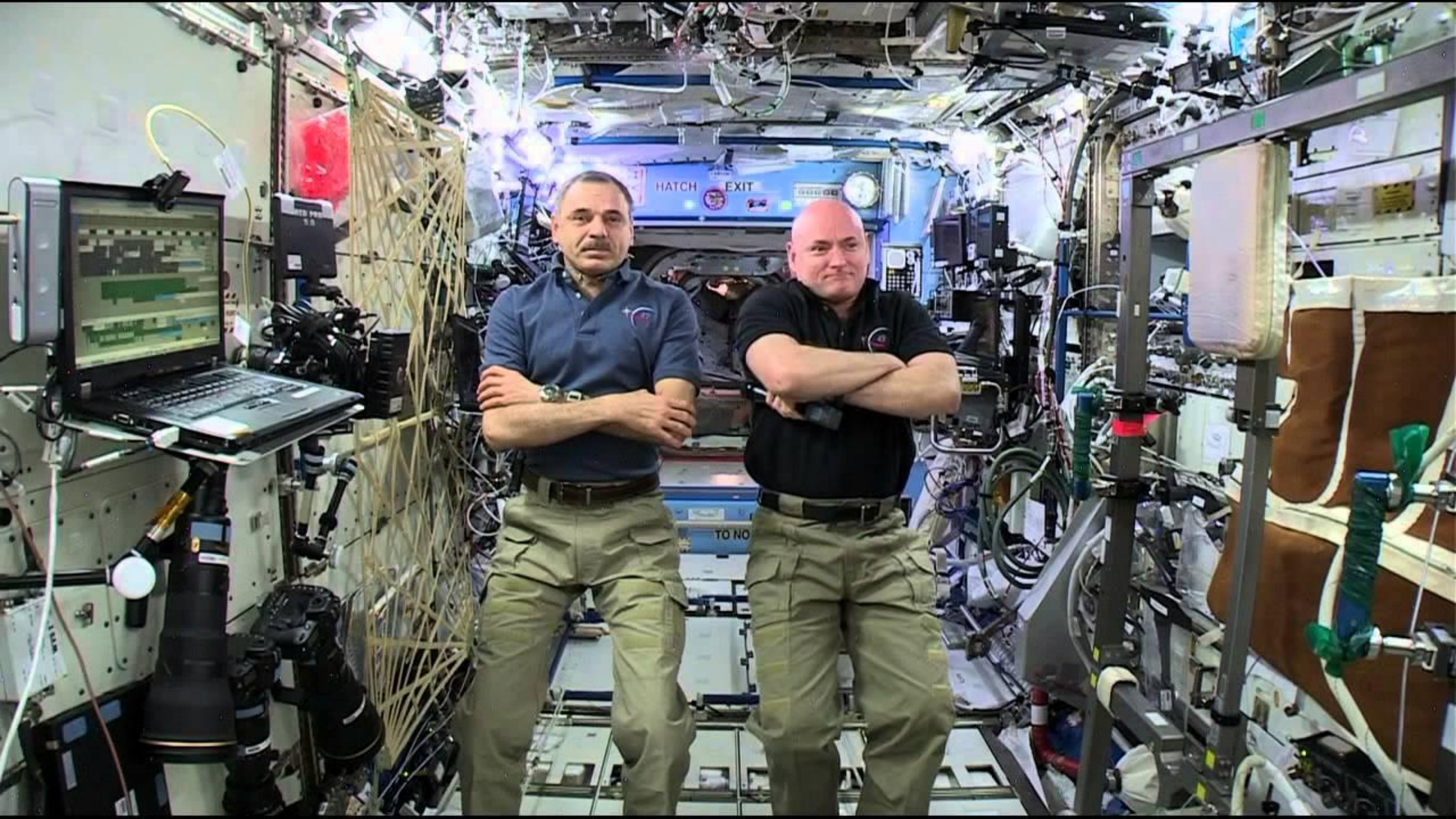
HATCH
EXIT

1
00:00:05,749 --> 00:00:02,790
station this is houston are you ready

2
00:00:05,759 --> 00:00:09,270
yeah we're ready for the event

3
00:00:13,749 --> 00:00:11,749
popular science this is mission control

4
00:00:15,509 --> 00:00:13,759
houston please call station for a voice

5
00:00:17,430 --> 00:00:15,519
check

6
00:00:20,790 --> 00:00:17,440
station this is popular science how do

7
00:00:24,790 --> 00:00:22,630
hey we have you uh loud and clear

8
00:00:27,029 --> 00:00:24,800
welcome aboard the space station

9
00:00:28,390 --> 00:00:27,039
little echo

10
00:00:30,550 --> 00:00:28,400
thank you we're delighted to be here

11
00:00:32,229 --> 00:00:30,560
with you this morning

12
00:00:33,910 --> 00:00:32,239
you received your first holiday delivery

13
00:00:35,910 --> 00:00:33,920

this morning when the cygnus spacecraft

14
00:00:38,069 --> 00:00:35,920
arrived scott i understand you and chell

15
00:00:43,350 --> 00:00:38,079
use the robotic arm to grapple with it

16
00:00:47,670 --> 00:00:45,430
yeah i was uh helping him out but he did

17
00:00:50,069 --> 00:00:47,680
most of the hard work

18
00:00:52,069 --> 00:00:50,079
if you can if you have a mic that's live

19
00:00:53,110 --> 00:00:52,079
if you can turn it off when you're not

20
00:00:55,430 --> 00:00:53,120
um

21
00:00:58,869 --> 00:00:55,440
talking that would help us with the echo

22
00:01:00,549 --> 00:00:58,879
but uh yeah he did a great job and um

23
00:01:01,670 --> 00:01:00,559
you know it's great to see a new vehicle

24
00:01:04,070 --> 00:01:01,680
up here

25
00:01:06,149 --> 00:01:04,080
um you know we've had some

26
00:01:07,350 --> 00:01:06,159
you know some difficulties so you know

27
00:01:10,310 --> 00:01:07,360
getting uh

28
00:01:11,350 --> 00:01:10,320
cygnus safely on board has been uh you

29
00:01:12,390 --> 00:01:11,360
know

30
00:01:15,510 --> 00:01:12,400
great

31
00:01:19,590 --> 00:01:17,429
scott cygnus is carrying a microsoft

32
00:01:25,190 --> 00:01:19,600
hololens how will you use augmented

33
00:01:31,030 --> 00:01:27,030
you know i actually got the uh

34
00:01:32,870 --> 00:01:31,040
opportunity to try that um out before

35
00:01:34,950 --> 00:01:32,880
i launched and uh

36
00:01:37,190 --> 00:01:34,960
you know it seems like there are certain

37
00:01:39,510 --> 00:01:37,200
capabilities that would be good for us

38
00:01:40,390 --> 00:01:39,520

on board uh the space station one would

39
00:01:41,910 --> 00:01:40,400
be

40
00:01:44,630 --> 00:01:41,920
you know right now we look at the

41
00:01:46,630 --> 00:01:44,640
computer or the an ipad to look at

42
00:01:48,469 --> 00:01:46,640
procedures and if you could have

43
00:01:49,749 --> 00:01:48,479
you know a procedure right in your field

44
00:01:51,590 --> 00:01:49,759
of view

45
00:01:53,350 --> 00:01:51,600
something that was commandable with your

46
00:01:55,030 --> 00:01:53,360
voice you know where you could scroll

47
00:01:56,630 --> 00:01:55,040
through the different steps you know

48
00:01:58,550 --> 00:01:56,640
that would be helpful it also has this

49
00:02:00,709 --> 00:01:58,560
capability where

50
00:02:01,749 --> 00:02:00,719
somebody on the ground perhaps can be

51
00:02:05,670 --> 00:02:01,759
looking at

52
00:02:07,910 --> 00:02:05,680
able to write

53
00:02:09,669 --> 00:02:07,920
in your field of view so let's say

54
00:02:11,589 --> 00:02:09,679
you're we're working on a piece of

55
00:02:12,949 --> 00:02:11,599
hardware and we're not that familiar

56
00:02:15,350 --> 00:02:12,959
with it but we have an expert on the

57
00:02:17,190 --> 00:02:15,360
ground you know that person could uh you

58
00:02:21,430 --> 00:02:17,200
know basically see what we're seeing and

59
00:02:23,670 --> 00:02:21,440
make annotations point to things

60
00:02:25,510 --> 00:02:23,680
you know and kind of lead us through a

61
00:02:27,750 --> 00:02:25,520
particular activity

62
00:02:30,150 --> 00:02:27,760
um you know that's the other one of the

63
00:02:32,229 --> 00:02:30,160

one of the many capabilities of that

64
00:02:36,309 --> 00:02:32,239
that that or similar hardware that we're

65
00:02:40,470 --> 00:02:38,390
popular science has many makers and

66
00:02:42,949 --> 00:02:40,480
inventors among its readers

67
00:02:44,470 --> 00:02:42,959
do you have the greatest iss hack or a

68
00:02:46,550 --> 00:02:44,480
moment where you had to fix something in

69
00:03:09,030 --> 00:02:46,560
a pinch

70
00:03:13,430 --> 00:03:11,430
this is happening all the time we are

71
00:03:15,990 --> 00:03:13,440
constantly maintaining this station we

72
00:03:19,350 --> 00:03:16,000
are fixing something something breaks

73
00:03:21,830 --> 00:03:19,360
down and we have to

74
00:03:24,710 --> 00:03:21,840
fix it so this is a very complicated

75
00:03:26,710 --> 00:03:24,720
laboratory and we always are there to

76
00:03:29,190 --> 00:03:26,720
fix it of course every time we have to

77
00:03:30,390 --> 00:03:29,200
be creative sometimes to

78
00:03:31,830 --> 00:03:30,400
um

79
00:03:33,750 --> 00:03:31,840
fix something but thank you very much

80
00:03:37,270 --> 00:03:33,760
for a good question it happens on a

81
00:03:40,710 --> 00:03:39,030
scott you're the subject of 12 different

82
00:03:42,550 --> 00:03:40,720
research projects for the twin study

83
00:03:44,630 --> 00:03:42,560
with your brother mark what kind of

84
00:03:51,589 --> 00:03:44,640
sampling do you do on the space station

85
00:03:56,390 --> 00:03:53,750
yeah so there's a lot of experiments a

86
00:03:58,869 --> 00:03:56,400
lot of samples just today i was

87
00:04:00,949 --> 00:03:58,879
because we have a soyuz leaving in less

88
00:04:02,309 --> 00:04:00,959

than 48 hours now with

89
00:04:03,190 --> 00:04:02,319
you know three of the crew members on

90
00:04:06,390 --> 00:04:03,200
board

91
00:04:09,270 --> 00:04:06,400
um i was doing some uh urine samples and

92
00:04:11,509 --> 00:04:09,280
saliva samples for various uh

93
00:04:15,509 --> 00:04:11,519
activities and experiments uh tomorrow

94
00:04:18,469 --> 00:04:15,519
we have uh some blood draws that'll go

95
00:04:21,189 --> 00:04:18,479
go home on the soyuz not be frozen like

96
00:04:23,670 --> 00:04:21,199
they normally are

97
00:04:25,749 --> 00:04:23,680
so there's those kind of you know bodily

98
00:04:27,590 --> 00:04:25,759
fluid samples we also collect other

99
00:04:29,670 --> 00:04:27,600
kinds of data with different imaging

100
00:04:31,590 --> 00:04:29,680
technology we have on board you know for

101
00:04:32,950 --> 00:04:31,600
instance we have an ultrasound here that

102
00:04:36,310 --> 00:04:32,960
uh

103
00:04:38,070 --> 00:04:36,320
is another way that we collect data um

104
00:04:38,950 --> 00:04:38,080
and there's other experiments that are

105
00:04:40,469 --> 00:04:38,960
more

106
00:04:42,629 --> 00:04:40,479
you know related to our cognitive

107
00:04:45,030 --> 00:04:42,639
ability so that they're they're

108
00:04:48,390 --> 00:04:45,040
computer-based uh

109
00:04:50,230 --> 00:04:48,400
you know tests of of how our you know

110
00:04:54,710 --> 00:04:50,240
cognitive

111
00:04:58,550 --> 00:04:56,550
mikhail your year in space is an

112
00:05:01,430 --> 00:04:58,560
important step towards long-term space

113
00:05:03,029 --> 00:05:01,440

exploration and eventually mars why do

114
00:05:07,510 --> 00:05:03,039
you think it's important for humans to

115
00:05:07,520 --> 00:05:22,390
expeditionary

116
00:05:22,400 --> 00:05:32,710
cosmos

117
00:05:37,350 --> 00:05:34,790
a great russian scientist

118
00:05:40,310 --> 00:05:37,360
who said that the earth is the cradle of

119
00:05:43,270 --> 00:05:40,320
our humanity but we cannot live in this

120
00:05:47,830 --> 00:05:43,280
cradle for our entire life we have to

121
00:05:50,070 --> 00:05:47,840
develop further we have to explore more

122
00:05:52,950 --> 00:05:50,080
of course we have to colonize mars

123
00:05:55,510 --> 00:05:52,960
because we are expanding as humanity

124
00:05:58,070 --> 00:05:55,520
it's a normal natural process

125
00:06:00,309 --> 00:05:58,080
and what we're doing here with scott

126
00:06:02,790 --> 00:06:00,319
here on board the iss are the first

127
00:06:05,430 --> 00:06:02,800
steps of our future exploration of the

128
00:06:09,830 --> 00:06:05,440
solar systems of the exploration of mars

129
00:06:13,830 --> 00:06:11,990
scott this is the second week of global

130
00:06:16,790 --> 00:06:13,840
climate talks in paris

131
00:06:18,469 --> 00:06:16,800
looking at the earth from 249 miles up

132
00:06:19,670 --> 00:06:18,479
you have the best view of global climate

133
00:06:22,309 --> 00:06:19,680
change of all

134
00:06:24,150 --> 00:06:22,319
what would you like negotiators to keep

135
00:06:30,230 --> 00:06:24,160
inspective or know about earth from your

136
00:06:33,350 --> 00:06:31,350
you know

137
00:06:35,909 --> 00:06:33,360
being up here gives us a little bit of a

138
00:06:37,749 --> 00:06:35,919

different perspective on on our planet

139
00:06:40,390 --> 00:06:37,759
you know we could see how

140
00:06:42,390 --> 00:06:40,400
uh fragile the uh and thin the

141
00:06:43,590 --> 00:06:42,400
atmosphere is it actually looks more

142
00:06:45,510 --> 00:06:43,600
like uh

143
00:06:47,670 --> 00:06:45,520
you know a thin film over the surface

144
00:06:49,430 --> 00:06:47,680
than it does this uh

145
00:06:50,710 --> 00:06:49,440
you know this massive thing that you

146
00:06:52,950 --> 00:06:50,720
when you're standing on the ground and

147
00:06:55,110 --> 00:06:52,960
you look up the sky just looks enormous

148
00:06:57,350 --> 00:06:55,120
but up here it doesn't it looks uh you

149
00:06:58,710 --> 00:06:57,360
know very thin and fragile and something

150
00:06:59,670 --> 00:06:58,720
that

151
00:07:01,670 --> 00:06:59,680
you know we

152
00:07:03,909 --> 00:07:01,680
we need to protect because it's the only

153
00:07:05,510 --> 00:07:03,919
thing that's really protecting us from

154
00:07:07,430 --> 00:07:05,520
space which is

155
00:07:08,230 --> 00:07:07,440
you know not some not a place that we

156
00:07:11,270 --> 00:07:08,240
can

157
00:07:15,830 --> 00:07:13,430
you know you also see pollution in

158
00:07:18,309 --> 00:07:15,840
certain areas of the world certain parts

159
00:07:21,110 --> 00:07:18,319
of asia especially that are uh you know

160
00:07:22,390 --> 00:07:21,120
it's almost constant

161
00:07:23,430 --> 00:07:22,400
and

162
00:07:25,189 --> 00:07:23,440
you know since i've been up here

163
00:07:26,950 --> 00:07:25,199

sometimes we see

164
00:07:30,550 --> 00:07:26,960
you know weather patterns and weather

165
00:07:33,990 --> 00:07:30,560
systems in places they're unexpected so

166
00:07:35,589 --> 00:07:34,000
you know as far as the the people

167
00:07:38,469 --> 00:07:35,599
you know that are meeting in paris and

168
00:07:41,749 --> 00:07:38,479
negotiating uh

169
00:07:43,510 --> 00:07:41,759
these agreements um you know i would

170
00:07:45,430 --> 00:07:43,520
just hope that they

171
00:07:47,430 --> 00:07:45,440
they recognize and i

172
00:07:49,749 --> 00:07:47,440
think they probably do that this is

173
00:07:51,270 --> 00:07:49,759
something that's uh you know critical to

174
00:07:52,790 --> 00:07:51,280
our survival and it's something that we

175
00:07:58,309 --> 00:07:52,800
need to fix

176
00:08:02,950 --> 00:08:00,390
mikhail i have a question from a popular

177
00:08:10,629 --> 00:08:02,960
science reader are you growing any more

178
00:08:10,639 --> 00:08:37,589
popular

179
00:08:40,949 --> 00:08:39,670
i'm sorry we had some delay in

180
00:08:42,790 --> 00:08:40,959
communication can you repeat the

181
00:08:45,190 --> 00:08:42,800
question please

182
00:08:46,949 --> 00:08:45,200
yes i had a reader question for mikhail

183
00:08:50,949 --> 00:08:46,959
are you growing any more food on the

184
00:08:53,030 --> 00:08:50,959
space station we all watched when um the

185
00:09:06,829 --> 00:08:53,040
when you ate lettuce and that was pretty

186
00:09:12,630 --> 00:09:09,269
yesterday our colleagues are right now

187
00:09:15,590 --> 00:09:12,640
in the columbus module we have

188
00:09:18,470 --> 00:09:15,600

a greenhouse of sorts here it is

189
00:09:20,230 --> 00:09:18,480
illuminating in purple and yes we keep

190
00:09:23,190 --> 00:09:20,240
growing it

191
00:09:25,590 --> 00:09:23,200
on the station and

192
00:09:28,150 --> 00:09:25,600
it is still working process we haven't

193
00:09:30,150 --> 00:09:28,160
seen the real fruits yet but i hope we

194
00:09:33,509 --> 00:09:30,160
will see it soon thank you very much for

195
00:09:37,030 --> 00:09:35,350
and thank you both for speaking with us

196
00:09:42,150 --> 00:09:37,040
this morning everyone here at public

197
00:09:50,470 --> 00:09:44,630
happy holidays to you and

198
00:09:55,110 --> 00:09:52,949
station this is houston acr that

199
00:09:57,269 --> 00:09:55,120
concludes the popular science portion of

200
00:10:11,030 --> 00:09:57,279
the event please stand by for a voice

201
00:10:15,829 --> 00:10:12,470
can you call the crew now they say

202
00:10:20,630 --> 00:10:16,829
i'm sorry

203
00:10:24,710 --> 00:10:20,640
what my isp is fine candace you gotta

204
00:10:29,829 --> 00:10:27,110
station this is wbff tv how do you hear

205
00:10:35,350 --> 00:10:31,829
well we hear you loud and clear welcome

206
00:10:49,190 --> 00:10:37,269
great thank you so much we will get

207
00:10:51,350 --> 00:10:50,550
go

208
00:10:53,269 --> 00:10:51,360
three

209
00:10:56,069 --> 00:10:53,279
two

210
00:10:58,230 --> 00:10:56,079
a year in space that's the mission for

211
00:11:00,630 --> 00:10:58,240
nasa astronaut scott kelly and russian

212
00:11:02,630 --> 00:11:00,640
cosmonaut mikhail kornienko we've been

213
00:11:05,350 --> 00:11:02,640

watching here on earth we have seen

214
00:11:08,470 --> 00:11:05,360
stunning pictures on social media now

215
00:11:10,790 --> 00:11:08,480
iss expedition 45 commander scott kelly

216
00:11:13,030 --> 00:11:10,800
and flight engineer mikhail kornienko

217
00:11:18,310 --> 00:11:13,040
join me live from space to talk about

218
00:11:22,949 --> 00:11:20,069
hey good morning and welcome aboard the

219
00:11:27,910 --> 00:11:25,350
thank you and of course a very busy day

220
00:11:30,710 --> 00:11:27,920
for you with the arrival of cygnus what

221
00:11:33,269 --> 00:11:30,720
did it look like from your perspective

222
00:11:37,910 --> 00:11:33,279
and is this like an early holiday gift

223
00:11:40,949 --> 00:11:39,350
yeah it's a you know incredibly

224
00:11:42,790 --> 00:11:40,959
beautiful vehicle

225
00:11:47,269 --> 00:11:42,800
we haven't had one here

226
00:11:53,590 --> 00:11:49,990
you know since we had last had a cygnus

227
00:11:54,949 --> 00:11:53,600
and uh it went launched flawlessly

228
00:11:58,150 --> 00:11:54,959
although we had some weather issues

229
00:12:00,629 --> 00:11:58,160
initially and the rendezvous and grapple

230
00:12:02,710 --> 00:12:00,639
were were flawless and

231
00:12:04,710 --> 00:12:02,720
yeah we got some christmas presents

232
00:12:08,790 --> 00:12:04,720
inside but we won't be getting into

233
00:12:13,030 --> 00:12:11,030
right all right mikhail there is a lot

234
00:12:15,030 --> 00:12:13,040
of research that is conducted aboard the

235
00:12:17,829 --> 00:12:15,040
international space station what's been

236
00:12:30,949 --> 00:12:17,839
a highlight so far

237
00:12:35,350 --> 00:12:33,190
i'm afraid i cannot give you the

238
00:12:38,310 --> 00:12:35,360

highlights briefly because we are

239
00:12:40,550 --> 00:12:38,320
conducting multiple experiments both on

240
00:12:43,030 --> 00:12:40,560
the russian segment and on the us

241
00:12:46,230 --> 00:12:43,040
segment i can say that

242
00:12:48,550 --> 00:12:46,240
our mission our current flight

243
00:12:49,269 --> 00:12:48,560
is the next step uh

244
00:12:52,389 --> 00:12:49,279
for

245
00:12:53,509 --> 00:12:52,399
all of us to keep exploring

246
00:13:00,790 --> 00:12:53,519
space

247
00:13:03,590 --> 00:13:00,800
conditions what it will take for us to

248
00:13:06,949 --> 00:13:03,600
keep exploring the deep space

249
00:13:09,670 --> 00:13:06,959
we in total conduct over 60 experiments

250
00:13:11,269 --> 00:13:09,680
but in total talking about my science

251
00:13:13,990 --> 00:13:11,279
program we

252
00:13:17,430 --> 00:13:14,000
i conduct over 200 experiments so this

253
00:13:21,509 --> 00:13:19,829
incredible work scott you were up there

254
00:13:24,230 --> 00:13:21,519
for a year you've done a lot of

255
00:13:26,710 --> 00:13:24,240
groundbreaking work day in and day out

256
00:13:32,150 --> 00:13:26,720
but tell me about a space walk it looks

257
00:13:36,790 --> 00:13:34,470
yeah it's an incredible amount of work

258
00:13:38,949 --> 00:13:36,800
um not just while you're outside but

259
00:13:40,069 --> 00:13:38,959
leading up to it it takes uh about a

260
00:13:41,829 --> 00:13:40,079
month

261
00:13:44,389 --> 00:13:41,839
of preparation

262
00:13:45,750 --> 00:13:44,399
uh studying you know preparing the suits

263
00:13:47,590 --> 00:13:45,760

all the hardware

264
00:13:49,430 --> 00:13:47,600
uh and then when you're outside it's

265
00:13:51,030 --> 00:13:49,440
it's uh it's a lot of hard work too

266
00:13:53,910 --> 00:13:51,040
you're actually in the suit we were in

267
00:13:56,310 --> 00:13:53,920
those suits for almost 12 hours

268
00:13:59,670 --> 00:13:56,320
uh even though our our time outside was

269
00:14:02,310 --> 00:13:59,680
almost eight hours um on on both of them

270
00:14:04,870 --> 00:14:02,320
and uh the view is uh better than i

271
00:14:07,189 --> 00:14:04,880
expected um looking

272
00:14:09,189 --> 00:14:07,199
you know at earth through just the visor

273
00:14:10,870 --> 00:14:09,199
of the helmet um

274
00:14:12,949 --> 00:14:10,880
but it's you know it's kind of that type

275
00:14:14,310 --> 00:14:12,959
two kind of fun where it's not really

276
00:14:16,310 --> 00:14:14,320
fun while you're doing it but it's

277
00:14:18,550 --> 00:14:16,320
really fun when you're done and very

278
00:14:20,230 --> 00:14:18,560
very rewarding experience very

279
00:14:24,710 --> 00:14:20,240
complicated work and takes a lot of

280
00:14:28,710 --> 00:14:26,470
scott you are a living science

281
00:14:30,470 --> 00:14:28,720
experiment in fact part of that research

282
00:14:32,470 --> 00:14:30,480
that's being conducted is the genetic

283
00:14:34,389 --> 00:14:32,480
study with your twin brother mark how

284
00:14:39,590 --> 00:14:34,399
are they collecting the data and what do

285
00:14:43,350 --> 00:14:40,870
well there's a lot of different

286
00:14:46,310 --> 00:14:43,360
experiments and the data collection

287
00:14:48,550 --> 00:14:46,320
consists of uh you know bodily samples

288
00:14:50,949 --> 00:14:48,560

we have a soyuz going home here in a in

289
00:14:53,590 --> 00:14:50,959
the next couple of days that'll have you

290
00:14:54,710 --> 00:14:53,600
know blood and urine and

291
00:14:56,710 --> 00:14:54,720
saliva

292
00:14:59,750 --> 00:14:56,720
uh samples on it

293
00:15:00,949 --> 00:14:59,760
um we take those samples often and and

294
00:15:02,150 --> 00:15:00,959
freeze them

295
00:15:05,189 --> 00:15:02,160
uh

296
00:15:07,590 --> 00:15:05,199
we have imaging technology that we use

297
00:15:09,590 --> 00:15:07,600
for measuring you know certain parts of

298
00:15:11,670 --> 00:15:09,600
like bones and muscles and things like

299
00:15:13,670 --> 00:15:11,680
that most of the studies with my brother

300
00:15:16,150 --> 00:15:13,680
are on the genetic

301
00:15:19,110 --> 00:15:16,160
you know genetically based so really the

302
00:15:22,069 --> 00:15:19,120
uh the bodily fluid samples are are

303
00:15:24,150 --> 00:15:22,079
what's uh analyzed mostly but also we do

304
00:15:26,389 --> 00:15:24,160
cognitive studies where we do uh you

305
00:15:28,949 --> 00:15:26,399
know mental kind of tests

306
00:15:32,069 --> 00:15:28,959
and see how my uh performance changes

307
00:15:33,910 --> 00:15:32,079
compared to his overtime and uh you know

308
00:15:35,670 --> 00:15:33,920
there's a lot to learn still about

309
00:15:36,949 --> 00:15:35,680
living in space for long periods of time

310
00:15:38,069 --> 00:15:36,959
and if we're ever going to go to mars

311
00:15:39,829 --> 00:15:38,079
someday

312
00:15:40,550 --> 00:15:39,839
you know hopefully a study like this

313
00:15:44,629 --> 00:15:40,560

will

314
00:15:49,189 --> 00:15:46,629
scott and mikhail there are many

315
00:15:52,310 --> 00:15:49,199
challenges while living up there the

316
00:16:15,590 --> 00:15:52,320
lack of various sounds smell but what's

317
00:16:19,110 --> 00:16:17,030
you know you know the environment i

318
00:16:22,470 --> 00:16:19,120
think is uh you know although the space

319
00:16:24,949 --> 00:16:22,480
station is big and it's uh you know it's

320
00:16:26,310 --> 00:16:24,959
you know pretty nice and comfortable in

321
00:16:27,110 --> 00:16:26,320
a lot of ways

322
00:16:28,870 --> 00:16:27,120
uh

323
00:16:31,430 --> 00:16:28,880
the thing that's most challenging is you

324
00:16:34,389 --> 00:16:31,440
just can't leave and

325
00:16:36,470 --> 00:16:34,399
you know and there's no

326
00:16:38,310 --> 00:16:36,480
natural light inside i mean we have a

327
00:16:40,550 --> 00:16:38,320
few windows but that doesn't provide

328
00:16:43,189 --> 00:16:40,560
natural light so it's kind of like you

329
00:16:44,870 --> 00:16:43,199
know we're at work all the time and uh

330
00:16:46,949 --> 00:16:44,880
it's kind of like living in uh you know

331
00:16:48,870 --> 00:16:46,959
an office building i guess maybe at

332
00:16:51,030 --> 00:16:48,880
someone at your job but where everything

333
00:16:58,949 --> 00:16:51,040
floats which makes you know doing just

334
00:17:04,710 --> 00:17:02,310
i will agree with scott here

335
00:17:06,630 --> 00:17:04,720
our station is very comfortable for a

336
00:17:09,189 --> 00:17:06,640
living but at the same time it's a very

337
00:17:11,750 --> 00:17:09,199
confined volume and sometimes it's

338
00:17:13,110 --> 00:17:11,760

really hard to be here we of course miss

339
00:17:15,270 --> 00:17:13,120
the earth we

340
00:17:18,949 --> 00:17:15,280
meet we miss our

341
00:17:24,230 --> 00:17:21,829
the first thing i will do is that when i

342
00:17:26,710 --> 00:17:24,240
come back is i will jump in

343
00:17:30,630 --> 00:17:26,720
the pool i would love to do that right

344
00:17:33,750 --> 00:17:30,640
now of course we miss water we

345
00:17:35,430 --> 00:17:33,760
miss water that flows and not floats as

346
00:17:39,270 --> 00:17:35,440
bubbles in space so this is the most

347
00:17:42,950 --> 00:17:40,710
scott i saw a picture of the

348
00:17:44,549 --> 00:17:42,960
thanksgiving celebration with your food

349
00:17:46,150 --> 00:17:44,559
strapped down the tweet from your

350
00:17:47,990 --> 00:17:46,160
brother that said that they were missing

351
00:17:51,190 --> 00:17:48,000
you how are you going to celebrate the

352
00:17:56,150 --> 00:17:51,200
holiday season up in space any stockings

353
00:17:58,470 --> 00:17:57,190
you know we

354
00:17:59,750 --> 00:17:58,480
last time i was up here we had a

355
00:18:01,830 --> 00:17:59,760
christmas tree and i think it's still

356
00:18:04,310 --> 00:18:01,840
here so i need to go break that out

357
00:18:06,950 --> 00:18:04,320
break it out of the attic like

358
00:18:08,390 --> 00:18:06,960
we do at home sometimes i haven't found

359
00:18:09,990 --> 00:18:08,400
it yet but i'll

360
00:18:12,950 --> 00:18:10,000
i'll find it and

361
00:18:14,549 --> 00:18:12,960
i don't think we have any any stockings

362
00:18:16,390 --> 00:18:14,559
but we will have some you know small

363
00:18:18,549 --> 00:18:16,400

presents we'll likely

364
00:18:21,029 --> 00:18:18,559
give each other and probably a meal that

365
00:18:23,029 --> 00:18:21,039
would be very similar to what we had for

366
00:18:24,710 --> 00:18:23,039
thanksgiving and we also celebrate

367
00:18:25,750 --> 00:18:24,720
russian christmas which is on january

368
00:18:26,870 --> 00:18:25,760
7th so

369
00:18:28,549 --> 00:18:26,880
you know because this is an

370
00:18:32,549 --> 00:18:28,559
international space station we get to

371
00:18:37,110 --> 00:18:34,789
that's wonderful i i saw a picture last

372
00:18:39,669 --> 00:18:37,120
year of them they were velcroed onto the

373
00:18:42,950 --> 00:18:39,679
wall so whatever it takes and to both of

374
00:18:44,950 --> 00:18:42,960
you happy holidays and wonderful work

375
00:18:48,310 --> 00:18:44,960
it's been truly a pleasure to watch from

376
00:18:52,789 --> 00:18:50,230
thank you and happy holidays to you as

377
00:18:52,799 --> 00:18:57,990
thank you

378
00:19:06,150 --> 00:19:00,549
station this is houston acr

379
00:19:11,110 --> 00:19:08,950
and thank you popular science and wbff