 00:05:12,489
and so there was an adjustment there in April when he left and then when Thomas and Oleg glassed in June a

57
00:05:14,300 --> 00:05:16,300
there was some overlap there.

58
00:05:17,180 --> 00:05:23,139
When Jack Fisher arrived and so we had some adjustment time period there before

59
00:05:23,300 --> 00:05:25,419
You know this most recent change

60
00:05:25,940 --> 00:05:28,719
two weeks ago, or week and a half ago with

61
00:05:29,240 --> 00:05:33,820
the newest crew that arrived with Randy Bresnik Paolo Nespoli and

62
00:05:34,540 --> 00:05:39,760
Sergey Reznikov. So it's been a continually changing process and from

63
00:05:40,480 --> 00:05:41,900

from

64
00:05:41,900 --> 00:05:44,079
observation of being able to see those changes

65
00:05:44,080 --> 00:05:50,349
I think it's neat to see how one one personality can make a huge difference in

66
00:05:52,340 --> 00:05:57,340
just the interactions of the crew. It's it. It's I think very impressive

67
00:05:58,580 --> 00:06:05,320
Which I can with astronaut Peggy Whitson aboard the International Space Station this morning. Taking it back

68
00:06:05,320 --> 00:06:09,519
you did set the record for a king of a time for a u.s. Astronaut

69
00:06:10,190 --> 00:06:17,799
What's it like to be included now amongst the space legends that we've talked about you know Armstrong, Gle

70
00:06:18,080 --> 00:06:25,120
Gagarin, Sally Ride, what's it like to be included amongst all those people now. Is that the all-time record holde

71
00:06:25,190 --> 00:06:27,190
astronaut t in space?

72
00:06:29,680 --> 00:06:32,840
Well, I'm not sure I'd put myself in that same category

73
00:06:32,860 --> 00:06:39,160
But I do think that that having records breaking records all the time is is important for NASA it shows

74
00:06:39,580 --> 00:06:41,580
that we are still progressing

75
00:06:41,580 --> 00:06:49,550
We are still doing new things and continuing to expand on what we know about space and so I think it's very im

76
00:06:49,760 --> 00:06:51,760
for us to be breaking records

77
00:06:52,420 --> 00:06:56,700
important for all of NASA. So it you know it gives me pride to be a part of that.

78
00:06:58,020 --> 00:07:04,790
Also this time aboard you had set the record for the number of spacewalks by a female astronaut.

79
00:07:04,790 --> 00:07:08,119
I have you at 10 and if I'm shorting you let me know.

80
00:07:08,120 --> 00:07:13,440
But talk about the work that goes into preparing for a spacewalk.

81
00:07:14,550 --> 00:07:16,140
What how much work

82
00:07:16,140 --> 00:07:20,570
do you do either on the ground or we're up there to get ready for a spacewalk?

83
00:07:20,700 --> 00:07:28,800
And what are some of the challenging aspects of being in outer space and relying on your spacesuit to keep yo

84
00:07:32,420 --> 00:07:39,560
That's a really great question and there's a lot of preparation that's involved just the physical preparation being

85
00:07:39,560 --> 00:07:44,329
that's pressurized. That means that every time you move your hands out or in

86
00:07:45,000 --> 00:07:51,470
you know basically anytime you move your hands from relaxed position, it's going to take energy and

87
00:07:52,170 --> 00:07:56,779
strength and since we are quote walking on our arms

88
00:07:56,780 --> 00:08:01,730

we have to have a lot of arm strength forearm strength hand strength, is very important.

89
00:08:01,730 --> 00:08:06,799
And so we do exercises on the ground to prepare us for that obviously we continue those exercises

90
00:08:07,470 --> 00:08:15,230
up here in space because we want to be able to preserve that strength in order to do the spacewalk.

91
00:08:16,110 --> 00:08:22,520
The other preparation that you have to do is just the practice we practice in a Neutral Buoyancy Laboratory.

92
00:08:23,070 --> 00:08:27,290
Basically it's a really large swimming pool with piece parts of the International Space Station

93
00:08:27,720 --> 00:08:31,160
underneath the water. There mock-ups of the station,

94
00:08:31,160 --> 00:08:38,089
but they're full-sized mock-ups, and so we can't even get the whole station inside this pool because it's it's so la

95
00:08:38,520 --> 00:08:45,650
But we practice all the different scenarios that we might imagine doing up here and that kind of trains you

96
00:08:45,810 --> 00:08:48,080
generically to do any any

97
00:08:48,570 --> 00:08:54,870
task because we I've done tests up here before on spacewalk that were not planned and

98
00:08:55,390 --> 00:08:57,390
I had never practiced before.

99
00:08:57,670 --> 00:09:03,240
So it's a really good training program. I think because it gives you this great base

100
00:09:04,060 --> 00:09:09,390
from which they can build and provide training materials on orbit here for those specific

101
00:09:10,000 --> 00:09:13,290
situations that were not planned for and we had not

102
00:09:13,660 --> 00:09:18,240
specifically trained for. So I really think we've got a great training program for that.

103
00:09:18,970 --> 00:09:21,059
We also have like a virtual reality

104
00:09:21,820 --> 00:09:26,520
view so we can kind of flow, fly around on the computer and

105
00:09:27,100 --> 00:09:32,670
see where we'll be going and try and understand how we would translate to get to certain locations.

106
00:09:32,890 --> 00:09:36,210
You know where is the best place to, you know, put my

107
00:09:36,760 --> 00:09:41,939
body restraint tether and all that kind of thing so we can plan it out in advance.

108
00:09:43,510 --> 00:09:45,130
Peggy we've run out of time.

109
00:09:45,130 --> 00:09:48,900
Thank you very much for speaking to us for taking time out to do this.

110
00:09:49,150 --> 00:09:53,579
We wish you good luck and godspeed on your return to Earth, Earth next month

111
00:09:53,580 --> 00:09:56,910
and we hope to be talking to know you're back here on the ground

112
00:09:57,490 --> 00:10:00,479
after you get back. Thank you very much for being with us this morning.

113
00:10:03,340 --> 00:10:08,879

Well, thank you so much and good morning to all the local area and Shenandoah.

114
00:10:12,130 --> 00:10:19,710
Station this is Houston ACR. That concludes the KMA Radio portion of the event. Please stand by for a voice c

115
00:10:42,230 --> 00:10:44,769
I'm not copying. Do you how do you hear me?

116
00:10:59,029 --> 00:11:04,088
Space.com how do you hear me? I hear you loud and clear. How do you hear me? I?

117
00:11:06,500 --> 00:11:08,500
Have you loud and clear now as well.

118
00:11:09,589 --> 00:11:13,688
Great. Thank you so much, and thank you for speaking with u s today.

119
00:11:14,240 --> 00:11:19,719
I understand that this has been a very long and eventful trip for you to the International Space Station.

120
00:11:19,720 --> 00:11:24,189
So how long have you been there now, and what have been some of the highlights of your mission?

121
00:11:28,060 --> 00:11:31,120
I think I'm around 630 some days

122
00:11:32,440 --> 00:11:34,480
highlights have obviously been

123
00:11:35,020 --> 00:11:42,000
four different spacewalks, but I really enjoyed a lot of the different scientific research I've done this time.

124
00:11:42,769 --> 00:11:50,289
My background is in biochemistry and doing some of the studies on the cell cultures looking at cancer lung

125
00:11:50,509 --> 00:11:57,549
Cancerous lung cells and different drug treatments things as well as bone cells.

126
00:11:57,550 --> 00:12:01,689
So we're doing a really a lot of interesting research this time around.

127
00:12:01,689 --> 00:12:04,209
So I would have to say that's some of my highlights as well.

128
00:12:04,939 --> 00:12:09,699
But being in space every day is is a highlight. It's hard to pick just one.

129
00:12:12,470 --> 00:12:18,910
Great, and so speaking of science. I'm wondering if you plan to watch the total solar eclipse on august 21st

130
00:12:18,910 --> 00:12:24,129
And if you'll be doing any science with that or just kind of watching and taking pictures or what are your plans?

131
00:12:27,290 --> 00:12:33,099
We have plans to take pictures and watch during the eclipse our orbits won't be

132
00:12:33,860 --> 00:12:41,860
Terribly close. I think they said around 1,700 miles, but we're still hoping to be able to see it on three different c

133
00:12:42,670 --> 00:12:47,860
Around the Earth so it that will be interesting fun my first time to see an eclipse from up here

134
00:12:52,790 --> 00:12:56,170
And so you're coming home in September

135
00:12:56,170 --> 00:13:01,029
And I'm wondering what are you most looking forward to when you return to earth and are there?

136
00:13:01,030 --> 00:13:05,139
Maybe any foods that you're really looking forward to eating that you haven't been able to eat in space

137
00:13:08,540 --> 00:13:14,800
well, obviously I'm looking forward to seeing fans and friends and family and

138
00:13:16,220 --> 00:13:21,880

But I would have to say the thing I've been thinking about the most kind of been fantasising a little bit about

139
00:13:22,490 --> 00:13:24,490
different foods that I want to make and

140
00:13:25,970 --> 00:13:29,500
Vegetables that I want to sautee things that I've missed up here

141
00:13:32,150 --> 00:13:36,910
And so after you return home. Do you have any plans to maybe go on a vacation?

142
00:13:36,910 --> 00:13:42,160
Or are you going back to work? And if you do go back to work? What kind of work would that entail the

143
00:13:45,440 --> 00:13:49,989
First 45 days after we land from a long-duration spaceflight. We're doing

144
00:13:51,410 --> 00:13:55,660
Rehabilitation trying to get our body used to being on Earth again

145
00:13:55,790 --> 00:14:03,399
we do a lot of the baseline data collections the final data collections for all the experiments that have been runn

146
00:14:04,040 --> 00:14:09,849
Launched so there's many investigations on the human body that we've been doing up here on orbit

147
00:14:09,850 --> 00:14:17,019
And so we'll have to continue those studies as well during that first 45 days some of those will last out to six mo

148
00:14:17,450 --> 00:14:20,379
Where we're doing data collections to continue that process

149
00:14:21,800 --> 00:14:25,389
In addition to that. We're doing a lot of debriefs

150
00:14:26,090 --> 00:14:28,209
talking to the ground teams about

151
00:14:28,940 --> 00:14:32,919
Procedures that worked really well procedures that we need to try and improve on

152
00:14:33,950 --> 00:14:37,059
tools or hardware things that we had issues with

153
00:14:37,730 --> 00:14:39,650
just ideas of how to

154
00:14:39,650 --> 00:14:43,570
Operationally improve the efficiencies up here so that we can get even more done

155
00:14:43,910 --> 00:14:47,110
So that first 45 days is actually going to be very busy

156
00:14:47,470 --> 00:14:53,290
I do have I've put in for about four weeks of vacation between now and Christmas

157
00:14:53,480 --> 00:14:57,670
But the big vacation plan is a trip on a boat in

158
00:14:58,250 --> 00:14:59,810
February

159
00:14:59,810 --> 00:15:03,940
With my husband and some friends that'll be a lot of fun

160
00:15:06,140 --> 00:15:08,140
That sounds fabulous

161
00:15:09,020 --> 00:15:10,370
So do you have any?

162
00:15:10,370 --> 00:15:15,909
Intention to try to return to space again after this or is that kind of too far in the future to plan right now?

163
00:15:19,340 --> 00:15:24,340

well, I imagine that that's probably not going to be an option for me, but

164
00:15:24,890 --> 00:15:29,080
If I had the opportunity to I would definitely return here

165
00:15:29,420 --> 00:15:34,420
every day is extremely satisfying I find the work here as

166
00:15:35,240 --> 00:15:37,329
it directly relates to

167
00:15:38,210 --> 00:15:40,210
us extending

168
00:15:40,280 --> 00:15:42,220
our capabilities in space

169
00:15:42,220 --> 00:15:44,319
And so it's very gratifying

170
00:15:44,660 --> 00:15:50,560
Everyday even if I'm doing something like cleaning filters or vents or whatever I'm keeping the station alive

171
00:15:50,560 --> 00:15:56,379
We're continuing studies and research and finding out more and so it's it's one of the most gratifying

172
00:15:57,140 --> 00:15:59,140
Experiences, I've had in my life

173
00:16:01,100 --> 00:16:06,040
And so you've also broken a lot of spaceflight records at this point

174
00:16:06,040 --> 00:16:09,550
And so I'm wondering are there any records left for you to break?

175
00:16:15,290 --> 00:16:17,290
Well, I could be even older

176
00:16:17,510 --> 00:16:21,820
That's not necessarily a record. I went after but being the oldest woman in space

177
00:16:22,340 --> 00:16:24,340
So there's that there's that

178
00:16:26,090 --> 00:16:31,720
And so which would you say that you're the most proud of or that you had to work the hardest to achieve?

179
00:16:38,510 --> 00:16:42,160
Well, I think a lot of the records just had to be

180
00:16:43,190 --> 00:16:45,140
involved being

181
00:16:45,140 --> 00:16:52,180
You know in the right place having worked hard for many years, so it's hard to say I think probably

182
00:16:54,380 --> 00:16:58,870
Being the first female commander on the station was important. I

183
00:17:00,110 --> 00:17:07,659
Actually think probably being in the first chief of the astronaut off female chief of the astronaut office was also p

184
00:17:11,459 --> 00:17:15,589
Do you have any advice or words of wisdom for maybe?

185
00:17:15,689 --> 00:17:19,489
Young kids or little girls who are interested in growing up to be an astronaut just like you?

186
00:17:22,709 --> 00:17:30,589
Well, I would say pick any field in math science or engineering and one that you really enjoy that that

187
00:17:30,630 --> 00:17:34,160
Drives you that gives you some passion and pursue it

188
00:17:35,010 --> 00:17:37,010

I would also say that

189
00:17:37,530 --> 00:17:39,330
for me in particular

190
00:17:39,330 --> 00:17:40,740
trying to

191
00:17:40,740 --> 00:17:46,459
Do more than I might have thought was possible was very important. I think in

192
00:17:47,040 --> 00:17:49,040
the leading to the eventual

193
00:17:49,620 --> 00:17:52,520
successes that I've had the privilege to

194
00:17:53,040 --> 00:18:00,829
Experience, so I would say live just a little bit outside your comfort zone push yourself to where are you -?

195
00:18:00,830 --> 00:18:03,230
More than you think you might imagine you could do

196
00:18:06,419 --> 00:18:08,040
great and

197
00:18:08,040 --> 00:18:09,780
So why do you think that?

198
00:18:09,780 --> 00:18:11,780
spaceflight is really important and so

199
00:18:11,910 --> 00:18:15,410
The work that you do at the international space station all the research. Why do you think that?

200
00:18:15,410 --> 00:18:17,989
This is really an important thing that we should invest in

201
00:18:21,210 --> 00:18:26,929
Well, I think the research that we do up here is going to pay off in lots of different ways

202
00:18:27,510 --> 00:18:32,059
There's many different spin-off examples of things that are now used on Earth

203
00:18:32,400 --> 00:18:36,410
But for instance so one of the research experiments that I was working on

204
00:18:36,929 --> 00:18:40,819
Two weeks ago. We were looking at cancerous lung cells

205
00:18:41,640 --> 00:18:45,499
Growing in tissue culture, and we were testing a new drug

206
00:18:45,500 --> 00:18:51,679
That is attached to an antibody that would specifically attack those cancer cells and so

207
00:18:52,980 --> 00:18:57,860
The scientists on the ground will give all the quantitative results, but just looking through the microscope

208
00:18:58,200 --> 00:19:03,200
It looked like it was they were doing the job because they were killing the cancer cells

209
00:19:03,929 --> 00:19:05,900
What that will lead to in the future?

210
00:19:05,900 --> 00:19:13,009
I don't directly know the answer to but it is a key part of research that I think will help in understanding and and

211
00:19:13,500 --> 00:19:20,419
That's what I can say about so many of the different research projects that we're working on some of them are

212
00:19:20,640 --> 00:19:24,140
principles of capital ah reaction and capillary flow

213
00:19:25,230 --> 00:19:32,450

Physical actions like how fires burn in zero-gravity that could apply to future space flights future spacecraft

214
00:19:33,120 --> 00:19:39,530
So there are so many applications that apply not only to the future exploration of space

215
00:19:39,930 --> 00:19:43,129
but also directly to on Earth

216
00:19:43,950 --> 00:19:45,900
We're testing other

217
00:19:45,900 --> 00:19:53,629
Drugs for to maintain bone density because obviously this environment up here we lose bone density much mo

218
00:19:53,970 --> 00:20:01,850
We're looking specifically at mechanisms for how that's happening and trying to understand that and that may i

219
00:20:02,040 --> 00:20:04,040
better ways to mitigate

220
00:20:05,250 --> 00:20:12,380
Osteoporosis for instance so they're there like research on the grounds it takes many years to get a final answe

221
00:20:13,440 --> 00:20:16,729
But each step I think is very important

222
00:20:20,130 --> 00:20:21,680
Great well, thank you so much peggy

223
00:20:21,680 --> 00:20:25,609
Thank you for your time, and I wish you the best of luck in the rest of your space adventures

224
00:20:30,570 --> 00:20:32,570
Thank you very much. It's great talking to you, too