1
00:00:05,349 --> 00:00:03,270
the crew members of expedition 4243 come

2
00:00:07,990 --> 00:00:05,359
from three nations and three space

3
00:00:10,070 --> 00:00:08,000
agencies but they have one mission to

4
00:00:12,390 --> 00:00:10,080
carry on the legacy of the international

5
00:00:14,789 --> 00:00:12,400
space station

6
00:00:16,150 --> 00:00:14,799
terry verts from columbia maryland will

7
00:00:18,230 --> 00:00:16,160
return to the international space

8
00:00:20,710 --> 00:00:18,240
station for the second time the air

9
00:00:23,429 --> 00:00:20,720
force colonel spent 13 days in space in

10
00:00:25,509 --> 00:00:23,439
2010 as the pilot of space shuttle

11
00:00:28,070 --> 00:00:25,519
endeavour delivering the tranquility

12
00:00:30,230 --> 00:00:28,080
node and cupola to the station terry

13
00:00:32,229 --> 00:00:30,240

will serve as an expedition 42 flight

14
00:00:36,870 --> 00:00:32,239
engineer before taking command of

15
00:00:40,790 --> 00:00:38,869
anton shkaplerov's second visit to the

16
00:00:43,510 --> 00:00:40,800
station will begin with the liftoff of

17
00:00:45,270 --> 00:00:43,520
expedition 42 the retired air force

18
00:00:49,110 --> 00:00:45,280
colonel spent five and a half months

19
00:00:51,430 --> 00:00:49,120
aboard iss during expeditions 29 and 30.

20
00:00:56,150 --> 00:00:51,440
during his time on orbit anton completed

21
00:01:01,430 --> 00:00:58,310
from italy samantha christopheretti was

22
00:01:03,189 --> 00:01:01,440
selected as an esa astronaut in 2009.

23
00:01:05,670 --> 00:01:03,199
the air force captain has logged over

24
00:01:07,910 --> 00:01:05,680
500 flight hours in six different types

25
00:01:09,910 --> 00:01:07,920
of military aircraft samantha will be

26
00:01:11,910 --> 00:01:09,920
the second long-duration astronaut from

27
00:01:14,710 --> 00:01:11,920
the italian space agency and the

28
00:01:17,590 --> 00:01:14,720
european space agency's age

29
00:01:20,870 --> 00:01:17,600
from america russia and italy the crew

30
00:01:22,789 --> 00:01:20,880
of expedition 4243 will continue the

31
00:01:28,870 --> 00:01:22,799
uninterrupted presence of humans in

32
00:01:31,910 --> 00:01:30,230
good afternoon and thanks for joining us

33
00:01:33,510 --> 00:01:31,920
here at the nasa johnson space center in

34
00:01:35,910 --> 00:01:33,520
houston we're excited to have the

35
00:01:37,510 --> 00:01:35,920
expedition 42 crew with us they're ready

36
00:01:39,910 --> 00:01:37,520
for their launch to the space station in

37
00:01:41,910 --> 00:01:39,920
november so thank you terry anton and

38
00:01:43,670 --> 00:01:41,920

samantha for joining us we know this is

39
00:01:45,990 --> 00:01:43,680
a busy time for you guys making your

40
00:01:48,389 --> 00:01:46,000
final preparations uh butch wilmore and

41
00:01:50,149 --> 00:01:48,399
his crew are in baikonur ready for their

42
00:01:52,389 --> 00:01:50,159
launch just uh a week from today

43
00:01:53,429 --> 00:01:52,399
actually so and you'll be joining them

44
00:01:54,789 --> 00:01:53,439
on orbit

45
00:01:55,830 --> 00:01:54,799
i know it's going to be a busy increment

46
00:01:57,030 --> 00:01:55,840
can you tell us a little bit about

47
00:01:58,789 --> 00:01:57,040
what's planned and what you're looking

48
00:02:00,630 --> 00:01:58,799
forward to

49
00:02:02,950 --> 00:02:00,640
i can first of all just introduce

50
00:02:04,789 --> 00:02:02,960
briefly we just saw the video but myself

51
00:02:06,550 --> 00:02:04,799
anton and samantha are very happy and

52
00:02:08,550 --> 00:02:06,560
excited to be here today

53
00:02:11,190 --> 00:02:08,560
and uh we're a little bit of a unique

54
00:02:12,790 --> 00:02:11,200
crew in that we're an air force all air

55
00:02:14,630 --> 00:02:12,800
force crew so we're excited about that

56
00:02:15,990 --> 00:02:14,640
and that theme got reflected in our

57
00:02:17,750 --> 00:02:16,000
soyuz patch

58
00:02:19,110 --> 00:02:17,760
um but it's good to be here the press

59
00:02:20,790 --> 00:02:19,120
conference means that we're getting

60
00:02:23,110 --> 00:02:20,800
close whenever you have your crew press

61
00:02:24,630 --> 00:02:23,120
conference launches not too far away so

62
00:02:27,350 --> 00:02:24,640
we're excited to see the press releases

63
00:02:29,510 --> 00:02:27,360

that we get after our conference today

64
00:02:33,030 --> 00:02:29,520
the mission that we'll be doing six

65
00:02:36,150 --> 00:02:33,040
months on the station is going to be

66
00:02:37,830 --> 00:02:36,160
very busy we're going to be primarily

67
00:02:39,750 --> 00:02:37,840
focused on maintaining the station

68
00:02:41,270 --> 00:02:39,760
safely and keeping it running and

69
00:02:43,030 --> 00:02:41,280
leaving it a better place than when we

70
00:02:45,110 --> 00:02:43,040
left but of course the mission of the

71
00:02:46,309 --> 00:02:45,120
space station is science and so

72
00:02:47,830 --> 00:02:46,319
we have a very

73
00:02:48,710 --> 00:02:47,840
aggressive science program that we're

74
00:02:51,190 --> 00:02:48,720
doing

75
00:02:53,350 --> 00:02:51,200
roughly 170 u.s

76
00:02:55,030 --> 00:02:53,360
based experiments nasa and u.s companies

77
00:02:57,750 --> 00:02:55,040
and in private

78
00:02:59,190 --> 00:02:57,760
educational institutions and over 70

79
00:03:00,470 --> 00:02:59,200
other international experiments so

80
00:03:02,149 --> 00:03:00,480
there's a lot of science that we'll be

81
00:03:04,630 --> 00:03:02,159
doing

82
00:03:06,630 --> 00:03:04,640
we may end up getting a few spacewalks

83
00:03:08,229 --> 00:03:06,640
if not more it looks like

84
00:03:09,030 --> 00:03:08,239
and so it's going to be a busy six

85
00:03:10,390 --> 00:03:09,040
months

86
00:03:12,229 --> 00:03:10,400
absolutely

87
00:03:15,750 --> 00:03:12,239
like you said a lot of science um you

88
00:03:17,670 --> 00:03:15,760

touched on it in your opening about the

89
00:03:18,470 --> 00:03:17,680
unique component of you all having air

90
00:03:19,589 --> 00:03:18,480
force

91
00:03:21,589 --> 00:03:19,599
background from your respective

92
00:03:23,750 --> 00:03:21,599
countries and the patch i think we have

93
00:03:25,270 --> 00:03:23,760
that we can show the viewers but can you

94
00:03:26,470 --> 00:03:25,280
tell us a little bit about that i know a

95
00:03:28,550 --> 00:03:26,480
lot of people might not know that the

96
00:03:29,750 --> 00:03:28,560
crew actually really leads the design of

97
00:03:31,910 --> 00:03:29,760
the patch there's a lot of your

98
00:03:33,589 --> 00:03:31,920
personalities as a crew reflected in

99
00:03:35,270 --> 00:03:33,599
that can you kind of share with us a

100
00:03:37,509 --> 00:03:35,280
little bit about what the process was

101
00:03:39,990 --> 00:03:37,519
there my air force background was

102
00:03:42,550 --> 00:03:40,000
f-16s of the u.s air force and anton was

103
00:03:45,990 --> 00:03:42,560
a mig-29 pilot in the russian air force

104
00:03:47,910 --> 00:03:46,000
and samantha started her career in texas

105
00:03:51,190 --> 00:03:47,920
at shepherd air force base and then flew

106
00:03:54,309 --> 00:03:51,200
amx's and the italian air force so

107
00:03:56,309 --> 00:03:54,319
maybe anton can talk about the patch

108
00:03:58,470 --> 00:03:56,319
and a little bit about

109
00:05:06,070 --> 00:03:58,480
what it symbolizes

110
00:05:12,950 --> 00:05:09,670
so it is a joint effort

111
00:05:14,710 --> 00:05:12,960
first we worked on a sketch together i

112
00:05:17,670 --> 00:05:14,720
wrote a lot and talked with samantha and

113
00:05:20,390 --> 00:05:17,680

also with terry and the patch does

114
00:05:21,909 --> 00:05:20,400
symbolize all of our efforts and the

115
00:05:23,909 --> 00:05:21,919
main thing on the patch that you see is

116
00:05:26,469 --> 00:05:23,919
the horizon which is the main tool that

117
00:05:29,029 --> 00:05:26,479
we use when we are flying also the

118
00:05:30,469 --> 00:05:29,039
orientation of orbit has to do with the

119
00:05:32,150 --> 00:05:30,479
orientation that we will be taking

120
00:05:34,629 --> 00:05:32,160
during launch

121
00:05:36,710 --> 00:05:34,639
the shade is in the state in the shape

122
00:05:38,390 --> 00:05:36,720
of the spaceship and also it's made up

123
00:05:41,749 --> 00:05:38,400
out of three planes

124
00:05:43,990 --> 00:05:41,759
first the front portion is the t16

125
00:05:46,790 --> 00:05:44,000
which is teres the second is mine and

126
00:05:49,189 --> 00:05:46,800
the third portion is samantha's and this

127
00:05:52,390 --> 00:05:49,199
symbolizes our joint efforts in this

128
00:05:57,029 --> 00:05:54,550
if i can add i mean it's basically the

129
00:05:59,029 --> 00:05:57,039
artificial horizon which is anton said

130
00:06:01,350 --> 00:05:59,039
is the main uh instrument that you have

131
00:06:03,350 --> 00:06:01,360
as a pilot in your cockpit and that was

132
00:06:05,909 --> 00:06:03,360
really the basic idea that anton himself

133
00:06:07,990 --> 00:06:05,919
came up with um and it's it shows

134
00:06:09,749 --> 00:06:08,000
actually a pitch of the aircraft if you

135
00:06:11,590 --> 00:06:09,759
were reading it as an artificial horizon

136
00:06:14,150 --> 00:06:11,600
of 51 which is the inclination of the

137
00:06:17,830 --> 00:06:14,160
orbit and then it shows a bank angle so

138
00:06:19,510 --> 00:06:17,840

a roll of 15 which is the tma15m

139
00:06:21,510 --> 00:06:19,520
and and then there is this nice touch

140
00:06:22,950 --> 00:06:21,520
which is actually suggested by a good

141
00:06:24,710 --> 00:06:22,960
friend of mine back in italy ricardo

142
00:06:26,629 --> 00:06:24,720
rossi who also did a lot of the graphic

143
00:06:28,950 --> 00:06:26,639
work which is by

144
00:06:31,350 --> 00:06:28,960
adding this this shadow which is as we

145
00:06:33,029 --> 00:06:31,360
said made um from different parts of our

146
00:06:36,309 --> 00:06:33,039
respective aircraft and it really wants

147
00:06:38,629 --> 00:06:36,319
to symbolize the continuity between

148
00:06:40,150 --> 00:06:38,639
aviation and space flight

149
00:06:42,150 --> 00:06:40,160
sounds like you did a beautiful job of

150
00:06:44,550 --> 00:06:42,160
incorporating all the aviation and

151
00:06:45,430 --> 00:06:44,560
navigation types of symbolism so nice

152
00:06:47,029 --> 00:06:45,440
job

153
00:06:48,629 --> 00:06:47,039
we're going to go ahead and start taking

154
00:06:50,070 --> 00:06:48,639
questions here we actually have a lot of

155
00:06:51,670 --> 00:06:50,080
media joining us as well as some

156
00:06:53,430 --> 00:06:51,680
cooperative pathways students here from

157
00:06:55,029 --> 00:06:53,440
the johnson space center so with that

158
00:06:56,950 --> 00:06:55,039
we'll start taking questions we'll start

159
00:06:58,230 --> 00:06:56,960
with reporters if you can raise your

160
00:07:00,309 --> 00:06:58,240
hand state your name and affiliation

161
00:07:03,830 --> 00:07:00,319
we'll start with you

162
00:07:09,430 --> 00:07:07,589
nbc news i want to ask anton about the

163
00:07:10,950 --> 00:07:09,440

improvements the upgrade to the russian

164
00:07:13,350 --> 00:07:10,960
segment that you will be

165
00:07:15,430 --> 00:07:13,360
seeing during this next six months

166
00:07:18,070 --> 00:07:15,440
will be upgrades and communications and

167
00:07:28,230 --> 00:07:18,080
other facilities on the russian segment

168
00:07:28,240 --> 00:07:42,870
trigger

169
00:07:42,880 --> 00:07:45,670
the

170
00:07:49,990 --> 00:07:47,909
thank you for such a great question it

171
00:07:52,070 --> 00:07:50,000
has been three years since my first

172
00:07:53,990 --> 00:07:52,080
launch and only two and a half years

173
00:07:55,990 --> 00:07:54,000
since i've been in space and i can say

174
00:07:57,589 --> 00:07:56,000
that the station has not undergone a lot

175
00:07:59,510 --> 00:07:57,599
of change since then

176
00:08:10,469 --> 00:07:59,520
when i arrived during my first flight

177
00:08:10,479 --> 00:08:25,029
by

178
00:08:29,430 --> 00:08:27,110
also i can say that the station when it

179
00:08:32,310 --> 00:08:29,440
was beginning to be built was initially

180
00:08:34,230 --> 00:08:32,320
constructed from mostly russian segments

181
00:08:36,070 --> 00:08:34,240
and it's been over 10 years since that

182
00:08:38,230 --> 00:08:36,080
has begun so now we are changing out a

183
00:08:40,389 --> 00:08:38,240
lot of the panels because in the same

184
00:08:42,870 --> 00:08:40,399
way as in a house or in an apartment the

185
00:08:44,710 --> 00:08:42,880
decor gets old you need to change things

186
00:08:47,190 --> 00:08:44,720
out and that's what we are doing on

187
00:08:50,230 --> 00:08:47,200
station we are changing things so that

188
00:08:52,470 --> 00:08:50,240

everything looks clean cozy and like a

189
00:08:53,590 --> 00:08:52,480
nice home

190
00:08:55,509 --> 00:08:53,600
okay

191
00:08:57,509 --> 00:08:55,519
guys get down with the german space

192
00:08:59,509 --> 00:08:57,519
agency and space expo association

193
00:09:01,990 --> 00:08:59,519
question for terry you mentioned some

194
00:09:04,470 --> 00:09:02,000
space works coming up what are the tasks

195
00:09:06,550 --> 00:09:04,480
planned for these space walks

196
00:09:08,949 --> 00:09:06,560
uh the main task for

197
00:09:10,790 --> 00:09:08,959
the first spacewalks that are scheduled

198
00:09:12,710 --> 00:09:10,800
uh will be to get the station ready to

199
00:09:14,870 --> 00:09:12,720
receive capsules we just had a

200
00:09:17,350 --> 00:09:14,880
announcement the other day about the

201
00:09:20,310 --> 00:09:17,360
next american spacecraft that will be

202
00:09:23,190 --> 00:09:20,320
built by boeing and spacex and so our

203
00:09:25,110 --> 00:09:23,200
task on the expedition 42 crew and also

204
00:09:27,030 --> 00:09:25,120
probably on the 43 crew

205
00:09:29,350 --> 00:09:27,040
will be to lay the wiring down and the

206
00:09:31,269 --> 00:09:29,360
cables on the outside of the station

207
00:09:33,350 --> 00:09:31,279
that will

208
00:09:35,430 --> 00:09:33,360
when the allow the docking ring to work

209
00:09:37,509 --> 00:09:35,440
for the capsules to attach to so getting

210
00:09:39,670 --> 00:09:37,519
the docking system going is a big part

211
00:09:41,990 --> 00:09:39,680
of our spacewalks

212
00:09:45,269 --> 00:09:42,000
also the robotic arm that's very

213
00:09:45,990 --> 00:09:45,279

important when we send up cargo ships

214
00:09:47,269 --> 00:09:46,000
for

215
00:09:49,110 --> 00:09:47,279
two different ones from orbital and

216
00:09:51,190 --> 00:09:49,120
spacex the arm grabs them and then

217
00:09:53,829 --> 00:09:51,200
attaches them to the station and so this

218
00:09:55,269 --> 00:09:53,839
arm has been there for over 10 years

219
00:09:56,310 --> 00:09:55,279
and it's getting a little sticky so

220
00:09:58,070 --> 00:09:56,320
we're going to have to go out and put

221
00:09:59,750 --> 00:09:58,080
some grease on it and so that's one of

222
00:10:01,750 --> 00:09:59,760
the tasks on the space

223
00:10:02,790 --> 00:10:01,760
this for the spacewalks so that's the

224
00:10:04,230 --> 00:10:02,800
main

225
00:10:06,310 --> 00:10:04,240
at least initial tests that we'll be

226
00:10:07,750 --> 00:10:06,320
doing

227
00:10:09,590 --> 00:10:07,760
okay

228
00:10:11,990 --> 00:10:09,600
we'll go ahead and take a couple student

229
00:10:13,509 --> 00:10:12,000
questions you can state your name and

230
00:10:18,470 --> 00:10:13,519
organization where you're working here

231
00:10:22,710 --> 00:10:20,630
go ahead um my name is eric viasteris i

232
00:10:24,310 --> 00:10:22,720
work in the iss ethos department in the

233
00:10:26,550 --> 00:10:24,320
mission operations directorate and this

234
00:10:28,790 --> 00:10:26,560
question is open to all um relating to

235
00:10:30,389 --> 00:10:28,800
science uh what kind of experiments are

236
00:10:31,910 --> 00:10:30,399
you expecting to be working on from

237
00:10:34,230 --> 00:10:31,920
those experiments

238
00:10:36,550 --> 00:10:34,240

which ones are you most excited to work

239
00:10:41,509 --> 00:10:39,190
i'll start maybe and then you guys can

240
00:10:43,269 --> 00:10:41,519
answer um there's a

241
00:10:45,670 --> 00:10:43,279
lots and lots of science that we're

242
00:10:47,670 --> 00:10:45,680
doing like i said there roughly 170

243
00:10:49,269 --> 00:10:47,680
american experiments and over 70

244
00:10:50,150 --> 00:10:49,279
international ones

245
00:10:51,190 --> 00:10:50,160
but

246
00:10:52,470 --> 00:10:51,200
there's a couple that are really

247
00:10:55,110 --> 00:10:52,480
exciting one of the ones that's most

248
00:10:56,870 --> 00:10:55,120
exciting for me i really like astronomy

249
00:10:59,030 --> 00:10:56,880
and there's a big instrument on the

250
00:11:01,190 --> 00:10:59,040
outside of the station called ams alpha

251
00:11:02,550 --> 00:11:01,200
magnetic spectrometer there's also an

252
00:11:03,829 --> 00:11:02,560
instrument on the japanese segment

253
00:11:06,310 --> 00:11:03,839
called maxi

254
00:11:07,670 --> 00:11:06,320
and these instruments are looking for

255
00:11:10,389 --> 00:11:07,680
anti-matter

256
00:11:11,750 --> 00:11:10,399
and really super high energy particles

257
00:11:13,910 --> 00:11:11,760
that come in

258
00:11:16,550 --> 00:11:13,920
to earth from all around the galaxy and

259
00:11:18,069 --> 00:11:16,560
real really beyond the galaxy and maxie

260
00:11:19,910 --> 00:11:18,079
is looking for x-rays and so when you

261
00:11:22,310 --> 00:11:19,920
add up the the different information

262
00:11:23,269 --> 00:11:22,320
that we can collect from the station

263
00:11:24,710 --> 00:11:23,279

um

264
00:11:26,710 --> 00:11:24,720
i think we're right now we're in the

265
00:11:28,230 --> 00:11:26,720
process of making some pretty amazing

266
00:11:29,670 --> 00:11:28,240
discoveries about what the universe is

267
00:11:32,630 --> 00:11:29,680
made out of and

268
00:11:34,230 --> 00:11:32,640
um what exactly is out there and

269
00:11:35,590 --> 00:11:34,240
a certain part of what we're learning is

270
00:11:36,949 --> 00:11:35,600
that we really didn't know what we

271
00:11:38,870 --> 00:11:36,959
didn't know you know the more you find

272
00:11:40,470 --> 00:11:38,880
out about the universe you realize that

273
00:11:41,910 --> 00:11:40,480
there's things that you didn't know but

274
00:11:42,870 --> 00:11:41,920
that's astronomy we're doing a lot of

275
00:11:44,710 --> 00:11:42,880
human

276
00:11:47,190 --> 00:11:44,720
physiology research

277
00:11:48,870 --> 00:11:47,200
um specifically on bone loss

278
00:11:52,069 --> 00:11:48,880
there's some pretty exciting things that

279
00:11:53,269 --> 00:11:52,079
have potential applications to on earth

280
00:11:56,389 --> 00:11:53,279
problems that people have like

281
00:11:58,870 --> 00:11:56,399
osteoporosis and muscle degradation

282
00:12:01,590 --> 00:11:58,880
and i'm doing some specific

283
00:12:04,389 --> 00:12:01,600
work in that area

284
00:12:05,750 --> 00:12:04,399
we're looking at immunology

285
00:12:07,750 --> 00:12:05,760
lots of other experiments i don't want

286
00:12:09,829 --> 00:12:07,760
to name them all and leave my crewmates

287
00:12:11,110 --> 00:12:09,839
without anything to name um do you guys

288
00:12:14,230 --> 00:12:11,120

have anything

289
00:12:15,910 --> 00:12:14,240
in particular that there's interesting

290
00:12:19,430 --> 00:12:15,920
i mean as terry mentioned we're talking

291
00:12:20,470 --> 00:12:19,440
about over 200 experiments and truth to

292
00:12:21,910 --> 00:12:20,480
be told there's a lot of those

293
00:12:24,470 --> 00:12:21,920
experiments like the ones that terry

294
00:12:26,629 --> 00:12:24,480
mentioned that run outside and

295
00:12:28,389 --> 00:12:26,639
either their autonomous or or the ground

296
00:12:30,230 --> 00:12:28,399
actually controls them

297
00:12:32,310 --> 00:12:30,240
so it's good to be up there and keep the

298
00:12:33,350 --> 00:12:32,320
station running so those experiments can

299
00:12:34,949 --> 00:12:33,360
can run

300
00:12:36,949 --> 00:12:34,959
and we can get all that science from

301
00:12:38,949 --> 00:12:36,959
them but we're not necessarily directly

302
00:12:40,710 --> 00:12:38,959
involved so i'm especially excited about

303
00:12:42,550 --> 00:12:40,720
those experiments what i can get hands

304
00:12:45,269 --> 00:12:42,560
on and i'm somebody who likes to you

305
00:12:47,030 --> 00:12:45,279
know work with my hands and maybe set up

306
00:12:48,790 --> 00:12:47,040
you know complex

307
00:12:50,230 --> 00:12:48,800
equipment it's something that i enjoy

308
00:12:51,750 --> 00:12:50,240
doing and

309
00:12:53,750 --> 00:12:51,760
it kind of makes me feel a little bit

310
00:12:55,350 --> 00:12:53,760
like a scientist i'm more like like a

311
00:12:57,509 --> 00:12:55,360
lab technician i guess because i don't

312
00:12:59,030 --> 00:12:57,519
really necessarily grasp grasp all the

313
00:13:00,870 --> 00:12:59,040

science that's behind it and certainly

314
00:13:02,790 --> 00:13:00,880
it wasn't me who developed it but just

315
00:13:04,230 --> 00:13:02,800
being able to be hands-on on something a

316
00:13:06,870 --> 00:13:04,240
little bit complex that makes it

317
00:13:09,190 --> 00:13:06,880
interesting for me so um you know i

318
00:13:11,269 --> 00:13:09,200
certainly look forward to working on the

319
00:13:13,110 --> 00:13:11,279
um science you know the microgravity

320
00:13:15,190 --> 00:13:13,120
science glove box there's an experiment

321
00:13:17,750 --> 00:13:15,200
that i was trained where you actually

322
00:13:20,550 --> 00:13:17,760
have to um work with

323
00:13:22,470 --> 00:13:20,560
some violent cultures were trying to

324
00:13:24,150 --> 00:13:22,480
put together two aspects that actually

325
00:13:26,550 --> 00:13:24,160
were two discoveries of space flight

326
00:13:29,030 --> 00:13:26,560
which is one um

327
00:13:30,870 --> 00:13:29,040
virulent or viruses become more

328
00:13:33,509 --> 00:13:30,880
aggressive environment where they are in

329
00:13:35,990 --> 00:13:33,519
orbit and on the other side your immune

330
00:13:37,590 --> 00:13:36,000
system so your immune cells become

331
00:13:39,350 --> 00:13:37,600
weaker or less effective so there is

332
00:13:40,710 --> 00:13:39,360
this experiment where you're actually

333
00:13:43,189 --> 00:13:40,720
putting those things together and seeing

334
00:13:45,509 --> 00:13:43,199
what happens and you really get hands-on

335
00:13:46,870 --> 00:13:45,519
in all this lab work inside the glove

336
00:13:48,710 --> 00:13:46,880
box so that's going to be really

337
00:13:50,710 --> 00:13:48,720
interesting um

338
00:13:52,629 --> 00:13:50,720

i think terry and terry and i are signed

339
00:13:55,829 --> 00:13:52,639
up for a european space agency

340
00:13:58,470 --> 00:13:55,839
experiment uh that uh most likely we

341
00:13:59,990 --> 00:13:58,480
will be doing although it's not 100 sure

342
00:14:02,470 --> 00:14:00,000
that's called airway monitoring and

343
00:14:04,069 --> 00:14:02,480
that's an extremely complex setup where

344
00:14:06,150 --> 00:14:04,079
we're going to be breathing out of a

345
00:14:08,389 --> 00:14:06,160
special equipment a special gas mixture

346
00:14:10,470 --> 00:14:08,399
and the idea there is to study the

347
00:14:13,590 --> 00:14:10,480
gauss's exchange in your lungs so very

348
00:14:15,110 --> 00:14:13,600
new field very interesting um for you

349
00:14:16,870 --> 00:14:15,120
know fundamental science to understand

350
00:14:20,710 --> 00:14:16,880
better how that works how your lungs

351
00:14:23,670 --> 00:14:20,720
work but also for future exploration how

352
00:14:25,509 --> 00:14:23,680
does reduced pressure and the fact that

353
00:14:26,949 --> 00:14:25,519
particles are actually floating around

354
00:14:30,629 --> 00:14:26,959
in the space station how does that

355
00:14:32,069 --> 00:14:30,639
affect the health of your lungs

356
00:14:33,110 --> 00:14:32,079
and that's going to be very interesting

357
00:14:34,949 --> 00:14:33,120
because it's going to be the first

358
00:14:37,670 --> 00:14:34,959
experiment that actually takes place in

359
00:14:41,269 --> 00:14:37,680
the airlock at a reduced pressure so

360
00:14:44,870 --> 00:14:43,350
okay we can we have some time for some

361
00:14:46,230 --> 00:14:44,880
other questions go ahead

362
00:14:48,389 --> 00:14:46,240
eric lopez and i'm working with the

363
00:14:49,910 --> 00:14:48,399

flight aerosciences and cfd and i was

364
00:14:51,829 --> 00:14:49,920
wondering what was the most difficult

365
00:14:53,670 --> 00:14:51,839
part of your training process

366
00:14:58,389 --> 00:14:53,680
learning russian

367
00:15:02,389 --> 00:15:00,710
but that's an easy question no the the

368
00:15:03,910 --> 00:15:02,399
thing about being an astronaut is that

369
00:15:05,829 --> 00:15:03,920
there's lots and lots of different

370
00:15:07,910 --> 00:15:05,839
things completely unrelated to one

371
00:15:10,389 --> 00:15:07,920
another that you have to learn and

372
00:15:12,629 --> 00:15:10,399
and practice and so um learning foreign

373
00:15:14,629 --> 00:15:12,639
languages is um

374
00:15:17,269 --> 00:15:14,639
something that's

375
00:15:19,030 --> 00:15:17,279
everybody has to go through and

376
00:15:20,389 --> 00:15:19,040
samantha is probably

377
00:15:21,910 --> 00:15:20,399
the other thing you learn about being an

378
00:15:23,030 --> 00:15:21,920
astronaut is there's whatever you think

379
00:15:25,030 --> 00:15:23,040
you're good at there's someone much

380
00:15:27,030 --> 00:15:25,040
better than you at and samantha is the

381
00:15:28,949 --> 00:15:27,040
perfect example for that she's amazing

382
00:15:30,870 --> 00:15:28,959
at languages just about any language you

383
00:15:35,430 --> 00:15:30,880
can think of she speaks very well

384
00:15:39,910 --> 00:15:37,829
not not by much

385
00:15:43,110 --> 00:15:39,920
flying we get to fly jets and of course

386
00:15:44,949 --> 00:15:43,120
as as pilots that's a really great part

387
00:15:46,629 --> 00:15:44,959
of our and probably the most important

388
00:15:48,470 --> 00:15:46,639

and most beneficial part of our training

389
00:15:49,749 --> 00:15:48,480
is the ability to fly

390
00:15:51,590 --> 00:15:49,759
um

391
00:15:53,670 --> 00:15:51,600
learning about science again we're

392
00:15:55,590 --> 00:15:53,680
pilots we're not scientists but i really

393
00:15:56,949 --> 00:15:55,600
enjoy that learning the science aspect

394
00:15:58,870 --> 00:15:56,959
of things

395
00:16:00,230 --> 00:15:58,880
you really being a mechanic is probably

396
00:16:01,269 --> 00:16:00,240
the most important thing that we do

397
00:16:03,829 --> 00:16:01,279
because

398
00:16:06,550 --> 00:16:03,839
keeping this million pound vehicle

399
00:16:09,509 --> 00:16:06,560
operating with only a few people

400
00:16:11,509 --> 00:16:09,519
you know we have to be the mechanics and

401
00:16:13,189 --> 00:16:11,519
run the sewer system and be the cooks

402
00:16:15,189 --> 00:16:13,199
and be the doctors you know we have to

403
00:16:17,030 --> 00:16:15,199
be everything that your city has

404
00:16:19,269 --> 00:16:17,040
we have to do that so you kind of have

405
00:16:21,590 --> 00:16:19,279
to learn everything being a doctor was a

406
00:16:23,030 --> 00:16:21,600
really fun part of my training getting

407
00:16:25,509 --> 00:16:23,040
to go work at the

408
00:16:27,670 --> 00:16:25,519
emergency room and see how doctors take

409
00:16:30,230 --> 00:16:27,680
care of you know can take care of

410
00:16:32,550 --> 00:16:30,240
serious situations so

411
00:16:34,389 --> 00:16:32,560
it's a diverse

412
00:16:44,389 --> 00:16:34,399
job any what's the hardest thing for you

413
00:16:48,710 --> 00:16:46,069

i think the most difficult thing for me

414
00:17:00,629 --> 00:16:48,720
as for terry was to not fall asleep in

415
00:17:04,069 --> 00:17:02,310
because samantha had prepared so well

416
00:17:08,630 --> 00:17:04,079
that we had nothing to do me as

417
00:17:11,350 --> 00:17:10,150
as a flight engineer she will do

418
00:17:13,270 --> 00:17:11,360
everything she will take care of

419
00:17:15,909 --> 00:17:13,280
everything so we just had to take it

420
00:17:43,110 --> 00:17:15,919
easy and relax

421
00:17:46,710 --> 00:17:45,510
but seriously i think as

422
00:17:49,270 --> 00:17:46,720
someone who is flying for the second

423
00:17:51,350 --> 00:17:49,280
time the hardest thing was getting to be

424
00:17:53,110 --> 00:17:51,360
close with my fellow crew members we

425
00:17:54,710 --> 00:17:53,120
hadn't really not met each other before

426
00:17:56,710 --> 00:17:54,720
beginning the training

427
00:17:58,310 --> 00:17:56,720
and then meeting for the first time and

428
00:18:00,549 --> 00:17:58,320
learning how to work together and how to

429
00:18:02,710 --> 00:18:00,559
live together as one unit that we will

430
00:18:04,789 --> 00:18:02,720
be on the station for six months that

431
00:18:07,669 --> 00:18:04,799
was the challenge and i think we did it

432
00:18:12,390 --> 00:18:09,110
samantha anything else to add about

433
00:18:15,669 --> 00:18:14,150
what i had a chance the chance that i

434
00:18:19,270 --> 00:18:15,679
already spoke russian before this all

435
00:18:20,549 --> 00:18:19,280
started so uh that wasn't too hard um

436
00:18:22,390 --> 00:18:20,559
for me i guess the greatest challenge

437
00:18:24,710 --> 00:18:22,400
was probably the space walk-in training

438
00:18:26,870 --> 00:18:24,720

i am unfortunately not necessarily built

439
00:18:29,430 --> 00:18:26,880
for the suit because of my size we don't

440
00:18:31,909 --> 00:18:29,440
have suits uh like in a small size

441
00:18:33,750 --> 00:18:31,919
enough that would fit me properly and so

442
00:18:35,350 --> 00:18:33,760
that does present a little bit of an

443
00:18:36,789 --> 00:18:35,360
additional challenge because you have to

444
00:18:37,590 --> 00:18:36,799
be able to

445
00:18:39,110 --> 00:18:37,600
uh

446
00:18:40,950 --> 00:18:39,120
do the same things that people do that

447
00:18:42,390 --> 00:18:40,960
have a nice fit in the suit but you have

448
00:18:45,270 --> 00:18:42,400
the additional challenge of making it

449
00:18:48,630 --> 00:18:45,280
work um with this somewhat

450
00:18:50,310 --> 00:18:48,640
too bulky uh spacesuit and

451
00:18:52,870 --> 00:18:50,320
that you know that's a learning curve

452
00:18:54,470 --> 00:18:52,880
because you know you kind of has to you

453
00:18:56,150 --> 00:18:54,480
know it's a lot of mental work to try

454
00:18:58,230 --> 00:18:56,160
and find the ways that actually are

455
00:18:59,350 --> 00:18:58,240
going to work for you

456
00:19:01,590 --> 00:18:59,360
um

457
00:19:03,029 --> 00:19:01,600
and but on the other hand as it always

458
00:19:05,270 --> 00:19:03,039
happens in life that which is the

459
00:19:08,070 --> 00:19:05,280
hardest thing is also the one that once

460
00:19:09,830 --> 00:19:08,080
you are you know eventually master it is

461
00:19:11,830 --> 00:19:09,840
the one that is more gratifying so you

462
00:19:16,070 --> 00:19:11,840
know looking back it's been the most

463
00:19:18,710 --> 00:19:17,750

um i wanted to follow up on what you

464
00:19:20,230 --> 00:19:18,720
were talking about with the medical

465
00:19:22,150 --> 00:19:20,240
training because i don't know if a lot

466
00:19:25,110 --> 00:19:22,160
of people know there's at least one crew

467
00:19:26,870 --> 00:19:25,120
medical officer on each crew identified

468
00:19:28,549 --> 00:19:26,880
and to some degree you all get some

469
00:19:30,070 --> 00:19:28,559
baseline training on blood draws and

470
00:19:31,029 --> 00:19:30,080
things like that that will be required

471
00:19:33,669 --> 00:19:31,039
for

472
00:19:35,430 --> 00:19:33,679
sample collections and then you talked

473
00:19:37,190 --> 00:19:35,440
about the hospital going to a hospital

474
00:19:38,870 --> 00:19:37,200
and i think you also go to a dental

475
00:19:40,230 --> 00:19:38,880
office and get some dental training

476
00:19:42,070 --> 00:19:40,240
i mean that's all fascinating stuff that

477
00:19:43,590 --> 00:19:42,080
people probably don't think falls under

478
00:19:45,190 --> 00:19:43,600
astronaut training but can you elaborate

479
00:19:47,110 --> 00:19:45,200
a little bit about what that's like sure

480
00:19:49,590 --> 00:19:47,120
um on shuttle flights we had designated

481
00:19:51,990 --> 00:19:49,600
crew medical officers that got training

482
00:19:54,470 --> 00:19:52,000
but on the station flight we all get you

483
00:19:57,590 --> 00:19:54,480
know that training and it's probably

484
00:19:59,350 --> 00:19:57,600
equivalent to an emt we can deal with

485
00:20:01,430 --> 00:19:59,360
heart attacks

486
00:20:04,870 --> 00:20:01,440
those kind of things certainly blood

487
00:20:08,950 --> 00:20:06,630
procedures that you do are required

488
00:20:11,430 --> 00:20:08,960

because we do that for our experiments

489
00:20:13,029 --> 00:20:11,440
but uh even beyond that on the space

490
00:20:15,029 --> 00:20:13,039
station there's basic level of care

491
00:20:15,909 --> 00:20:15,039
there's a small pharmacy you know we

492
00:20:17,430 --> 00:20:15,919
have a

493
00:20:19,190 --> 00:20:17,440
container of different medicines that

494
00:20:21,110 --> 00:20:19,200
you can treat things

495
00:20:23,110 --> 00:20:21,120
but any kind of advanced surgery

496
00:20:24,710 --> 00:20:23,120
obviously we can't do in space so

497
00:20:26,149 --> 00:20:24,720
luckily we have the soyuz that we can

498
00:20:28,710 --> 00:20:26,159
come back to earth if a crew member had

499
00:20:30,630 --> 00:20:28,720
a serious problem and bring them back

500
00:20:32,390 --> 00:20:30,640
and we have an aed in space that we can

501
00:20:34,390 --> 00:20:32,400
use in case someone has a heart attack

502
00:20:36,630 --> 00:20:34,400
knock on wood thankfully they they

503
00:20:38,470 --> 00:20:36,640
screen us they they do a pretty good job

504
00:20:39,909 --> 00:20:38,480
of making sure that we're in good shape

505
00:20:42,710 --> 00:20:39,919
and it's not likely that anything bad

506
00:20:44,230 --> 00:20:42,720
will happen but as part of my training i

507
00:20:47,190 --> 00:20:44,240
had a chance to go

508
00:20:49,909 --> 00:20:47,200
work in an operating room and uh

509
00:20:51,669 --> 00:20:49,919
emergency room for a few nights and um

510
00:20:53,669 --> 00:20:51,679
even in a dental clinic and so i got to

511
00:20:55,590 --> 00:20:53,679
see lots of different things that i

512
00:20:57,750 --> 00:20:55,600
never would have seen as a just a pilot

513
00:20:59,350 --> 00:20:57,760

so i really enjoyed it it was a fun part

514
00:21:00,549 --> 00:20:59,360
of the training it's a part of the

515
00:21:02,470 --> 00:21:00,559
training that hopefully we will never

516
00:21:03,830 --> 00:21:02,480
need to use but it was good doing it

517
00:21:06,630 --> 00:21:03,840
absolutely and you have to learn how to

518
00:21:08,230 --> 00:21:06,640
do blood draws on yourself you can we do

519
00:21:09,990 --> 00:21:08,240
blood draws on ourselves or on each

520
00:21:11,430 --> 00:21:10,000
other and yeah

521
00:21:13,270 --> 00:21:11,440
it's um

522
00:21:16,390 --> 00:21:13,280
that's something that you just do and

523
00:21:17,750 --> 00:21:16,400
you have to get over that part of it but

524
00:21:20,630 --> 00:21:17,760
everything

525
00:21:21,909 --> 00:21:20,640
because stuff floats around and like

526
00:21:24,230 --> 00:21:21,919
these water bottles would be on the

527
00:21:26,149 --> 00:21:24,240
corner of the room right now so doing a

528
00:21:28,390 --> 00:21:26,159
blood draw you have to get tape out and

529
00:21:30,710 --> 00:21:28,400
you have to get all your vials on the on

530
00:21:32,149 --> 00:21:30,720
the duct tape and get the syringe ready

531
00:21:33,909 --> 00:21:32,159
and so just getting everything ready and

532
00:21:35,909 --> 00:21:33,919
then once you use it it's going to float

533
00:21:38,470 --> 00:21:35,919
away and so you have to keep stuff

534
00:21:40,950 --> 00:21:38,480
organized or it floats away

535
00:21:43,750 --> 00:21:40,960
great stuff okay any other questions

536
00:21:45,590 --> 00:21:43,760
from our student group

537
00:21:47,350 --> 00:21:45,600
we've got a couple down here go ahead

538
00:21:49,990 --> 00:21:47,360

let's start at the far end

539
00:21:52,870 --> 00:21:50,000
um you described some of the experiments

540
00:21:53,830 --> 00:21:52,880
oh my name is dorothy and i'm from er4

541
00:21:55,110 --> 00:21:53,840
you've discussed some of the science

542
00:21:56,789 --> 00:21:55,120
experiments that you all are looking

543
00:22:01,510 --> 00:21:56,799
forward to what was your favorite part

544
00:22:05,510 --> 00:22:03,430
favorite part of training

545
00:22:06,630 --> 00:22:05,520
there's a big pause here yeah there's a

546
00:22:08,789 --> 00:22:06,640
lot of good things well samantha just

547
00:22:10,149 --> 00:22:08,799
said uh spacewalk training was yeah

548
00:22:12,149 --> 00:22:10,159
definitely as i said it was the most

549
00:22:14,230 --> 00:22:12,159
challenging and difficult but that as i

550
00:22:15,830 --> 00:22:14,240
said also made it definitely the the

551
00:22:17,270 --> 00:22:15,840
best in general

552
00:22:19,510 --> 00:22:17,280
i'm somebody who looks forward to a

553
00:22:23,430 --> 00:22:19,520
challenge that made it really fun and

554
00:22:25,270 --> 00:22:23,440
interesting but also i guess

555
00:22:28,630 --> 00:22:25,280
learning how to be a flight engineer on

556
00:22:29,830 --> 00:22:28,640
the soyuz was was extremely gratifying

557
00:22:31,590 --> 00:22:29,840
you know it kind of brought me back a

558
00:22:33,590 --> 00:22:31,600
little bit to um

559
00:22:35,590 --> 00:22:33,600
flying a new airplane where you have to

560
00:22:38,630 --> 00:22:35,600
you know learn get familiar with all the

561
00:22:39,990 --> 00:22:38,640
systems and the procedures and uh you

562
00:22:41,909 --> 00:22:40,000
know what should be in a nominal case

563
00:22:43,350 --> 00:22:41,919

what you do if something goes wrong

564
00:22:45,990 --> 00:22:43,360
um

565
00:22:48,549 --> 00:22:46,000
and i i've always been trained as a

566
00:22:49,990 --> 00:22:48,559
single-seat aircraft pilot so it was

567
00:22:52,070 --> 00:22:50,000
also interesting to actually learn how

568
00:22:53,750 --> 00:22:52,080
to be a three-seater where you actually

569
00:22:55,510 --> 00:22:53,760
have a crew that you have to work with

570
00:22:57,270 --> 00:22:55,520
and you have to coordinate so a very

571
00:23:00,470 --> 00:22:57,280
different mindset

572
00:23:02,470 --> 00:23:00,480
so that was very interesting and fun

573
00:23:03,750 --> 00:23:02,480
yeah learning the soyuz was a lot of the

574
00:23:05,430 --> 00:23:03,760
training i'd done for my last space

575
00:23:06,710 --> 00:23:05,440
flight so but the soyuz was something

576
00:23:09,110 --> 00:23:06,720
new so that was

577
00:23:11,270 --> 00:23:09,120
that was fun doing it in russian

578
00:23:12,950 --> 00:23:11,280
language uh we actually became fun it

579
00:23:14,950 --> 00:23:12,960
was a challenge at first but i really

580
00:23:16,789 --> 00:23:14,960
enjoyed it and it's a new spaceship so

581
00:23:18,950 --> 00:23:16,799
that was that was good to learn that

582
00:23:51,830 --> 00:23:18,960
yeah we have to stop terry from speaking

583
00:23:56,070 --> 00:23:54,230
i will add on to you i also agreed that

584
00:23:58,310 --> 00:23:56,080
the soyuz training was one of the most

585
00:24:00,230 --> 00:23:58,320
interesting parts though for me it is a

586
00:24:03,029 --> 00:24:00,240
second time and there are not very many

587
00:24:05,190 --> 00:24:03,039
big changes but it's a new crew it's a

588
00:24:07,430 --> 00:24:05,200

new instructor and with every new

589
00:24:09,669 --> 00:24:07,440
instructor group they managed to come up

590
00:24:11,190 --> 00:24:09,679
with more and more complex of nominal

591
00:24:14,789 --> 00:24:11,200
situations that are more and more

592
00:24:18,470 --> 00:24:16,310
okay we'll take another question go

593
00:24:19,830 --> 00:24:18,480
ahead hi my name is joshua woods i work

594
00:24:21,909 --> 00:24:19,840
in the flight mechanics and trajectory

595
00:24:23,909 --> 00:24:21,919
design branch here at jsc and my

596
00:24:26,230 --> 00:24:23,919
question has to do with um

597
00:24:28,549 --> 00:24:26,240
a couple of weeks ago i think nasa

598
00:24:30,549 --> 00:24:28,559
released a time-lapse video of the iss

599
00:24:32,950 --> 00:24:30,559
releasing i think it was a cygnus cargo

600
00:24:34,630 --> 00:24:32,960
ship and it was sped up but the way it

601
00:24:37,350 --> 00:24:34,640
just zoomed off like in my mind i'm like

602
00:24:39,830 --> 00:24:37,360
yep that's that's star wars um

603
00:24:41,110 --> 00:24:39,840
so i was just wondering with with iss

604
00:24:42,630 --> 00:24:41,120
and uh

605
00:24:44,149 --> 00:24:42,640
and all the work that's going into

606
00:24:45,430 --> 00:24:44,159
spaceflight technologies what what are

607
00:24:47,990 --> 00:24:45,440
you guys really excited about for the

608
00:24:49,510 --> 00:24:48,000
future of space flight

609
00:24:51,510 --> 00:24:49,520
you know i hope

610
00:24:53,830 --> 00:24:51,520
um people say what does a space station

611
00:24:55,990 --> 00:24:53,840
mean in general what's the

612
00:24:57,590 --> 00:24:56,000
long-term vision or how is it going to

613
00:24:59,029 --> 00:24:57,600

be remembered and i hope 500 years from

614
00:25:01,590 --> 00:24:59,039
now people look back and see the space

615
00:25:03,590 --> 00:25:01,600
station as the first step towards going

616
00:25:06,230 --> 00:25:03,600
into the solar system and people going

617
00:25:08,390 --> 00:25:06,240
on to the moon and mars and beyond that

618
00:25:09,990 --> 00:25:08,400
so i'm excited about that exploration

619
00:25:11,750 --> 00:25:10,000
and hopefully in your flight mechanics

620
00:25:13,830 --> 00:25:11,760
you can design some trajectories that go

621
00:25:15,029 --> 00:25:13,840
somewhere besides low earth orbit

622
00:25:16,549 --> 00:25:15,039
and hopefully that i think that's going

623
00:25:17,909 --> 00:25:16,559
to be happening soon so that to me

624
00:25:18,950 --> 00:25:17,919
that's what's exciting is using the

625
00:25:20,470 --> 00:25:18,960
station

626
00:25:21,909 --> 00:25:20,480
to go beyond that

627
00:25:23,510 --> 00:25:21,919
there's lots of technologies that we're

628
00:25:26,149 --> 00:25:23,520
testing today on the station that will

629
00:25:28,310 --> 00:25:26,159
help us with that

630
00:25:29,909 --> 00:25:28,320
ways to keep our bodies healthy for i

631
00:25:32,070 --> 00:25:29,919
mean we've shown that people can live in

632
00:25:34,390 --> 00:25:32,080
space for six months and come back to

633
00:25:35,830 --> 00:25:34,400
earth and in great shape steve swanson

634
00:25:37,590 --> 00:25:35,840
just got back and

635
00:25:39,350 --> 00:25:37,600
he's in amazing shape he's he's just in

636
00:25:41,029 --> 00:25:39,360
great shape so and we've been

637
00:25:42,549 --> 00:25:41,039
demonstrating that now for 10 years or

638
00:25:44,789 --> 00:25:42,559

more on this on the space station and

639
00:25:45,590 --> 00:25:44,799
before that the russian mirror station

640
00:25:48,070 --> 00:25:45,600
and

641
00:25:50,390 --> 00:25:48,080
so it is a great way to demonstrate that

642
00:25:53,750 --> 00:25:50,400
we can go beyond earth orbit and so for

643
00:25:55,830 --> 00:25:53,760
me that's that's what's exciting

644
00:25:57,430 --> 00:25:55,840
okay we're going to switch now um to

645
00:25:58,630 --> 00:25:57,440
social media we have been taking

646
00:26:00,710 --> 00:25:58,640
questions and we'll continue taking

647
00:26:02,710 --> 00:26:00,720
questions using the hashtag asknasa so

648
00:26:04,630 --> 00:26:02,720
we'll turn it over to megan for a few

649
00:26:06,390 --> 00:26:04,640
questions being submitted that way all

650
00:26:08,149 --> 00:26:06,400
right our first two questions come from

651
00:26:10,470 --> 00:26:08,159
the international space station facebook

652
00:26:12,470 --> 00:26:10,480
page from angelique knowles she wants to

653
00:26:14,710 --> 00:26:12,480
know i am currently going to school for

654
00:26:17,110 --> 00:26:14,720
physics and astrobiology i intend to

655
00:26:18,870 --> 00:26:17,120
apply for astronaut candidacy afterwards

656
00:26:20,710 --> 00:26:18,880
besides the written requirements what

657
00:26:22,789 --> 00:26:20,720
else stands out on an application to be

658
00:26:25,110 --> 00:26:22,799
an astronaut my dream is to work on the

659
00:26:28,549 --> 00:26:25,120
iss

660
00:26:30,870 --> 00:26:28,559
i share that dream um

661
00:26:33,750 --> 00:26:30,880
the one piece of advice that i give to

662
00:26:35,510 --> 00:26:33,760
people who want to be astronauts is that

663
00:26:37,110 --> 00:26:35,520

it's important to do what you want a lot

664
00:26:38,310 --> 00:26:37,120
of people ask should i do this or should

665
00:26:40,149 --> 00:26:38,320
i do that or should i be a pilot or

666
00:26:41,750 --> 00:26:40,159
should i um so we've all been given

667
00:26:43,750 --> 00:26:41,760
gifts and if you

668
00:26:45,590 --> 00:26:43,760
pursue your gift and do it really well

669
00:26:47,830 --> 00:26:45,600
then you'll do it really well and it's

670
00:26:49,590 --> 00:26:47,840
something that you love and so

671
00:26:51,510 --> 00:26:49,600
if she's a physics major and an

672
00:26:53,669 --> 00:26:51,520
astrobiology major that's going to get

673
00:26:55,269 --> 00:26:53,679
her on the right track

674
00:26:56,870 --> 00:26:55,279
so there's not really one thing that you

675
00:26:57,990 --> 00:26:56,880
can pick

676
00:26:59,669 --> 00:26:58,000
but i think

677
00:27:00,950 --> 00:26:59,679
when when we select astronauts we look

678
00:27:02,950 --> 00:27:00,960
for people who are passionate about what

679
00:27:04,549 --> 00:27:02,960
they do and who do it really well so

680
00:27:08,149 --> 00:27:04,559
it's important to do what you're called

681
00:27:10,149 --> 00:27:08,159
to do and and um and not necessarily

682
00:27:12,870 --> 00:27:10,159
something else because you think that's

683
00:27:14,149 --> 00:27:12,880
that's the path that you should go

684
00:27:16,390 --> 00:27:14,159
thank you

685
00:27:18,070 --> 00:27:16,400
mark smith wants to know my own fear

686
00:27:20,549 --> 00:27:18,080
about going into space is the massive

687
00:27:21,669 --> 00:27:20,559
acceleration and mania of launch i know

688
00:27:23,110 --> 00:27:21,679

you are trained to deal with that

689
00:27:24,630 --> 00:27:23,120
acceleration but are you still

690
00:27:26,710 --> 00:27:24,640
apprehensive

691
00:27:45,510 --> 00:27:26,720
for any of you

692
00:27:49,830 --> 00:27:47,990
well i can say that the acceleration on

693
00:27:52,710 --> 00:27:49,840
the soyuz is

694
00:27:56,149 --> 00:27:52,720
not very significant as someone who has

695
00:27:58,389 --> 00:27:56,159
flown on a fire fighter pilot like terry

696
00:28:25,750 --> 00:27:58,399
and samantha those loads are much

697
00:28:30,149 --> 00:28:28,149
yes there are vibrations and there are

698
00:28:32,310 --> 00:28:30,159
other difficulties that our organism has

699
00:28:33,990 --> 00:28:32,320
to go through once we arrive in space

700
00:28:35,990 --> 00:28:34,000
for example weightlessness and that

701
00:28:37,350 --> 00:28:36,000
takes a toll on our body and also

702
00:28:38,950 --> 00:28:37,360
radiation

703
00:28:41,750 --> 00:28:38,960
and everyone knows that being an

704
00:28:43,830 --> 00:28:41,760
astronaut is a dangerous profession but

705
00:28:46,070 --> 00:28:43,840
it is definitely very interesting it is

706
00:28:48,710 --> 00:28:46,080
so worth it everything becomes worth it

707
00:28:53,190 --> 00:28:48,720
once you're able to see the earth from

708
00:28:55,669 --> 00:28:54,389
okay

709
00:28:57,269 --> 00:28:55,679
we're going to switch now over to the

710
00:29:00,230 --> 00:28:57,279
phone bridge where we have elizabeth

711
00:29:02,310 --> 00:29:00,240
howell joining us from space.com

712
00:29:04,070 --> 00:29:02,320
hi there thanks for taking my question i

713
00:29:05,510 --> 00:29:04,080

was curious i guess this might be for uh

714
00:29:07,990 --> 00:29:05,520
terry can you talk a little bit more

715
00:29:09,430 --> 00:29:08,000
about the nature of um how nominal

716
00:29:10,630 --> 00:29:09,440
spacewalks are going in terms of

717
00:29:12,950 --> 00:29:10,640
planning because of course there was

718
00:29:14,310 --> 00:29:12,960
that incident last year but i saw some

719
00:29:16,389 --> 00:29:14,320
tweets on wheelock's twitter this

720
00:29:17,990 --> 00:29:16,399
morning about october 7th spacewalk so

721
00:29:20,470 --> 00:29:18,000
just how is the investigation going are

722
00:29:22,789 --> 00:29:20,480
we back normal spacewalks now

723
00:29:24,470 --> 00:29:22,799
uh everybody always asks me how many

724
00:29:26,549 --> 00:29:24,480
spacewalks i'll do and i tell them

725
00:29:27,669 --> 00:29:26,559
somewhere between zero and ten

726
00:29:29,269 --> 00:29:27,679
um

727
00:29:31,190 --> 00:29:29,279
and that one of the the nature of

728
00:29:32,310 --> 00:29:31,200
spacewalking is uh you have to be

729
00:29:33,350 --> 00:29:32,320
flexible

730
00:29:35,110 --> 00:29:33,360
um

731
00:29:36,310 --> 00:29:35,120
on the shuttle the spacewalks are very

732
00:29:37,590 --> 00:29:36,320
planned out we knew exactly what was

733
00:29:38,950 --> 00:29:37,600
gonna happen but as a space station

734
00:29:40,389 --> 00:29:38,960
astronaut you have to be ready for

735
00:29:41,909 --> 00:29:40,399
anything so

736
00:29:43,430 --> 00:29:41,919
there was a problem

737
00:29:45,269 --> 00:29:43,440
it wasn't a huge problem but there was a

738
00:29:47,110 --> 00:29:45,279

potential safety issue with the

739
00:29:48,470 --> 00:29:47,120
batteries that we use in the spacesuit

740
00:29:50,630 --> 00:29:48,480
and so

741
00:29:52,470 --> 00:29:50,640
we decided to delay by a few months the

742
00:29:55,269 --> 00:29:52,480
spacewalks and we're launching new

743
00:29:56,549 --> 00:29:55,279
batteries next week on the soyuz

744
00:29:58,389 --> 00:29:56,559
and also we'll send up some spare

745
00:30:01,510 --> 00:29:58,399
batteries on one of the cargo resupply

746
00:30:03,430 --> 00:30:01,520
vehicles so once the the new

747
00:30:06,230 --> 00:30:03,440
batteries get there we should be able to

748
00:30:07,669 --> 00:30:06,240
do spacewalks again in october

749
00:30:09,190 --> 00:30:07,679
and these were ones that were originally

750
00:30:10,870 --> 00:30:09,200
planned in august

751
00:30:13,830 --> 00:30:10,880
so assuming that all those things happen

752
00:30:15,430 --> 00:30:13,840
and these um expedition 41 spacewalks

753
00:30:18,710 --> 00:30:15,440
happen in october

754
00:30:21,830 --> 00:30:18,720
then on expedition 42 as i said earlier

755
00:30:24,149 --> 00:30:21,840
we should be doing two spacewalks

756
00:30:25,590 --> 00:30:24,159
that are designed to lay the foundation

757
00:30:27,669 --> 00:30:25,600
lay the cables

758
00:30:28,470 --> 00:30:27,679
and set the stage for the docking ring

759
00:30:30,630 --> 00:30:28,480
for

760
00:30:32,310 --> 00:30:30,640
american capsules to go there a few

761
00:30:33,269 --> 00:30:32,320
years from now

762
00:30:36,230 --> 00:30:33,279
that's the first part of our

763
00:30:38,149 --> 00:30:36,240

spacewalking question there's other um

764
00:30:40,149 --> 00:30:38,159
more complicated interrelated

765
00:30:42,950 --> 00:30:40,159
dependencies down the road of which

766
00:30:45,430 --> 00:30:42,960
spacex and orbital vehicles fly when

767
00:30:47,430 --> 00:30:45,440
and uh what future spacewalks will do so

768
00:30:48,950 --> 00:30:47,440
during expedition 43 there's a couple of

769
00:30:50,470 --> 00:30:48,960
different options

770
00:30:52,230 --> 00:30:50,480
and uh

771
00:30:53,990 --> 00:30:52,240
that should be decided a couple of weeks

772
00:30:57,029 --> 00:30:54,000
from now once these initial pieces fall

773
00:30:59,430 --> 00:30:57,039
into place but as the crew

774
00:31:02,149 --> 00:30:59,440
we can't be too involved and too worried

775
00:31:03,990 --> 00:31:02,159
about every uh nuance that changes with

776
00:31:05,990 --> 00:31:04,000
the spacewalk plan because we would go

777
00:31:08,549 --> 00:31:06,000
nuts where you know but we have a great

778
00:31:10,710 --> 00:31:08,559
team of managers and engineers that plan

779
00:31:12,070 --> 00:31:10,720
that for us and our job is just to be

780
00:31:13,350 --> 00:31:12,080
ready to do what we need to do and

781
00:31:15,909 --> 00:31:13,360
that's and that's what we'll be able to

782
00:31:18,070 --> 00:31:15,919
do samantha and i are both trained to do

783
00:31:19,669 --> 00:31:18,080
the american spacewalks and anton of

784
00:31:21,990 --> 00:31:19,679
course is trained to do the russian

785
00:31:23,669 --> 00:31:22,000
space sucks so

786
00:31:25,269 --> 00:31:23,679
if you ask me in six months from now

787
00:31:27,269 --> 00:31:25,279
i'll have a better idea about the

788
00:31:29,590 --> 00:31:27,279

spacewalks for expedition 42 and 43 i

789
00:31:31,590 --> 00:31:29,600
can tell you all about them then

790
00:31:33,669 --> 00:31:31,600
okay and as a quick follow-up um the

791
00:31:35,350 --> 00:31:33,679
investigation that was going on into the

792
00:31:37,029 --> 00:31:35,360
uh the incident last summer

793
00:31:38,870 --> 00:31:37,039
uh was had a number of recommendations

794
00:31:40,470 --> 00:31:38,880
that needed to be addressed before it

795
00:31:42,149 --> 00:31:40,480
was going to be before spacewalk's going

796
00:31:43,350 --> 00:31:42,159
to resume so as far as you know is that

797
00:31:45,269 --> 00:31:43,360
has that happened have they got most of

798
00:31:48,549 --> 00:31:45,279
those reps finished

799
00:31:50,470 --> 00:31:48,559
i it's mostly been tied up the um

800
00:31:51,990 --> 00:31:50,480
investigation report has been released

801
00:31:54,630 --> 00:31:52,000
uh i believe you should be able to find

802
00:31:56,070 --> 00:31:54,640
that online but um as far from the

803
00:31:57,509 --> 00:31:56,080
crew's point of view

804
00:31:59,509 --> 00:31:57,519
there's a couple of things that we do to

805
00:32:01,669 --> 00:31:59,519
mitigate the possibility of getting

806
00:32:03,750 --> 00:32:01,679
water in the helmets

807
00:32:05,350 --> 00:32:03,760
we've done some maintenance on the space

808
00:32:06,870 --> 00:32:05,360
suits themselves and

809
00:32:09,110 --> 00:32:06,880
we think that we found the root cause

810
00:32:11,430 --> 00:32:09,120
and some pro some contamination that got

811
00:32:13,430 --> 00:32:11,440
in the suit that clogged some pinpoint

812
00:32:14,789 --> 00:32:13,440
holes that caused water to to come out

813
00:32:17,190 --> 00:32:14,799

into the helmet

814
00:32:18,789 --> 00:32:17,200
so hopefully that problem's fixed and

815
00:32:21,269 --> 00:32:18,799
even if we do have water in the helmet

816
00:32:23,269 --> 00:32:21,279
we have improved procedures to get back

817
00:32:25,669 --> 00:32:23,279
inside quickly

818
00:32:28,070 --> 00:32:25,679
and we have some material in the space

819
00:32:29,110 --> 00:32:28,080
suit that should actually absorb the

820
00:32:31,590 --> 00:32:29,120
water

821
00:32:32,950 --> 00:32:31,600
and they've added a small little snorkel

822
00:32:34,470 --> 00:32:32,960
that you can actually breathe even if

823
00:32:35,990 --> 00:32:34,480
your face is surrounded in water that

824
00:32:37,590 --> 00:32:36,000
you'll be able to breathe so

825
00:32:39,350 --> 00:32:37,600
there's been a lot of

826
00:32:41,430 --> 00:32:39,360
work done on that front

827
00:32:43,669 --> 00:32:41,440
on different aspects of that problem

828
00:32:45,509 --> 00:32:43,679
that um we're in much better shape now

829
00:32:47,110 --> 00:32:45,519
than we were a year ago obviously when

830
00:32:49,590 --> 00:32:47,120
the before we knew that we had this

831
00:32:51,669 --> 00:32:49,600
problem so we we all feel very confident

832
00:32:54,549 --> 00:32:51,679
that the spacewalk

833
00:32:57,269 --> 00:32:54,559
problem that luca parmitano had

834
00:33:00,630 --> 00:32:57,279
last year has been resolved and i feel

835
00:33:03,990 --> 00:33:02,549
all right thank you elizabeth we'll

836
00:33:06,470 --> 00:33:04,000
return back here now to the johnson

837
00:33:08,149 --> 00:33:06,480
space center and questions here so if

838
00:33:09,909 --> 00:33:08,159

you can just raise your hand if you have

839
00:33:11,990 --> 00:33:09,919
a question and state your name again go

840
00:33:13,909 --> 00:33:12,000
ahead hi my name is jeff waters i work

841
00:33:16,230 --> 00:33:13,919
with ilc dover and i'm helping design

842
00:33:17,750 --> 00:33:16,240
the next generation of our spacesuits

843
00:33:19,669 --> 00:33:17,760
now if there was one thing you could

844
00:33:21,909 --> 00:33:19,679
improve upon the current suit what would

845
00:33:24,710 --> 00:33:21,919
it be

846
00:33:28,149 --> 00:33:24,720
do you like to take that

847
00:33:32,870 --> 00:33:30,630
yeah thank you

848
00:33:34,630 --> 00:33:32,880
no generally speaking i guess i mean

849
00:33:36,310 --> 00:33:34,640
obviously there is a size issue but in

850
00:33:39,029 --> 00:33:36,320
general even for people who have the

851
00:33:41,029 --> 00:33:39,039
proper size i think uh mobility is a big

852
00:33:43,269 --> 00:33:41,039
thing of course a suit that was more

853
00:33:45,269 --> 00:33:43,279
mobile that allowed you to move a little

854
00:33:48,389 --> 00:33:45,279
bit more like your normal body dies as

855
00:33:50,310 --> 00:33:48,399
opposed to having to accommodate all the

856
00:33:52,549 --> 00:33:50,320
limitations of the suit joints i think

857
00:33:54,870 --> 00:33:52,559
would be probably the number one thing

858
00:33:56,630 --> 00:33:54,880
the apollo spacesuits were basically

859
00:33:57,830 --> 00:33:56,640
flexible all over you could move around

860
00:33:59,909 --> 00:33:57,840
on them very well

861
00:34:01,750 --> 00:33:59,919
and when we built spacesuits for the

862
00:34:03,269 --> 00:34:01,760
space shuttle and space station we knew

863
00:34:03,909 --> 00:34:03,279

that we'd be doing a lot of spacewalks

864
00:34:05,269 --> 00:34:03,919
and

865
00:34:06,950 --> 00:34:05,279
they were worried that a flexible

866
00:34:08,950 --> 00:34:06,960
spacesuit was more likely to rip and

867
00:34:10,550 --> 00:34:08,960
have a leak so they built these metal

868
00:34:13,109 --> 00:34:10,560
bearings that are they're not going to

869
00:34:15,990 --> 00:34:13,119
rip they're solid metal bearings

870
00:34:18,310 --> 00:34:16,000
um but our bodies are not made in to be

871
00:34:19,829 --> 00:34:18,320
robots in one direction and so

872
00:34:21,990 --> 00:34:19,839
a lot of astronauts end up having

873
00:34:23,349 --> 00:34:22,000
shoulder problems just from having

874
00:34:25,109 --> 00:34:23,359
you know the suit is not designed the

875
00:34:26,950 --> 00:34:25,119
way the human body is designed so like

876
00:34:27,909 --> 00:34:26,960
samantha said if future spacesuits could

877
00:34:30,790 --> 00:34:27,919
be

878
00:34:32,629 --> 00:34:30,800
more flexible and indifferent um

879
00:34:34,550 --> 00:34:32,639
like the way the human body was designed

880
00:34:36,069 --> 00:34:34,560
um that will that will be a big

881
00:34:37,349 --> 00:34:36,079
improvement yeah i think that's

882
00:34:39,030 --> 00:34:37,359
something we're actually really working

883
00:34:41,270 --> 00:34:39,040
on the next two it really has like

884
00:34:44,230 --> 00:34:41,280
outstanding mobility i know there's a

885
00:34:56,869 --> 00:34:44,240
big been a big push for the small emu so

886
00:34:56,879 --> 00:35:00,310
good discussion

887
00:35:06,069 --> 00:35:03,430
i see a hand back there sorry go ahead

888
00:35:08,390 --> 00:35:06,079

hi i'm melissa st crew i work in cx-12

889
00:35:10,150 --> 00:35:08,400
the neutral buoyancy lab and um

890
00:35:12,470 --> 00:35:10,160
christopher eddie you were talking to us

891
00:35:13,349 --> 00:35:12,480
the other day about the little patches

892
00:35:15,510 --> 00:35:13,359
the

893
00:35:18,150 --> 00:35:15,520
expedition 42 patches you might

894
00:35:19,589 --> 00:35:18,160
explaining with the don't panic slogan

895
00:35:21,430 --> 00:35:19,599
for lack of better

896
00:35:23,910 --> 00:35:21,440
oh yeah

897
00:35:25,190 --> 00:35:23,920
you talk about those little stickers

898
00:35:26,870 --> 00:35:25,200
oh

899
00:35:29,109 --> 00:35:26,880
well um

900
00:35:31,190 --> 00:35:29,119
i was i was super excited when i was

901
00:35:32,870 --> 00:35:31,200
assigned to an iss expedition well

902
00:35:34,550 --> 00:35:32,880
mostly because i was assigned to an ss

903
00:35:36,150 --> 00:35:34,560
expedition of course but

904
00:35:38,069 --> 00:35:36,160
part of the excitement was also that it

905
00:35:40,630 --> 00:35:38,079
was uh with terry so that was that was

906
00:35:42,310 --> 00:35:40,640
the main i was gonna say

907
00:35:44,790 --> 00:35:42,320
that's because with anton that was even

908
00:35:46,470 --> 00:35:44,800
greater but um

909
00:35:49,190 --> 00:35:46,480
but then part of the excitement was that

910
00:35:51,109 --> 00:35:49,200
it was 42. and i'm i'm a big science

911
00:35:52,870 --> 00:35:51,119
fiction fan and one of the things that i

912
00:35:55,349 --> 00:35:52,880
really love is this

913
00:35:57,190 --> 00:35:55,359

trilogy in five parts that some of you

914
00:35:59,670 --> 00:35:57,200
might know which is the douglas adams

915
00:36:01,670 --> 00:35:59,680
books and the first one of the book is

916
00:36:03,990 --> 00:36:01,680
the hitchhiker's guide to the galaxy

917
00:36:06,390 --> 00:36:04,000
and in this book it's kind of funny but

918
00:36:08,790 --> 00:36:06,400
42 is the answer to the ultimate

919
00:36:09,910 --> 00:36:08,800
question of life the universe and

920
00:36:11,190 --> 00:36:09,920
everything

921
00:36:14,550 --> 00:36:11,200
now of course nobody knows what the

922
00:36:15,829 --> 00:36:14,560
question is but 42 is the answer

923
00:36:17,430 --> 00:36:15,839
and this hitchhiker's guide to the

924
00:36:19,910 --> 00:36:17,440
galaxy is the title of the book but it's

925
00:36:23,190 --> 00:36:19,920
also a book in the novel that everybody

926
00:36:25,190 --> 00:36:23,200
carries with them and it has this big

927
00:36:26,870 --> 00:36:25,200
words written on the cover which is

928
00:36:28,390 --> 00:36:26,880
don't panic

929
00:36:29,589 --> 00:36:28,400
and so we have this little patch made

930
00:36:32,150 --> 00:36:29,599
which is you know has a little

931
00:36:34,710 --> 00:36:32,160
hitchhiking hand which is from the um i

932
00:36:37,030 --> 00:36:34,720
guess from the movie that was made and

933
00:36:40,390 --> 00:36:37,040
and then 42 don't panic on the other

934
00:36:42,069 --> 00:36:40,400
hand i can announce that next week our

935
00:36:44,470 --> 00:36:42,079
poster is going to be released our

936
00:36:45,910 --> 00:36:44,480
expedition poster and i'm not going to

937
00:36:49,510 --> 00:36:45,920
spoil it for you but i'm going to just

938
00:36:56,950 --> 00:36:52,230

you heard it here first

939
00:37:01,109 --> 00:36:58,790
oh yeah definitely i'll just cut your

940
00:37:03,190 --> 00:37:01,119
town with you

941
00:37:05,349 --> 00:37:03,200
one of the other cool things about 42

942
00:37:07,750 --> 00:37:05,359
one of the fun things as a crew we've

943
00:37:10,310 --> 00:37:07,760
had a chance to go see the astros the

944
00:37:12,069 --> 00:37:10,320
rockets and the texans so i i took anton

945
00:37:14,230 --> 00:37:12,079
and samantha to see all the local

946
00:37:16,550 --> 00:37:14,240
american sports and um

947
00:37:18,310 --> 00:37:16,560
is all baseball fans and now samantha

948
00:37:20,630 --> 00:37:18,320
knows 42 was the number of jackie

949
00:37:23,349 --> 00:37:20,640
robinson so it was a cool

950
00:37:28,150 --> 00:37:23,359
mission to be on for the douglas adams

951
00:37:34,950 --> 00:37:31,589
um we'll turn back to questions

952
00:37:36,310 --> 00:37:34,960
go ahead we have one back there um

953
00:37:38,150 --> 00:37:36,320
i work in the innovation design center

954
00:37:40,069 --> 00:37:38,160
also sometimes called the sandbox

955
00:37:41,589 --> 00:37:40,079
um this is also related to a book called

956
00:37:43,910 --> 00:37:41,599
the andromeda strain

957
00:37:45,270 --> 00:37:43,920
um i was wondering is there a procedure

958
00:37:47,670 --> 00:37:45,280
protocol

959
00:37:53,910 --> 00:37:47,680
that's meant to deal with um the

960
00:37:57,349 --> 00:37:55,910
we just had our meeting with our

961
00:37:58,870 --> 00:37:57,359
procedures people and how many

962
00:38:01,109 --> 00:37:58,880
procedures do we have on board how many

963
00:38:03,510 --> 00:38:01,119

pages of procedures it was like hundreds

964
00:38:05,270 --> 00:38:03,520
of thousands of pages of procedures and

965
00:38:07,190 --> 00:38:05,280
there's not one of those on board to

966
00:38:08,950 --> 00:38:07,200
deal with that so

967
00:38:10,470 --> 00:38:08,960
my assumption is that it would be some

968
00:38:12,950 --> 00:38:10,480
kind of form of bacteria so the

969
00:38:14,390 --> 00:38:12,960
procedure would be containment but yeah

970
00:38:17,030 --> 00:38:14,400
we'd probably not be talking to them

971
00:38:20,310 --> 00:38:18,390
all right we're going to switch back to

972
00:38:22,069 --> 00:38:20,320
social media um i believe we have some

973
00:38:24,870 --> 00:38:22,079
more questions so and again to our

974
00:38:26,870 --> 00:38:24,880
audience to be sure to submit them using

975
00:38:29,030 --> 00:38:26,880
ask nasa go ahead and make it all right

976
00:38:31,270 --> 00:38:29,040
these questions come from twitter um the

977
00:38:33,910 --> 00:38:31,280
first is from power moves for astra

978
00:38:37,270 --> 00:38:33,920
terry in space does your vision change

979
00:38:38,870 --> 00:38:37,280
does food taste the same

980
00:38:40,069 --> 00:38:38,880
first question about vision that's a

981
00:38:41,910 --> 00:38:40,079
great question it's one of the most

982
00:38:43,510 --> 00:38:41,920
important problems that we're dealing

983
00:38:45,190 --> 00:38:43,520
with right now

984
00:38:47,349 --> 00:38:45,200
in the short duration universe that we

985
00:38:48,870 --> 00:38:47,359
had at nasa before about 30 percent of

986
00:38:50,790 --> 00:38:48,880
astronauts came back with some vision

987
00:38:51,670 --> 00:38:50,800
problems and then it he had corrected

988
00:38:53,670 --> 00:38:51,680

itself

989
00:38:55,829 --> 00:38:53,680
and now we're finding that 60 of long

990
00:38:57,510 --> 00:38:55,839
duration flyers have vision and some of

991
00:38:59,670 --> 00:38:57,520
those don't correct i mean they

992
00:39:00,950 --> 00:38:59,680
they can still see but you have degraded

993
00:39:02,950 --> 00:39:00,960
vision

994
00:39:04,230 --> 00:39:02,960
and so one of the main experiments i'm

995
00:39:06,310 --> 00:39:04,240
doing is going to be a pretty

996
00:39:08,470 --> 00:39:06,320
comprehensive study of

997
00:39:09,510 --> 00:39:08,480
vision i'll be doing an ultrasound on my

998
00:39:12,550 --> 00:39:09,520
eyes

999
00:39:14,550 --> 00:39:12,560
an oct scan

1000
00:39:16,150 --> 00:39:14,560
a fundoscope several different cameras

1001
00:39:19,030 --> 00:39:16,160
looking inside the eye

1002
00:39:21,270 --> 00:39:19,040
some ultrasound of my brain and heart

1003
00:39:23,190 --> 00:39:21,280
and how the blood pressure and blood

1004
00:39:25,109 --> 00:39:23,200
flow works into the eye and so there's a

1005
00:39:26,390 --> 00:39:25,119
very

1006
00:39:28,550 --> 00:39:26,400
kind of intense

1007
00:39:30,150 --> 00:39:28,560
focus on that problem right now of

1008
00:39:32,230 --> 00:39:30,160
astronaut vision

1009
00:39:33,510 --> 00:39:32,240
it hasn't so far knocked on what hasn't

1010
00:39:34,710 --> 00:39:33,520
been anything terrible but it is

1011
00:39:36,470 --> 00:39:34,720
something that we're noticing and it's

1012
00:39:38,470 --> 00:39:36,480
not something that we want for the

1013
00:39:39,430 --> 00:39:38,480

future so we're studying it right now to

1014
00:39:42,069 --> 00:39:39,440
hopefully

1015
00:39:44,790 --> 00:39:42,079
come up with ways to prevent it

1016
00:39:46,310 --> 00:39:44,800
bone loss and muscle loss has been a

1017
00:39:47,829 --> 00:39:46,320
problem in the past

1018
00:39:49,990 --> 00:39:47,839
and so we studied that and one of the

1019
00:39:51,910 --> 00:39:50,000
ways to prevent it is through exercise

1020
00:39:53,829 --> 00:39:51,920
and certain different types of nutrition

1021
00:39:55,349 --> 00:39:53,839
we're studying that also but that's an

1022
00:39:57,829 --> 00:39:55,359
example of how we kind of studied

1023
00:39:59,030 --> 00:39:57,839
something and figured out how to fix it

1024
00:40:00,470 --> 00:39:59,040
i just heard from our strength and

1025
00:40:03,349 --> 00:40:00,480
conditioning guy this morning that guys

1026
00:40:05,430 --> 00:40:03,359
come back with only 0.3 percent of bone

1027
00:40:08,069 --> 00:40:05,440
loss so basically you're because of the

1028
00:40:09,190 --> 00:40:08,079
exercise we do and because of the um

1029
00:40:11,510 --> 00:40:09,200
some of the different medicines they

1030
00:40:14,150 --> 00:40:11,520
give us we're basically coming back with

1031
00:40:15,829 --> 00:40:14,160
almost no bone loss and so hopefully

1032
00:40:17,910 --> 00:40:15,839
that success will translate into the eye

1033
00:40:20,630 --> 00:40:17,920
problem and we can

1034
00:40:21,589 --> 00:40:20,640
keep guys eyes healthy

1035
00:40:22,390 --> 00:40:21,599
okay

1036
00:40:24,390 --> 00:40:22,400
all right

1037
00:40:28,470 --> 00:40:24,400
one more social media question yeah um

1038
00:40:29,910 --> 00:40:28,480

and then also about the food oh food yes

1039
00:40:32,150 --> 00:40:29,920
you know

1040
00:40:33,750 --> 00:40:32,160
i enjoyed the food the food that we get

1041
00:40:35,190 --> 00:40:33,760
from our food lab here is much better

1042
00:40:37,670 --> 00:40:35,200
than what i would cook if i were a

1043
00:40:39,109 --> 00:40:37,680
bachelor on my own um

1044
00:40:50,230 --> 00:40:39,119
what do you anton can probably answer

1045
00:40:50,240 --> 00:40:59,030
productive

1046
00:41:03,670 --> 00:41:00,870
well i can share my experience because i

1047
00:41:06,230 --> 00:41:03,680
have been on station almost half a year

1048
00:41:07,589 --> 00:41:06,240
before we fly we do a food test where we

1049
00:41:09,670 --> 00:41:07,599
try out all the different foods that

1050
00:41:12,150 --> 00:41:09,680
we'll be eating on station the foods are

1051
00:41:13,190 --> 00:41:12,160
provided by the russian space agents in

1052
00:41:15,109 --> 00:41:13,200
nasa

1053
00:41:17,030 --> 00:41:15,119
the european space agency the canadian

1054
00:41:18,470 --> 00:41:17,040
space agency and the japanese space

1055
00:41:35,670 --> 00:41:18,480
agency

1056
00:41:39,349 --> 00:41:37,910
and i agree with terry that at least he

1057
00:41:42,230 --> 00:41:39,359
and i would not be able to prepare

1058
00:41:44,550 --> 00:41:42,240
anything like that on the earth for

1059
00:41:46,470 --> 00:41:44,560
there is much better and samantha she

1060
00:42:07,750 --> 00:41:46,480
has a special italian chef that has

1061
00:42:11,670 --> 00:42:10,069
but even regardless of how good these

1062
00:42:14,150 --> 00:42:11,680
foods may taste on earth when you're

1063
00:42:16,710 --> 00:42:14,160

trying them after half a year of eating

1064
00:42:18,309 --> 00:42:16,720
canned foods and sublimated foods

1065
00:42:20,230 --> 00:42:18,319
whenever you open something after three

1066
00:42:21,829 --> 00:42:20,240
or four months it's just not very

1067
00:42:23,670 --> 00:42:21,839
exciting to see it and to think about

1068
00:42:27,990 --> 00:42:23,680
eating something from that container

1069
00:42:28,000 --> 00:42:38,069
normally

1070
00:42:42,710 --> 00:42:40,710
and of course the dream was once you're

1071
00:42:44,550 --> 00:42:42,720
turned back to earth to have some real

1072
00:42:47,030 --> 00:42:44,560
food that was prepared by your spouse

1073
00:42:50,790 --> 00:42:47,040
maybe some soup or borscht or a steak

1074
00:42:54,390 --> 00:42:52,390
all right um

1075
00:42:56,150 --> 00:42:54,400
now you've wetted all of our appetites

1076
00:42:58,710 --> 00:42:56,160
we'll take one more media question jim

1077
00:43:01,030 --> 00:42:58,720
i'd like to ask a question that combines

1078
00:43:02,950 --> 00:43:01,040
comments by looking through the

1079
00:43:04,230 --> 00:43:02,960
window at the earth and the other

1080
00:43:06,870 --> 00:43:04,240
comments about

1081
00:43:09,589 --> 00:43:06,880
what you do if you met an alien

1082
00:43:11,270 --> 00:43:09,599
in the past year unexpectedly two

1083
00:43:12,870 --> 00:43:11,280
crewmen have seen rockets launched from

1084
00:43:14,069 --> 00:43:12,880
earth by accident they were doing

1085
00:43:16,390 --> 00:43:14,079
something and something else showed up

1086
00:43:17,349 --> 00:43:16,400
in the window so don't stick to your

1087
00:43:18,950 --> 00:43:17,359
schedule

1088
00:43:21,510 --> 00:43:18,960

are you up when you look out that window

1089
00:43:23,030 --> 00:43:21,520
are you looking for unusual things

1090
00:43:24,829 --> 00:43:23,040
and we tell you will you tell us about

1091
00:43:28,069 --> 00:43:24,839
it if you see

1092
00:43:30,390 --> 00:43:28,079
them the uh

1093
00:43:31,670 --> 00:43:30,400
i only was able to spend short duration

1094
00:43:35,030 --> 00:43:31,680
during the space shuttle program in

1095
00:43:37,349 --> 00:43:35,040
space but looking at earth is

1096
00:43:38,550 --> 00:43:37,359
the most powerful drug you can imagine

1097
00:43:40,470 --> 00:43:38,560
you just can't

1098
00:43:41,910 --> 00:43:40,480
get enough of it and that's kind of all

1099
00:43:43,349 --> 00:43:41,920
you want to do not only earth but also

1100
00:43:44,390 --> 00:43:43,359
looking up into space

1101
00:43:46,710 --> 00:43:44,400
and so

1102
00:43:47,589 --> 00:43:46,720
um i'm sure i'll be spending my time

1103
00:43:48,870 --> 00:43:47,599
looking

1104
00:43:50,870 --> 00:43:48,880
at everything and there's so many

1105
00:43:52,790 --> 00:43:50,880
amazing things to see the

1106
00:43:55,589 --> 00:43:52,800
thunderstorms in the amazon and central

1107
00:43:57,270 --> 00:43:55,599
africa are

1108
00:43:58,790 --> 00:43:57,280
i mean you just can't get enough of that

1109
00:44:00,950 --> 00:43:58,800
especially at dawn because then you can

1110
00:44:02,230 --> 00:44:00,960
see both the clouds and the lightning

1111
00:44:04,630 --> 00:44:02,240
you know if it's night all you see is

1112
00:44:05,750 --> 00:44:04,640
lightning or if it's day all you see is

1113
00:44:07,510 --> 00:44:05,760

clouds but

1114
00:44:09,109 --> 00:44:07,520
there's just a lot of things

1115
00:44:10,710 --> 00:44:09,119
jim i think there's stuff that i don't

1116
00:44:12,870 --> 00:44:10,720
even know you know i haven't imagined

1117
00:44:17,750 --> 00:44:12,880
what i'm going to see yet i i think uh

1118
00:44:22,870 --> 00:44:20,870
right so um it's and that's really cool

1119
00:44:24,390 --> 00:44:22,880
to look back because you're not

1120
00:44:26,150 --> 00:44:24,400
an earthling anymore you're living in

1121
00:44:27,510 --> 00:44:26,160
space never seen before and views you've

1122
00:44:29,109 --> 00:44:27,520
ever seen before

1123
00:44:29,910 --> 00:44:29,119
and i've got it with me but

1124
00:44:32,069 --> 00:44:29,920
right

1125
00:44:33,910 --> 00:44:32,079
the the aurora i remember looking out

1126
00:44:35,829 --> 00:44:33,920
you could see details in the atmosphere

1127
00:44:37,349 --> 00:44:35,839
at night but when i flew the cameras we

1128
00:44:38,630 --> 00:44:37,359
had weren't good enough to pick that up

1129
00:44:41,030 --> 00:44:38,640
but now the

1130
00:44:42,630 --> 00:44:41,040
with the cameras that we have um they're

1131
00:44:44,470 --> 00:44:42,640
sensitive enough and so these pictures

1132
00:44:45,349 --> 00:44:44,480
have been very popular the last couple

1133
00:44:47,430 --> 00:44:45,359
years

1134
00:44:49,270 --> 00:44:47,440
um but it's i'm excited that there's a

1135
00:44:52,470 --> 00:44:49,280
camera good enough to pick probably even

1136
00:44:54,950 --> 00:44:52,480
better than what our eyes are to see it

1137
00:45:01,829 --> 00:44:54,960
yeah any anything did anything surprise

1138
00:45:01,839 --> 00:45:16,390

that's pressured after

1139
00:45:19,990 --> 00:45:18,309
saying that when anyone asks the

1140
00:45:22,230 --> 00:45:20,000
cosmonauts or astronauts what do they

1141
00:45:23,670 --> 00:45:22,240
prefer to do on space and on on the

1142
00:45:26,710 --> 00:45:23,680
space station what is the most

1143
00:45:28,470 --> 00:45:26,720
interesting thing everyone answers that

1144
00:45:45,670 --> 00:45:28,480
the best thing they do is to look at

1145
00:45:49,109 --> 00:45:47,109
but i can

1146
00:45:51,430 --> 00:45:49,119
add to what terry said that

1147
00:45:53,430 --> 00:45:51,440
even though they do upgrade the cameras

1148
00:45:55,910 --> 00:45:53,440
every year and they are getting better

1149
00:45:57,589 --> 00:45:55,920
and better as of now the human eyes can

1150
00:46:36,230 --> 00:45:57,599
still behold things that the cameras

1151
00:46:39,589 --> 00:46:37,829
if we see something interesting we'll

1152
00:46:41,109 --> 00:46:39,599
send a tweet out

1153
00:46:43,510 --> 00:46:41,119
for sure

1154
00:46:45,430 --> 00:46:43,520
i can just say that uh when you're

1155
00:46:46,870 --> 00:46:45,440
looking out the windows on the space

1156
00:46:48,950 --> 00:46:46,880
station you may see something that you

1157
00:46:51,589 --> 00:46:48,960
think looks amazing for example a

1158
00:46:54,069 --> 00:46:51,599
hurricane or the clouds or the desert

1159
00:46:56,150 --> 00:46:54,079
under a certain angle of a setting sun

1160
00:46:57,589 --> 00:46:56,160
and so you dash with the camera you take

1161
00:46:58,790 --> 00:46:57,599
pictures but then in the evening when

1162
00:47:01,109 --> 00:46:58,800
you're going through all your pictures

1163
00:47:03,750 --> 00:47:01,119

they just look like ordinary pictures

1164
00:47:06,309 --> 00:47:03,760
so it is important to look out with your

1165
00:47:07,829 --> 00:47:06,319
eyes and to experience that uh for

1166
00:47:09,990 --> 00:47:07,839
yourself and

1167
00:47:12,870 --> 00:47:10,000
if for no other reason you should fly

1168
00:47:16,550 --> 00:47:15,109
okay we are going to switch now to the

1169
00:47:18,150 --> 00:47:16,560
european space agency where they're

1170
00:47:21,270 --> 00:47:18,160
hosting some media as well so we'll be

1171
00:47:26,710 --> 00:47:24,630
hello this is jules from esapo here in

1172
00:47:29,109 --> 00:47:26,720
isaiah stream do you hear me

1173
00:47:30,950 --> 00:47:29,119
yes we hear you fine okay then we have

1174
00:47:32,950 --> 00:47:30,960
gathered a few questions from our social

1175
00:47:35,270 --> 00:47:32,960
media channel and the first one comes

1176
00:47:37,670 --> 00:47:35,280
from twitter from spaceman

1177
00:47:39,670 --> 00:47:37,680
and it's for samantha he's wondering

1178
00:47:41,270 --> 00:47:39,680
just how are you feeling how do you feel

1179
00:47:43,510 --> 00:47:41,280
a few weeks before the launch like you

1180
00:47:45,190 --> 00:47:43,520
said it's a press conference so it means

1181
00:47:48,150 --> 00:47:45,200
like you're getting close how do you

1182
00:47:50,470 --> 00:47:48,950
well

1183
00:47:53,589 --> 00:47:50,480
a mix of

1184
00:47:55,750 --> 00:47:53,599
feelings i'd say one is uh i feel a

1185
00:47:57,670 --> 00:47:55,760
little bit overwhelmed i have to admit

1186
00:47:59,910 --> 00:47:57,680
uh because coming close to lunch there

1187
00:48:02,069 --> 00:47:59,920
is a lot to do

1188
00:48:04,230 --> 00:48:02,079

i guess most of our training i guess is

1189
00:48:06,150 --> 00:48:04,240
behind us but there is a lot of last

1190
00:48:09,190 --> 00:48:06,160
minute things that have to get done you

1191
00:48:11,589 --> 00:48:09,200
know that last emergency same that last

1192
00:48:13,270 --> 00:48:11,599
run in the pool that last vacuum chamber

1193
00:48:15,349 --> 00:48:13,280
run

1194
00:48:17,270 --> 00:48:15,359
and then coming closer to the launch you

1195
00:48:19,510 --> 00:48:17,280
have more and more like baseline data

1196
00:48:21,349 --> 00:48:19,520
collection sections that those are

1197
00:48:23,589 --> 00:48:21,359
basically experiments

1198
00:48:26,309 --> 00:48:23,599
or done for experiments where you will

1199
00:48:28,309 --> 00:48:26,319
be the subject in space and

1200
00:48:29,910 --> 00:48:28,319
scientists need the comparison so they

1201
00:48:31,670 --> 00:48:29,920
need to run the experiment on you a

1202
00:48:33,109 --> 00:48:31,680
couple of times before you launch and

1203
00:48:35,190 --> 00:48:33,119
then they will do it in space a few

1204
00:48:36,790 --> 00:48:35,200
times or you will do it on yourself and

1205
00:48:39,190 --> 00:48:36,800
then again when you come back so that

1206
00:48:41,349 --> 00:48:39,200
they compare so there is a lot of that

1207
00:48:43,030 --> 00:48:41,359
going on right now um

1208
00:48:44,790 --> 00:48:43,040
a lot of last minute updates from the

1209
00:48:46,790 --> 00:48:44,800
different management teams and flight

1210
00:48:50,309 --> 00:48:46,800
control teams you know what's actually

1211
00:48:52,069 --> 00:48:50,319
going or going to happen during our

1212
00:48:53,990 --> 00:48:52,079
expedition or at least to the best of

1213
00:48:55,670 --> 00:48:54,000

our knowledge because as terry said uh

1214
00:48:56,710 --> 00:48:55,680
plans always change

1215
00:48:59,030 --> 00:48:56,720
um

1216
00:49:00,470 --> 00:48:59,040
so you know i'm definitely very very

1217
00:49:02,470 --> 00:49:00,480
busy my scheduler who's here in the room

1218
00:49:04,870 --> 00:49:02,480
she keeps me really busy

1219
00:49:05,990 --> 00:49:04,880
but she's great thanks alicia

1220
00:49:07,589 --> 00:49:06,000
and then you know you have this

1221
00:49:09,750 --> 00:49:07,599
full-time job and then you have a lot of

1222
00:49:11,829 --> 00:49:09,760
deadlines coming up that also keep you

1223
00:49:13,270 --> 00:49:11,839
busy like you know you have to turn in

1224
00:49:14,549 --> 00:49:13,280
the list of the you know the little

1225
00:49:16,470 --> 00:49:14,559
things that you

1226
00:49:18,230 --> 00:49:16,480
want to bring to the space station your

1227
00:49:19,829 --> 00:49:18,240
personal allocation you have to make the

1228
00:49:22,309 --> 00:49:19,839
list of your contacts you have to get

1229
00:49:24,470 --> 00:49:22,319
your music ready and it sounds very

1230
00:49:26,790 --> 00:49:24,480
mundane and very simple but it kind of

1231
00:49:28,710 --> 00:49:26,800
adds up to a second full-time job right

1232
00:49:30,630 --> 00:49:28,720
now so

1233
00:49:32,630 --> 00:49:30,640
on the one hand trying to to keep up

1234
00:49:34,630 --> 00:49:32,640
with all of all of that is it's quite

1235
00:49:36,549 --> 00:49:34,640
overwhelming um on the other hand once

1236
00:49:38,150 --> 00:49:36,559
in a while you have events like this

1237
00:49:39,829 --> 00:49:38,160
where um

1238
00:49:41,430 --> 00:49:39,839

you know it's all about this mission

1239
00:49:43,750 --> 00:49:41,440
that is coming up and it really starts

1240
00:49:45,910 --> 00:49:43,760
to sink in that hey i mean this is

1241
00:49:47,510 --> 00:49:45,920
happening really soon so in in a couple

1242
00:49:49,910 --> 00:49:47,520
of months i will be

1243
00:49:51,990 --> 00:49:49,920
not on this planet and and i will be up

1244
00:49:54,069 --> 00:49:52,000
there for six months so it it's starting

1245
00:49:55,670 --> 00:49:54,079
to really sink in but i think it it

1246
00:49:58,309 --> 00:49:55,680
really ramps up like that just because

1247
00:50:00,710 --> 00:49:58,319
we are so busy up to the the very last

1248
00:50:03,109 --> 00:50:00,720
few weeks i think when when we'll be

1249
00:50:04,950 --> 00:50:03,119
done with the exams in in in russia at

1250
00:50:06,870 --> 00:50:04,960
the end of october and then we'll have a

1251
00:50:08,790 --> 00:50:06,880
rest week in in moscow and then we'll

1252
00:50:11,030 --> 00:50:08,800
have our two weeks of quarantine in in

1253
00:50:12,470 --> 00:50:11,040
baikonur and things will quiet down i

1254
00:50:14,950 --> 00:50:12,480
think that's where the

1255
00:50:18,230 --> 00:50:14,960
emotional aspect of it really really

1256
00:50:22,390 --> 00:50:20,069
and talking about the preparation of the

1257
00:50:25,109 --> 00:50:22,400
mission fly view on twitter is wondering

1258
00:50:27,670 --> 00:50:25,119
if you had to pick the most fascinating

1259
00:50:32,710 --> 00:50:27,680
experience of the preparation of your

1260
00:50:37,270 --> 00:50:35,349
i think what's most fascinating is the

1261
00:50:39,670 --> 00:50:37,280
experience as a whole

1262
00:50:41,829 --> 00:50:39,680
and i guess is that experience of

1263
00:50:43,589 --> 00:50:41,839

turning especially as a person like me i

1264
00:50:45,829 --> 00:50:43,599
mean just five years ago i was doing

1265
00:50:46,950 --> 00:50:45,839
something completely different

1266
00:50:49,190 --> 00:50:46,960
so

1267
00:50:52,150 --> 00:50:49,200
this whole experience of in just a few

1268
00:50:54,069 --> 00:50:52,160
years turning from a somebody who was

1269
00:50:56,870 --> 00:50:54,079
very passionate about space and tried to

1270
00:50:58,710 --> 00:50:56,880
read about space and had a lot of

1271
00:51:00,710 --> 00:50:58,720
knowledge as an enthusiast or from the

1272
00:51:02,710 --> 00:51:00,720
enthusiast's point of view and then

1273
00:51:05,990 --> 00:51:02,720
turning that person over a few years

1274
00:51:07,990 --> 00:51:06,000
into somebody who is actually ready to

1275
00:51:10,549 --> 00:51:08,000
fly to space and to live and work in

1276
00:51:14,549 --> 00:51:10,559
space for six months and hopefully be

1277
00:51:16,150 --> 00:51:14,559
able to perform properly a lot of

1278
00:51:18,549 --> 00:51:16,160
very diverse

1279
00:51:20,390 --> 00:51:18,559
and complex tasks and hopefully i'll be

1280
00:51:22,549 --> 00:51:20,400
able to do that or at least that's the

1281
00:51:24,950 --> 00:51:22,559
expectation um

1282
00:51:26,950 --> 00:51:24,960
this this whole experience of you know

1283
00:51:28,230 --> 00:51:26,960
transforming yourself in a way in a

1284
00:51:29,910 --> 00:51:28,240
different person at least from the

1285
00:51:32,309 --> 00:51:29,920
professional point of view but also you

1286
00:51:34,150 --> 00:51:32,319
know as a person you grow so much i

1287
00:51:35,910 --> 00:51:34,160
think that that's what most fascinating

1288
00:51:37,829 --> 00:51:35,920

and i really look forward to the the

1289
00:51:39,829 --> 00:51:37,839
next part of it which is

1290
00:51:41,349 --> 00:51:39,839
transforming into a person and and that

1291
00:51:42,710 --> 00:51:41,359
doesn't happen in one day right you know

1292
00:51:44,150 --> 00:51:42,720
people tell you there is a learning

1293
00:51:47,030 --> 00:51:44,160
curve it's going to take you know a few

1294
00:51:48,790 --> 00:51:47,040
weeks a month maybe longer but you know

1295
00:51:50,470 --> 00:51:48,800
having that learning curve that learning

1296
00:51:52,710 --> 00:51:50,480
experience and then really transforming

1297
00:51:54,309 --> 00:51:52,720
myself into a person who can live and

1298
00:51:57,750 --> 00:51:54,319
operate in

1299
00:52:00,549 --> 00:51:58,950
you know i'm guessing you you're

1300
00:52:03,190 --> 00:52:00,559
starting packing everything and that's

1301
00:52:04,549 --> 00:52:03,200
why probably mariel pitt on twitter as

1302
00:52:06,870 --> 00:52:04,559
well is wondering

1303
00:52:08,950 --> 00:52:06,880
what you put in your personal suitcase

1304
00:52:10,950 --> 00:52:08,960
and she's also asking what would you

1305
00:52:13,990 --> 00:52:10,960
like to take that you couldn't take with

1306
00:52:17,990 --> 00:52:15,910
what i would like to take is probably

1307
00:52:19,430 --> 00:52:18,000
all my electronic gadgets if you cannot

1308
00:52:21,589 --> 00:52:19,440
take unfortunately anything that is

1309
00:52:25,030 --> 00:52:21,599
battery powered in in your own personal

1310
00:52:27,190 --> 00:52:25,040
uh stuff so you have to give up all that

1311
00:52:29,990 --> 00:52:27,200
um although there's a lot of cool tools

1312
00:52:32,950 --> 00:52:30,000
on on the space station already um i'm

1313
00:52:36,870 --> 00:52:32,960

uh you know i've packed and i will be

1314
00:52:38,150 --> 00:52:36,880
packing uh very um diverse things i mean

1315
00:52:40,870 --> 00:52:38,160
it goes from

1316
00:52:42,630 --> 00:52:40,880
comfortable clothing warm nice soft

1317
00:52:44,630 --> 00:52:42,640
comfortable clothing that you can change

1318
00:52:46,150 --> 00:52:44,640
into at the end of a work day and so

1319
00:52:50,150 --> 00:52:46,160
you're not stuck maybe with those

1320
00:52:53,349 --> 00:52:50,160
somewhat hard pants that we are issued

1321
00:52:55,190 --> 00:52:53,359
for the six months uh to a little gifts

1322
00:52:56,309 --> 00:52:55,200
for family and friends

1323
00:52:58,150 --> 00:52:56,319
um

1324
00:52:59,910 --> 00:52:58,160
little things that that i have chosen to

1325
00:53:02,390 --> 00:52:59,920
bring up that will make nice gifts when

1326
00:53:05,349 --> 00:53:02,400
i come back i've actually

1327
00:53:07,589 --> 00:53:05,359
printed out tiny little booklets with

1328
00:53:09,349 --> 00:53:07,599
mainly poems that i have selected and

1329
00:53:10,790 --> 00:53:09,359
i've printed out a bunch of those and i

1330
00:53:13,190 --> 00:53:10,800
hope to bring in space and then have

1331
00:53:15,030 --> 00:53:13,200
them as gifts for people

1332
00:53:16,309 --> 00:53:15,040
maybe a few little gadgets that you can

1333
00:53:17,910 --> 00:53:16,319
do cool

1334
00:53:19,030 --> 00:53:17,920
scientific demonstrations on your free

1335
00:53:22,710 --> 00:53:19,040
time with

1336
00:53:25,349 --> 00:53:22,720
um i'm also bringing a flag for some

1337
00:53:27,190 --> 00:53:25,359
friends of mine who are

1338
00:53:28,549 --> 00:53:27,200

have a handicap but that doesn't prevent

1339
00:53:30,230 --> 00:53:28,559
them they're on a wheelchair but that

1340
00:53:31,910 --> 00:53:30,240
doesn't prevent them from actually being

1341
00:53:34,150 --> 00:53:31,920
pilots and also

1342
00:53:35,829 --> 00:53:34,160
actually performing in airships as an

1343
00:53:38,230 --> 00:53:35,839
aerobatic

1344
00:53:40,790 --> 00:53:38,240
flying group and so we have this

1345
00:53:42,870 --> 00:53:40,800
initiative together which is we fly with

1346
00:53:44,390 --> 00:53:42,880
futura which is the name of my mission

1347
00:53:45,270 --> 00:53:44,400
from the european space agency point of

1348
00:53:47,270 --> 00:53:45,280
view

1349
00:53:49,589 --> 00:53:47,280
dare to fly and and so i'm bringing a

1350
00:53:51,589 --> 00:53:49,599
flag of this uh

1351
00:53:53,190 --> 00:53:51,599
partnership that we have that where the

1352
00:53:54,549 --> 00:53:53,200
message is really you know no matter

1353
00:53:56,549 --> 00:53:54,559
what your

1354
00:53:58,150 --> 00:53:56,559
difficulties may be and and a handicap

1355
00:54:00,870 --> 00:53:58,160
of course is a very objective difficulty

1356
00:54:02,549 --> 00:54:00,880
you know you can always uh dare to dream

1357
00:54:06,470 --> 00:54:02,559
and find a way around those difficulties

1358
00:54:10,549 --> 00:54:08,309
well that sounds like you put a lot of

1359
00:54:12,390 --> 00:54:10,559
your personal feelings also into this

1360
00:54:13,829 --> 00:54:12,400
mission and russella who is following

1361
00:54:16,710 --> 00:54:13,839
you on google plus

1362
00:54:19,109 --> 00:54:16,720
is asking do you have a personal or

1363
00:54:20,309 --> 00:54:19,119

professional goal for your stay on the

1364
00:54:22,829 --> 00:54:20,319
mission

1365
00:54:24,470 --> 00:54:22,839
on the station sorry

1366
00:54:26,790 --> 00:54:24,480
um

1367
00:54:28,710 --> 00:54:26,800
i guess my professional goal but it goes

1368
00:54:30,630 --> 00:54:28,720
a little bit into the personal as well

1369
00:54:31,510 --> 00:54:30,640
because i mean going to space for me has

1370
00:54:33,670 --> 00:54:31,520
been

1371
00:54:35,349 --> 00:54:33,680
not only a professional goal but also

1372
00:54:36,950 --> 00:54:35,359
really the the

1373
00:54:39,430 --> 00:54:36,960
fulfillment of a dream i've had since i

1374
00:54:42,390 --> 00:54:39,440
was a child is is really

1375
00:54:45,270 --> 00:54:42,400
being able to to uh put into good use

1376
00:54:47,270 --> 00:54:45,280
all of the training i've had and uh

1377
00:54:49,270 --> 00:54:47,280
demonstrate also to myself that i am

1378
00:54:51,030 --> 00:54:49,280
able to perform as a crew member on

1379
00:54:53,829 --> 00:54:51,040
board to be a valuable member of the

1380
00:54:54,870 --> 00:54:53,839
team and

1381
00:54:56,549 --> 00:54:54,880
you know you have you have a lot of

1382
00:54:58,630 --> 00:54:56,559
responsibility i think as a crew member

1383
00:55:01,030 --> 00:54:58,640
because there is so much that depends on

1384
00:55:03,589 --> 00:55:01,040
you but on in which other people other

1385
00:55:05,910 --> 00:55:03,599
teams science teams the systems teams so

1386
00:55:07,430 --> 00:55:05,920
many teams have invested so much into

1387
00:55:09,589 --> 00:55:07,440
and you then are in the position of

1388
00:55:11,510 --> 00:55:09,599

putting the last the last piece of the

1389
00:55:13,589 --> 00:55:11,520
puzzle and and everybody hopes that

1390
00:55:15,750 --> 00:55:13,599
you're going to do that properly so um

1391
00:55:18,069 --> 00:55:15,760
professionally really my goal is to to

1392
00:55:19,510 --> 00:55:18,079
be able to do what i've been trained for

1393
00:55:21,829 --> 00:55:19,520
properly

1394
00:55:24,230 --> 00:55:21,839
i also have a little bit of an outreach

1395
00:55:25,510 --> 00:55:24,240
theme which is

1396
00:55:27,109 --> 00:55:25,520
healthy nutrition and a healthy

1397
00:55:28,390 --> 00:55:27,119
relationship with food so i hope to be

1398
00:55:29,510 --> 00:55:28,400
able to talk

1399
00:55:31,750 --> 00:55:29,520
about that

1400
00:55:33,349 --> 00:55:31,760
a little bit maybe help

1401
00:55:35,109 --> 00:55:33,359
you know a couple of people who will be

1402
00:55:37,990 --> 00:55:35,119
following um

1403
00:55:40,150 --> 00:55:38,000
reach a better relationship with food in

1404
00:55:42,470 --> 00:55:40,160
terms of understanding how

1405
00:55:44,230 --> 00:55:42,480
food is you know beyond being a source

1406
00:55:46,630 --> 00:55:44,240
of energy and calories and pleasure but

1407
00:55:48,470 --> 00:55:46,640
it's also a messenger for your body that

1408
00:55:50,870 --> 00:55:48,480
actually sends every time you ingest

1409
00:55:53,030 --> 00:55:50,880
something it sends a message to your to

1410
00:55:55,190 --> 00:55:53,040
every single cell in your body about how

1411
00:55:57,030 --> 00:55:55,200
they should behave and so it can really

1412
00:55:59,190 --> 00:55:57,040
make a difference in keeping a healthy

1413
00:56:03,190 --> 00:55:59,200

and and in shape and

1414
00:56:07,430 --> 00:56:05,349
well that sounds very uh inspiring and

1415
00:56:09,990 --> 00:56:07,440
obviously this seems to be one of the

1416
00:56:12,150 --> 00:56:10,000
goals as well of the mission to inspire

1417
00:56:17,109 --> 00:56:12,160
a lot of people and that's why probably

1418
00:56:21,430 --> 00:56:17,119
uh madame terpstra on twitter is asking

1419
00:56:24,710 --> 00:56:21,440
do you have someone who is inspiring you

1420
00:56:27,589 --> 00:56:24,720
i have a lot of people who inspire me i

1421
00:56:28,950 --> 00:56:27,599
i try to take inspiration from

1422
00:56:31,270 --> 00:56:28,960
you know from other people that are

1423
00:56:33,030 --> 00:56:31,280
around me i think that every people who

1424
00:56:34,710 --> 00:56:33,040
you meet has something to teach you

1425
00:56:37,430 --> 00:56:34,720
there is something that they probably do

1426
00:56:39,190 --> 00:56:37,440
better than you anybody that you meet

1427
00:56:41,510 --> 00:56:39,200
certainly there is at least one thing

1428
00:56:43,270 --> 00:56:41,520
that they do better than you and and so

1429
00:56:45,349 --> 00:56:43,280
i think it's really a good idea to try

1430
00:56:49,270 --> 00:56:45,359
and take inspiration from from every

1431
00:56:52,789 --> 00:56:51,109
okay so those were some great questions

1432
00:56:54,390 --> 00:56:52,799
from our european counterparts and

1433
00:56:55,589 --> 00:56:54,400
social media again

1434
00:56:56,950 --> 00:56:55,599
we want to thank them and thank

1435
00:56:58,549 --> 00:56:56,960
everybody for joining us that's going to

1436
00:56:59,990 --> 00:56:58,559
wrap up our briefing today and a

1437
00:57:01,990 --> 00:57:00,000
reminder for everyone that you can find

1438
00:57:03,670 --> 00:57:02,000

out more information about their

1439
00:57:04,870 --> 00:57:03,680
expedition 42 mission and all of their

1440
00:57:07,349 --> 00:57:04,880
activities on our website at

1441
00:57:09,430 --> 00:57:07,359
www.nasa.gov

1442
00:57:11,589 --> 00:57:09,440
station and all three of these crew

1443
00:57:13,109 --> 00:57:11,599
members are on twitter so you can follow

1444
00:57:14,789 --> 00:57:13,119
them there on the lead up to their