



1
00:00:04,630 --> 00:00:02,629
a big part of the research mission on

2
00:00:06,869 --> 00:00:04,640
the international space station is

3
00:00:08,870 --> 00:00:06,879
designed to find out how human beings

4
00:00:10,709 --> 00:00:08,880
respond to being in a weightless

5
00:00:11,589 --> 00:00:10,719
environment for an extended period of

6
00:00:13,350 --> 00:00:11,599
time

7
00:00:15,030 --> 00:00:13,360
because that's what it will take to

8
00:00:17,510 --> 00:00:15,040
complete the planned missions of

9
00:00:19,349 --> 00:00:17,520
exploration beyond low earth orbit in

10
00:00:21,349 --> 00:00:19,359
fact those trips are going to take more

11
00:00:23,830 --> 00:00:21,359
than the six months that crew members

12
00:00:25,910 --> 00:00:23,840
have been spending on the station so far

13
00:00:28,470 --> 00:00:25,920

so next year two crew members are

14

00:00:30,870 --> 00:00:28,480

launching on the first year-long mission

15

00:00:32,870 --> 00:00:30,880

of this program veteran station crew

16

00:00:35,670 --> 00:00:32,880

members mikhail kornienko the frost

17

00:00:37,670 --> 00:00:35,680

cosmos and scott kelly of nasa have been

18

00:00:38,790 --> 00:00:37,680

preparing for this flight for a year

19

00:00:40,709 --> 00:00:38,800

already

20

00:00:42,830 --> 00:00:40,719

and they have another year to go before

21

00:00:45,110 --> 00:00:42,840

they launch in late march of

22

00:00:47,430 --> 00:00:45,120

2015. i got to spend a few minutes with

23

00:00:49,270 --> 00:00:47,440

scott kelly yesterday and i asked him

24

00:00:51,990 --> 00:00:49,280

what's different about getting ready for

25

00:00:55,189 --> 00:00:52,000

a year in space as compared to six

26

00:01:00,470 --> 00:00:58,470

well uh from a training perspective the

27

00:01:03,110 --> 00:01:00,480

a lot of it's very similar to what i

28

00:01:05,910 --> 00:01:03,120

went through last time

29

00:01:07,429 --> 00:01:05,920

with some exceptions obviously the fact

30

00:01:09,590 --> 00:01:07,439

that i'll be up there with twice as many

31

00:01:11,030 --> 00:01:09,600

people some of the training you do you

32

00:01:12,789 --> 00:01:11,040

have to do with your

33

00:01:14,950 --> 00:01:12,799

fellow crew members especially things

34

00:01:17,109 --> 00:01:14,960

like the emergency training

35

00:01:19,910 --> 00:01:17,119

i'll uh have to do

36

00:01:23,590 --> 00:01:19,920

not twice as much but

37

00:01:25,429 --> 00:01:23,600

clearly with twice as many people so

38

00:01:27,590 --> 00:01:25,439

there's that there's training with uh

39

00:01:31,109 --> 00:01:27,600

two different soyuz commanders that'll

40

00:01:33,910 --> 00:01:31,119

be that'll add uh complexity uh to the

41

00:01:36,550 --> 00:01:33,920

training and and add content

42

00:01:37,830 --> 00:01:36,560

um most of the station systems stuff is

43

00:01:40,310 --> 00:01:37,840

uh

44

00:01:42,389 --> 00:01:40,320

is not gonna change i mean the station

45

00:01:44,310 --> 00:01:42,399

is in much the same configuration as it

46

00:01:46,789 --> 00:01:44,320

was when i was there last

47

00:01:49,590 --> 00:01:46,799

but um being there for twice as long

48

00:01:51,670 --> 00:01:49,600

i'll be doing twice as much science so

49

00:01:52,630 --> 00:01:51,680

from a science training perspective i

50

00:01:55,109 --> 00:01:52,640

should

51
00:01:56,630 --> 00:01:55,119
you know logically yeah thinking about

52
00:01:57,990 --> 00:01:56,640
this you should i should wind up with

53
00:01:58,950 --> 00:01:58,000
twice as much

54
00:02:01,109 --> 00:01:58,960
as you

55
00:02:03,510 --> 00:02:01,119
look ahead to that are there things that

56
00:02:05,030 --> 00:02:03,520
you think you can do differently now

57
00:02:06,870 --> 00:02:05,040
knowing you're going to be there for 12

58
00:02:08,070 --> 00:02:06,880
months instead of six

59
00:02:10,229 --> 00:02:08,080
you know i think the fact that i've

60
00:02:12,070 --> 00:02:10,239
flown a long duration flight before

61
00:02:14,229 --> 00:02:12,080
gives me a little bit of perspective on

62
00:02:16,949 --> 00:02:14,239
what it's like and um you know

63
00:02:20,309 --> 00:02:16,959

understanding that a year is a long time

64

00:02:22,229 --> 00:02:20,319

um you know there are things i will

65

00:02:24,630 --> 00:02:22,239

do a little bit differently with regards

66

00:02:26,309 --> 00:02:24,640

to pacing myself and how

67

00:02:27,510 --> 00:02:26,319

um

68

00:02:28,949 --> 00:02:27,520

you know you you wouldn't think this

69

00:02:31,830 --> 00:02:28,959

would be true but you do have to kind of

70

00:02:33,670 --> 00:02:31,840

stay entertained um over that kind of

71

00:02:35,830 --> 00:02:33,680

period no matter how exciting something

72

00:02:36,790 --> 00:02:35,840

is and no matter how beautiful the earth

73

00:02:38,390 --> 00:02:36,800

is

74

00:02:40,390 --> 00:02:38,400

you know when you're doing it for a year

75

00:02:42,150 --> 00:02:40,400

there is still the the factor of trying

76
00:02:44,229 --> 00:02:42,160
to keep yourself engaged and interested

77
00:02:46,869 --> 00:02:44,239
so i understand that and then also you

78
00:02:49,030 --> 00:02:46,879
know i i know what i want to bring this

79
00:02:50,229 --> 00:02:49,040
time that uh you know i didn't have last

80
00:02:52,070 --> 00:02:50,239
time thank you for getting things the

81
00:02:54,309 --> 00:02:52,080
first time yeah just things to make your

82
00:02:56,470 --> 00:02:54,319
life more comfortable and interesting

83
00:02:57,990 --> 00:02:56,480
while on board the space station the

84
00:03:00,149 --> 00:02:58,000
whole point of doing this is to learn

85
00:03:01,990 --> 00:03:00,159
more about how the human body responds

86
00:03:04,630 --> 00:03:02,000
to being in that environment

87
00:03:08,149 --> 00:03:04,640
what sorts of things are are on the

88
00:03:11,030 --> 00:03:08,159

agenda for you and and miguel as you

89

00:03:13,110 --> 00:03:11,040

look ahead to being there for 12 months

90

00:03:15,190 --> 00:03:13,120

from from that perspective about you

91

00:03:17,509 --> 00:03:15,200

know extending the uh you know the

92

00:03:19,030 --> 00:03:17,519

envelope of uh expanding the envelope of

93

00:03:20,790 --> 00:03:19,040

how long people have been in space and

94

00:03:21,990 --> 00:03:20,800

being able to do that maybe to

95

00:03:23,830 --> 00:03:22,000

eventually

96

00:03:25,509 --> 00:03:23,840

go to the go to mars someday we

97

00:03:27,270 --> 00:03:25,519

eventually will we just you know we're

98

00:03:28,949 --> 00:03:27,280

not sure when that will be

99

00:03:30,390 --> 00:03:28,959

we hope it'll be sooner rather than

100

00:03:33,910 --> 00:03:30,400

later but uh

101
00:03:35,670 --> 00:03:33,920
in those types of experiments we have um

102
00:03:38,070 --> 00:03:35,680
you know certain phenomena that that

103
00:03:40,070 --> 00:03:38,080
result from uh long-duration space like

104
00:03:41,190 --> 00:03:40,080
bone loss muscle loss

105
00:03:43,509 --> 00:03:41,200
um

106
00:03:48,630 --> 00:03:43,519
radiation uh

107
00:03:51,509 --> 00:03:48,640
issues um and uh currently this new um

108
00:03:52,390 --> 00:03:51,519
risk we have is the effect on our vision

109
00:03:54,949 --> 00:03:52,400
so

110
00:03:56,789 --> 00:03:54,959
a lot of the science um

111
00:03:59,750 --> 00:03:56,799
that is devoted to

112
00:04:01,589 --> 00:03:59,760
to misha and i as crew members are along

113
00:04:03,670 --> 00:04:01,599

those kind of lines also you know your

114

00:04:06,070 --> 00:04:03,680

physical performance your ability

115

00:04:08,710 --> 00:04:06,080

to function once you get back on earth

116

00:04:09,990 --> 00:04:08,720

after uh such a long duration

117

00:04:11,589 --> 00:04:10,000

in space

118

00:04:13,509 --> 00:04:11,599

one of the unique things pretty neat

119

00:04:16,069 --> 00:04:13,519

things actually about this is that you

120

00:04:17,270 --> 00:04:16,079

and your brother mark volunteered to to

121

00:04:19,030 --> 00:04:17,280

do some

122

00:04:21,349 --> 00:04:19,040

research to take advantage of the fact

123

00:04:24,230 --> 00:04:21,359

that you have you are twins one in space

124

00:04:26,469 --> 00:04:24,240

uh one not uh tell me about where that

125

00:04:28,390 --> 00:04:26,479

idea came from and what kinds of things

126

00:04:30,550 --> 00:04:28,400

you're going to be looking at yeah it's

127

00:04:33,270 --> 00:04:30,560

been somewhat misquoted that this was my

128

00:04:35,110 --> 00:04:33,280

idea and it and it was not um

129

00:04:36,150 --> 00:04:35,120

when i got assigned to this flight i was

130

00:04:39,189 --> 00:04:36,160

asked to

131

00:04:41,270 --> 00:04:39,199

i was being given a briefing to answer

132

00:04:43,909 --> 00:04:41,280

uh some of the science questions that

133

00:04:46,629 --> 00:04:43,919

might come up in a press conference so

134

00:04:49,030 --> 00:04:46,639

some of the the scientists were there um

135

00:04:50,870 --> 00:04:49,040

the the program leads for science and i

136

00:04:51,670 --> 00:04:50,880

asked the question hey if someone just

137

00:04:53,110 --> 00:04:51,680

asks

138

00:04:54,790 --> 00:04:53,120

the kind of a generic question will

139

00:04:57,590 --> 00:04:54,800

there be anything any comparative

140

00:04:58,390 --> 00:04:57,600

studies between you and your brother

141

00:05:01,430 --> 00:04:58,400

and

142

00:05:03,350 --> 00:05:01,440

the reason i ask that question is

143

00:05:05,990 --> 00:05:03,360

obviously you know my brother's a former

144

00:05:08,230 --> 00:05:06,000

astronaut and you know they've collected

145

00:05:10,629 --> 00:05:08,240

uh nasa being they have collected data

146

00:05:13,029 --> 00:05:10,639

on us since you know 1995 when they

147

00:05:17,110 --> 00:05:13,039

interviewed you know a few weeks later

148

00:05:18,070 --> 00:05:17,120

the uh the program uh science lead

149

00:05:19,830 --> 00:05:18,080

uh

150

00:05:20,950 --> 00:05:19,840

john charles came back to me and said

151

00:05:22,950 --> 00:05:20,960

you know we

152

00:05:26,150 --> 00:05:22,960

took your question and we were kind of

153

00:05:27,990 --> 00:05:26,160

um discussing it and it actually

154

00:05:30,070 --> 00:05:28,000

looks like you know this might be

155

00:05:32,150 --> 00:05:30,080

something that the science community is

156

00:05:34,469 --> 00:05:32,160

interested in you know especially in the

157

00:05:35,670 --> 00:05:34,479

area of uh genetics

158

00:05:37,430 --> 00:05:35,680

and even though

159

00:05:40,150 --> 00:05:37,440

you know we are you know what's

160

00:05:42,950 --> 00:05:40,160

considered an n of one we are one sample

161

00:05:44,310 --> 00:05:42,960

group and you know statistically that is

162

00:05:46,870 --> 00:05:44,320

not where

163

00:05:49,990 --> 00:05:48,150

it's not enough to draw a conclusion

164

00:05:51,430 --> 00:05:50,000

yeah generally yeah you can draw very

165

00:05:54,070 --> 00:05:51,440

broad conclusions but you're not going

166

00:05:55,749 --> 00:05:54,080

to draw specific conclusions

167

00:05:56,629 --> 00:05:55,759

based on a

168

00:05:57,749 --> 00:05:56,639

one

169

00:06:00,150 --> 00:05:57,759

sample

170

00:06:02,390 --> 00:06:00,160

but there is a lot of interest in what

171

00:06:04,469 --> 00:06:02,400

kind of general conclusions we can come

172

00:06:06,150 --> 00:06:04,479

to based on this comparative study

173

00:06:08,309 --> 00:06:06,160

between my brother and i but you know

174

00:06:09,909 --> 00:06:08,319

most of it is in this area of genetic

175

00:06:12,390 --> 00:06:09,919

research

176

00:06:14,390 --> 00:06:12,400

when you agreed to to this mission

177

00:06:15,909 --> 00:06:14,400

you're getting ready to leave the planet

178

00:06:18,309 --> 00:06:15,919

for a full year you actually can be gone

179

00:06:19,909 --> 00:06:18,319

from home for for longer than that a lot

180

00:06:21,189 --> 00:06:19,919

of people would say i couldn't possibly

181

00:06:22,950 --> 00:06:21,199

do that

182

00:06:24,710 --> 00:06:22,960

what kind of things ran through your

183

00:06:26,469 --> 00:06:24,720

mind as you were deciding whether or not

184

00:06:28,870 --> 00:06:26,479

to to go ahead and accept this

185

00:06:30,950 --> 00:06:28,880

assignment you know i i had a desire to

186

00:06:33,029 --> 00:06:30,960

fly in space again i just hadn't gotten

187

00:06:35,270 --> 00:06:33,039

that out of my system yet with uh three

188

00:06:37,670 --> 00:06:35,280

flights um

189

00:06:40,230 --> 00:06:37,680

you know at first you think well a year

190

00:06:41,189 --> 00:06:40,240

is a long time um

191

00:06:42,790 --> 00:06:41,199

but

192

00:06:44,710 --> 00:06:42,800

i also felt like well maybe flying

193

00:06:46,070 --> 00:06:44,720

another six-month flight would be doing

194

00:06:47,670 --> 00:06:46,080

uh

195

00:06:49,990 --> 00:06:47,680

a mission very similar to what i did

196

00:06:51,990 --> 00:06:50,000

last time so even though you know the

197

00:06:53,909 --> 00:06:52,000

year on one hand

198

00:06:56,469 --> 00:06:53,919

might not be very appealing because a

199

00:06:57,589 --> 00:06:56,479

year is a long time um

200

00:06:59,350 --> 00:06:57,599

you know on the other hand it was

201
00:07:02,550 --> 00:06:59,360
something different and

202
00:07:04,870 --> 00:07:02,560
and you know more challenging than

203
00:07:07,110 --> 00:07:04,880
a six-month flight that

204
00:07:08,870 --> 00:07:07,120
after thinking about it for a while it

205
00:07:11,749 --> 00:07:08,880
the whole idea of it became very

206
00:07:13,430 --> 00:07:11,759
appealing so you know at this point i'm

207
00:07:15,430 --> 00:07:13,440
less than a year out and i'm i'm pretty

208
00:07:16,790 --> 00:07:15,440
excited and feel fortunate to have this

209
00:07:18,070 --> 00:07:16,800
opportunity i mean there are many people

210
00:07:19,670 --> 00:07:18,080
in the astronaut office that would have

211
00:07:21,909 --> 00:07:19,680
jumped at this opportunity i was just

212
00:07:23,270 --> 00:07:21,919
you know lucky timing right place right

213
00:07:25,830 --> 00:07:23,280

time to

214

00:07:27,749 --> 00:07:25,840

we we are just inside one year until you

215

00:07:30,469 --> 00:07:27,759

launch and you've decided to to share

216

00:07:32,550 --> 00:07:30,479

that year with the twitterverse you one

217

00:07:34,950 --> 00:07:32,560

tweet a day while you're uh while you're

218

00:07:36,629 --> 00:07:34,960

preparing for this flight uh what what

219

00:07:37,990 --> 00:07:36,639

was it that compelled you to do that

220

00:07:39,909 --> 00:07:38,000

well i was thinking that it would be

221

00:07:41,510 --> 00:07:39,919

interesting um

222

00:07:43,830 --> 00:07:41,520

when i'm in space i'm not gonna go

223

00:07:45,749 --> 00:07:43,840

overboard certainly but because you know

224

00:07:48,390 --> 00:07:45,759

my priority is

225

00:07:50,710 --> 00:07:48,400

you know safety of flight safety of the

226

00:07:51,830 --> 00:07:50,720

hardware you know completing the mission

227

00:07:53,830 --> 00:07:51,840

objectives

228

00:07:56,070 --> 00:07:53,840

you know tweeting is somewhere

229

00:07:57,990 --> 00:07:56,080

way way down on the list however you

230

00:08:00,309 --> 00:07:58,000

know i think engaging the public is very

231

00:08:02,070 --> 00:08:00,319

important it's their space program

232

00:08:04,230 --> 00:08:02,080

um you know they have a right to this

233

00:08:06,150 --> 00:08:04,240

information and and i feel like we have

234

00:08:08,869 --> 00:08:06,160

an obligation to provide it

235

00:08:10,950 --> 00:08:08,879

um so i felt like it'd be interesting to

236

00:08:13,350 --> 00:08:10,960

do that in space you know one

237

00:08:15,350 --> 00:08:13,360

140 character message a day hey this is

238

00:08:16,950 --> 00:08:15,360

what i'm doing this is how i'm feeling

239

00:08:20,070 --> 00:08:16,960

be interesting to compare you know day

240

00:08:23,350 --> 00:08:20,080

one to day 365

241

00:08:25,350 --> 00:08:23,360

from you know a personal perspective

242

00:08:26,950 --> 00:08:25,360

yeah but so i kind of backed that up a

243

00:08:27,830 --> 00:08:26,960

little bit and i said well let let me

244

00:08:29,589 --> 00:08:27,840

see

245

00:08:31,029 --> 00:08:29,599

if i can just kind of get into the habit

246

00:08:32,949 --> 00:08:31,039

of doing this and i'll do it you know

247

00:08:35,029 --> 00:08:32,959

counting down to the launch and then

248

00:08:36,230 --> 00:08:35,039

count up over a year

249

00:08:37,829 --> 00:08:36,240

i'm not sure if i'm we would be

250

00:08:40,630 --> 00:08:37,839

successful doing it every day but i'm

251

00:08:41,670 --> 00:08:40,640

gonna i'm gonna give it a try um and see

252

00:08:43,589 --> 00:08:41,680

how it goes

253

00:08:45,990 --> 00:08:43,599

well we're all gonna keep an eye on that

254

00:08:48,070 --> 00:08:46,000

and and and your preparations as you and

255

00:08:49,829 --> 00:08:48,080

and misha get ready for your mission uh

256

00:08:52,070 --> 00:08:49,839

thanks very much for for talking about

257

00:08:54,070 --> 00:08:52,080

it with us nasa astronaut scott kelly is