



1  
00:00:28,470 --> 00:00:26,609  
to be a cosmonaut attraction the

2  
00:00:33,299 --> 00:00:28,480  
Demoiselle button actually it's true I

3  
00:00:36,420 --> 00:00:33,309  
haven't thought about it was just nice

4  
00:00:39,090 --> 00:00:36,430  
to cut the eben competent lil

5  
00:00:41,610 --> 00:00:39,100  
when I was growing up of quarter bully I

6  
00:00:43,829 --> 00:00:41,620  
wasn't honest with no Buddha sure when i

7  
00:00:45,479 --> 00:00:43,839  
was in school i did not about different

8  
00:00:48,390 --> 00:00:45,489  
types of future for imagine different

9  
00:00:50,490 --> 00:00:48,400  
types of future for myself we diploma my

10  
00:00:52,289 --> 00:00:50,500  
father was in the military so when I was

11  
00:00:56,270 --> 00:00:52,299  
very little I only wanted to be an

12  
00:00:58,920 --> 00:00:56,280  
officer then my plans changed it was a

13  
00:01:02,539 --> 00:00:58,930

rotten question and then probably in the

14

00:01:05,609 --> 00:01:02,549

ninth grade I was about 15 years old I

15

00:01:08,820 --> 00:01:05,619

happened to hear from a classmate that

16

00:01:11,820 --> 00:01:08,830

we do have an organization that prepares

17

00:01:14,609 --> 00:01:11,830

future cosmonauts I was interested in

18

00:01:16,710 --> 00:01:14,619

what it was i found it i went to their i

19

00:01:19,200 --> 00:01:16,720

talked what to one of the managers and

20

00:01:21,990 --> 00:01:19,210

eventually i was accepted close the

21

00:01:24,959 --> 00:01:22,000

deals in city so and so Elizabeth I was

22

00:01:27,630 --> 00:01:24,969

very excited about it I took classes on

23

00:01:29,550 --> 00:01:27,640

cosmonautics on the hardware and

24

00:01:32,550 --> 00:01:29,560

technology said is used in space also

25

00:01:34,440 --> 00:01:32,560

just a general philosophical issues such

26

00:01:38,219 --> 00:01:34,450

as why we're doing this and where we

27

00:01:42,480 --> 00:01:38,229

want to go from here let's muy used

28

00:01:44,639 --> 00:01:42,490

underwater equipment to dive we used you

29

00:01:46,080 --> 00:01:44,649

would jump with a parachute we did a lot

30

00:01:51,569 --> 00:01:46,090

of interesting activities and we also

31

00:01:54,419 --> 00:01:51,579

participated in competitions caucus

32

00:01:56,279 --> 00:01:54,429

another night not sure how the conquest

33

00:01:58,730 --> 00:01:56,289

modern I can say it each team is at the

34

00:02:01,859 --> 00:01:58,740

condo this was the curl of reading

35

00:02:04,069 --> 00:02:01,869

competition where children would prepare

36

00:02:07,830 --> 00:02:04,079

projects that they would used to compete

37

00:02:10,380 --> 00:02:07,840

the boom you bomb this was done in

38

00:02:11,910 --> 00:02:10,390

Moscow based on the balm on University

39

00:02:14,610 --> 00:02:11,920

and that's a well-known college in

40

00:02:17,760 --> 00:02:14,620

Russia and so I participated in this in

41

00:02:19,830 --> 00:02:17,770

said such a competition and we brought

42

00:02:23,250 --> 00:02:19,840

our several projects from our little

43

00:02:26,449 --> 00:02:23,260

team and so my friends and I created our

44

00:02:28,920 --> 00:02:26,459

own project and was actually the route

45

00:02:33,209 --> 00:02:28,930

d3 you can question

46

00:02:34,619 --> 00:02:33,219

vehicle space vehicle and so that was

47

00:02:37,050 --> 00:02:34,629

interesting for me because that was my

48

00:02:39,809 --> 00:02:37,060

opportunity to see this college I walked

49

00:02:41,309 --> 00:02:39,819

down the halls I looked at it I liked it

50

00:02:43,679 --> 00:02:41,319

and I decided that's where I want to go

51  
00:02:45,690 --> 00:02:43,689  
to college I realized that it was very

52  
00:02:47,369 --> 00:02:45,700  
difficult to become a cosmonauts you

53  
00:02:50,580 --> 00:02:47,379  
have a lot of requirements that you have

54  
00:02:52,860 --> 00:02:50,590  
to meet you may or may not get lucky but

55  
00:02:54,929 --> 00:02:52,870  
I decided that in any case if I do get

56  
00:02:56,940 --> 00:02:54,939  
to become a cosmonaut that's great if

57  
00:03:01,319 --> 00:02:56,950  
not then I will still want to work in

58  
00:03:04,759 --> 00:03:01,329  
the space industry that that's it tell

59  
00:03:06,899 --> 00:03:04,769  
me a little bit then about your your

60  
00:03:08,849 --> 00:03:06,909  
educational and in your professional

61  
00:03:11,339 --> 00:03:08,859  
career you you you brought us up to

62  
00:03:13,349 --> 00:03:11,349  
where you attended the bow and

63  
00:03:15,690 --> 00:03:13,359

university tell me tell me about your

64

00:03:17,339 --> 00:03:15,700

studies and how you your professional

65

00:03:28,199 --> 00:03:17,349

career then led you to becoming a

66

00:03:31,559 --> 00:03:28,209

cosmonaut there's a controller yes i

67

00:03:34,890 --> 00:03:31,569

graduated from the bomb university in

68

00:03:38,339 --> 00:03:34,900

1993 with these girls degree in

69

00:03:41,819 --> 00:03:38,349

mechanical engineering specializing in

70

00:03:43,890 --> 00:03:41,829

the spacecraft specifically building the

71

00:03:46,770 --> 00:03:43,900

spacecraft and a few years after that

72

00:03:52,349 --> 00:03:46,780

for a few years that I worked at the RC

73

00:03:55,309 --> 00:03:52,359

and their game this is the design bureau

74

00:03:59,550 --> 00:03:55,319

that developed and still develops

75

00:04:01,530 --> 00:03:59,560

satellites and spacecraft starting back

76

00:04:03,689 --> 00:04:01,540

in the beginning of the space around

77

00:04:05,699 --> 00:04:03,699

below 30 success and they continue

78

00:04:08,429 --> 00:04:05,709

working in it durable presently as well

79

00:04:12,689 --> 00:04:08,439

so I worked several years in the design

80

00:04:16,620 --> 00:04:12,699

department ibly specifically in the

81

00:04:18,899 --> 00:04:16,630

department as that develops and modifies

82

00:04:21,960 --> 00:04:18,909

the cargo vehicles luton episodes every

83

00:04:25,680 --> 00:04:21,970

culture so after a few years i decided i

84

00:04:28,499 --> 00:04:25,690

want to be a cosmonaut and was a perfect

85

00:04:31,740 --> 00:04:28,509

i applied in soon i went to take my

86

00:04:34,830 --> 00:04:31,750

medical Commission in scope of cool you

87

00:04:37,980 --> 00:04:34,840

do know Stacy mom and I passed and also

88

00:04:42,600 --> 00:04:37,990

my technical preparation and so I became

89  
00:04:47,200 --> 00:04:45,189  
you mentioned a moment ago that you said

90  
00:04:49,779 --> 00:04:47,210  
your father was in the military does

91  
00:04:55,589 --> 00:04:49,789  
that mean that you grew up living in

92  
00:04:57,909 --> 00:04:55,599  
many cities around the country yeah

93  
00:05:04,270 --> 00:04:57,919  
where is it that you consider to be your

94  
00:05:06,580 --> 00:05:04,280  
hometown oh you're the sri lanka i was

95  
00:05:09,159 --> 00:05:06,590  
born in the north caucasus stop was

96  
00:05:13,480 --> 00:05:09,169  
concluded Stavropol region the city of

97  
00:05:15,279 --> 00:05:13,490  
novena mezcla that's a small town was

98  
00:05:19,180 --> 00:05:15,289  
just caught up to do you honey but my

99  
00:05:22,719 --> 00:05:19,190  
family left it shortly after my birth we

100  
00:05:26,770 --> 00:05:22,729  
lived in many cities but this team most

101  
00:05:28,659 --> 00:05:26,780  
of the stables you know all my life I

102  
00:05:32,800 --> 00:05:28,669  
spent in Ukraine the city of the

103  
00:05:35,950 --> 00:05:32,810  
parousia so that is my Ukraine I can say

104  
00:05:37,839 --> 00:05:35,960  
is my think of this year second native

105  
00:05:42,670 --> 00:05:37,849  
country I have many relatives and

106  
00:05:44,019 --> 00:05:42,680  
friends there as well justice to chromeo

107  
00:05:45,640 --> 00:05:44,029  
tamesha does nobody trig with the

108  
00:05:47,409 --> 00:05:45,650  
project in the country so we were

109  
00:05:49,570 --> 00:05:47,419  
supposed to live for three years in

110  
00:05:52,029 --> 00:05:49,580  
Kamchatka matches the Kamchatka

111  
00:05:54,939 --> 00:05:52,039  
Peninsula which is the easternmost part

112  
00:05:57,459 --> 00:05:54,949  
of Russia did his name is time I

113  
00:05:59,200 --> 00:05:57,469

remember that and the nature is very

114

00:06:00,939 --> 00:05:59,210

beautiful there but the day living

115

00:06:02,529 --> 00:06:00,949

conditions were pretty harsh but again

116

00:06:04,540 --> 00:06:02,539

most of my life I spend in Ukraine

117

00:06:06,640 --> 00:06:04,550

that's where i graduated from the high

118

00:06:08,740 --> 00:06:06,650

school that's where i became interested

119

00:06:12,490 --> 00:06:08,750

in cosmonautics and that's why I

120

00:06:15,339 --> 00:06:12,500

traveled to Moscow come from to get into

121

00:06:18,399 --> 00:06:15,349

college into college and as you've

122

00:06:21,939 --> 00:06:18,409

explained working for anarchy and now as

123

00:06:25,149 --> 00:06:21,949

a cosmonaut the flying in space part of

124

00:06:28,689 --> 00:06:25,159

your job as a cosmonaut is a part that

125

00:06:31,119 --> 00:06:28,699

we all know can be dangerous so I like

126

00:06:33,430 --> 00:06:31,129

I'm interested what is it that you

127

00:06:36,969 --> 00:06:33,440

believe that we get what is it that we

128

00:06:40,869 --> 00:06:36,979

learn or achieve as a result of flying

129

00:06:51,840 --> 00:06:40,879

people in space that makes it worth

130

00:06:51,850 --> 00:06:56,480

hmm

131

00:07:02,510 --> 00:06:59,659

no but on flute shimoga procedural

132

00:07:04,879 --> 00:07:02,520

Cascada constantine so Constantine tell

133

00:07:08,180 --> 00:07:04,889

kofsky who said in the beginning of the

134

00:07:12,469 --> 00:07:08,190

last century that humanity will not

135

00:07:15,320 --> 00:07:12,479

forever stay on earth that we will

136

00:07:18,260 --> 00:07:15,330

expand beyond Earth at first and then

137

00:07:20,600 --> 00:07:18,270

beyond this solar system children always

138

00:07:23,200 --> 00:07:20,610

at Brody so I think that it's just an

139

00:07:28,339 --> 00:07:23,210

inherent nature of a human being to

140

00:07:32,029 --> 00:07:28,349

expand to research earth is the cradle

141

00:07:33,980 --> 00:07:32,039

of our civilization but it is possible

142

00:07:36,469 --> 00:07:33,990

right now it's not the best time for us

143

00:07:39,740 --> 00:07:36,479

but I think it's temporary and we will

144

00:07:42,760 --> 00:07:39,750

move forward and move beyond our planet

145

00:07:46,520 --> 00:07:42,770

and continue developing our civilization

146

00:07:49,339 --> 00:07:46,530

mudasir TARDIS is a diploma future

147

00:07:51,860 --> 00:07:49,349

global plans of the youth not for the

148

00:07:54,710 --> 00:07:51,870

immediate future I think it gives us new

149

00:07:57,770 --> 00:07:54,720

knowledge in technology and medicine and

150

00:08:02,180 --> 00:07:57,780

science doesn't always more than it also

151  
00:08:04,010 --> 00:08:02,190  
new capabilities of them learning more

152  
00:08:05,480 --> 00:08:04,020  
about our planet about the processes

153  
00:08:08,719 --> 00:08:05,490  
that take place in the place where we

154  
00:08:11,209 --> 00:08:08,729  
live this tool is it yours Balu what

155  
00:08:15,770 --> 00:08:11,219  
causes events what we should do to

156  
00:08:21,110 --> 00:08:15,780  
preserve our planet just as favorable

157  
00:08:22,550 --> 00:08:21,120  
for survival as it is now you are a

158  
00:08:25,939 --> 00:08:22,560  
member of the International Space

159  
00:08:29,059 --> 00:08:25,949  
Station's expedition 25 and 26 crews

160  
00:08:31,760 --> 00:08:29,069  
could you please summarize for me the

161  
00:08:34,130 --> 00:08:31,770  
goals of your six-month flight and tell

162  
00:08:42,960 --> 00:08:34,140  
me what your main responsibilities will

163  
00:08:47,650 --> 00:08:45,670

vsocam nesbitt in general because of

164

00:08:53,500 --> 00:08:47,660

the flight engineer for both the Soyuz

165

00:08:56,590 --> 00:08:53,510

vehicle and the station it's just my

166

00:08:58,690 --> 00:08:56,600

period business a this is my first and

167

00:09:00,730 --> 00:08:58,700

foremost responsibilities the vehicle

168

00:09:02,530 --> 00:09:00,740

velocity to be able to spend six months

169

00:09:04,990 --> 00:09:02,540

on board of the SS you should be able to

170

00:09:06,610 --> 00:09:05,000

get to the SS first but if no more

171

00:09:08,530 --> 00:09:06,620

difficult we will be testing the new

172

00:09:10,390 --> 00:09:08,540

modification of soyuz for the point

173

00:09:12,900 --> 00:09:10,400

analysis and that means additional

174

00:09:15,490 --> 00:09:12,910

responsibilities yeah business is done

175

00:09:17,050 --> 00:09:15,500

also our responsibilities on board of

176

00:09:19,780 --> 00:09:17,060

the ISS just like for any other

177

00:09:22,150 --> 00:09:19,790

crewmember my responsibilities will

178

00:09:25,510 --> 00:09:22,160

include to be performing a number of

179

00:09:27,760 --> 00:09:25,520

medical experiments perform three EVs

180

00:09:30,460 --> 00:09:27,770

the point mobile dunya assembling

181

00:09:33,160 --> 00:09:30,470

additional equipment so I'm sure I'll be

182

00:09:35,920 --> 00:09:33,170

busy this is you're going to be your

183

00:09:38,110 --> 00:09:35,930

first flight in space can you tell me

184

00:09:40,660 --> 00:09:38,120

what it was like for you when you were

185

00:09:48,940 --> 00:09:40,670

informed that you had been selected to

186

00:09:51,060 --> 00:09:48,950

make your first spaceflight it's just no

187

00:09:54,700 --> 00:09:51,070

brother so naturally I was very happy

188

00:09:56,320 --> 00:09:54,710

initially I so benign tediousness tell

189

00:09:58,840 --> 00:09:56,330

us especially it was it became

190

00:10:00,760 --> 00:09:58,850

interesting when I learned that I will

191

00:10:03,820 --> 00:10:00,770

be launching mr. booth there was that

192

00:10:05,380 --> 00:10:03,830

I'm no longer obligated on the updated

193

00:10:07,330 --> 00:10:05,390

vehicle and that will be the first lunch

194

00:10:08,650 --> 00:10:07,340

for this type of vehicle so that creates

195

00:10:11,260 --> 00:10:08,660

additional responsibilities and of

196

00:10:13,480 --> 00:10:11,270

course additional excitement well let's

197

00:10:15,760 --> 00:10:13,490

talk a bit about the the Soyuz vehicle

198

00:10:20,290 --> 00:10:15,770

this is as you say an updated version of

199

00:10:23,680 --> 00:10:20,300

the the Soyuz TMA what is it that is new

200

00:10:30,760 --> 00:10:23,690

about this so use and how does how do

201  
00:10:36,110 --> 00:10:33,110  
well sometimes minion yet the main

202  
00:10:38,360 --> 00:10:36,120  
modification is that they've installed

203  
00:10:40,160 --> 00:10:38,370  
the new onboard computer so there's an

204  
00:10:44,180 --> 00:10:40,170  
epigram limit therefore we have new

205  
00:10:46,790 --> 00:10:44,190  
software is the same time Abdullah no

206  
00:10:49,040 --> 00:10:46,800  
system and the new motion control system

207  
00:10:51,560 --> 00:10:49,050  
for the vehicle so there are more

208  
00:10:54,350 --> 00:10:51,570  
navigational capabilities American work

209  
00:10:55,970 --> 00:10:54,360  
control capabilities potential portable

210  
00:10:58,190 --> 00:10:55,980  
media formats of the vehicle will

211  
00:11:01,310 --> 00:10:58,200  
continue supplying data throughout the

212  
00:11:02,930 --> 00:11:01,320  
entire flight we will know where the

213  
00:11:05,120 --> 00:11:02,940

vehicle is located at cetera so there

214

00:11:08,270 --> 00:11:05,130

are many things that i can tell you but

215

00:11:09,980 --> 00:11:08,280

the main idea here is that the motion

216

00:11:13,130 --> 00:11:09,990

control system of the vehicle has been

217

00:11:16,360 --> 00:11:13,140

changed is the do these changes make it

218

00:11:23,980 --> 00:11:16,370

easier for the crew members to fly or

219

00:11:29,930 --> 00:11:28,100

yes cause all I would say both both it's

220

00:11:31,730 --> 00:11:29,940

correct to the face to the person we

221

00:11:33,470 --> 00:11:31,740

have a new interface which makes it

222

00:11:36,280 --> 00:11:33,480

easier to perform the information

223

00:11:38,630 --> 00:11:36,290

exchange with thee bula-bula computer

224

00:11:40,460 --> 00:11:38,640

will be receiving more complete

225

00:11:42,380 --> 00:11:40,470

information from the computer regarding

226

00:11:45,940 --> 00:11:42,390

the onboard system with Justin to

227

00:11:48,560 --> 00:11:45,950

dillards and that will make the process

228

00:11:51,350 --> 00:11:48,570

prolly neapolitan isa most business the

229

00:11:55,340 --> 00:11:51,360

process of controlling the vehicle and

230

00:11:58,220 --> 00:11:55,350

approaching the station more more simple

231

00:12:01,640 --> 00:11:58,230

for the crew I hope let's talk it now

232

00:12:04,640 --> 00:12:01,650

about the space station itself can you

233

00:12:06,170 --> 00:12:04,650

give us a sense of what the space

234

00:12:09,880 --> 00:12:06,180

station that you're going to arrive at

235

00:12:12,710 --> 00:12:09,890

is like what sorts of modules and

236

00:12:20,100 --> 00:12:12,720

laboratories and and other compartments

237

00:12:26,260 --> 00:12:23,290

no she just moved through the status quo

238

00:12:28,780 --> 00:12:26,270

may be difficult right now to count how

239

00:12:30,520 --> 00:12:28,790

many modules the station has because as

240

00:12:31,930 --> 00:12:30,530

you're well aware the International

241

00:12:33,790 --> 00:12:31,940

Space Station is an international

242

00:12:38,830 --> 00:12:33,800

project that involved the participation

243

00:12:40,300 --> 00:12:38,840

of 16 countries prob normal stance

244

00:12:42,640 --> 00:12:40,310

estate is news to me the station

245

00:12:44,110 --> 00:12:42,650

consists of two segments the your

246

00:12:46,750 --> 00:12:44,120

segment and the Russian segment of

247

00:12:50,700 --> 00:12:46,760

hooja's the u.s. segment consists of al

248

00:12:56,230 --> 00:12:50,710

Jackson modules and ISA modules as well

249

00:12:58,960 --> 00:12:56,240

I'm sure must answer used those Lusa

250

00:13:01,920 --> 00:12:58,970

there are two air locks on the station

251

00:13:04,450 --> 00:13:01,930

one is located on the u.s. segment

252

00:13:06,990 --> 00:13:04,460

another system and it's capable of

253

00:13:09,190 --> 00:13:07,000

supporting us equipment and then on the

254

00:13:10,960 --> 00:13:09,200

Russian segment we have an additional

255

00:13:14,670 --> 00:13:10,970

air lock that is capable of supporting

256

00:13:18,250 --> 00:13:14,680

Russian space suits we also have several

257

00:13:21,700 --> 00:13:18,260

specialized laboratory modules so the

258

00:13:24,430 --> 00:13:21,710

Columbus module the Jackson module which

259

00:13:26,860 --> 00:13:24,440

is Kibo laboratory model I'm in the

260

00:13:28,810 --> 00:13:26,870

confessing me in the lab lab on the US

261

00:13:32,560 --> 00:13:28,820

segment that's also a laboratory module

262

00:13:36,550 --> 00:13:32,570

normal he stable disc two small research

263

00:13:39,450 --> 00:13:36,560

or many research modules on the Russian

264

00:13:43,900 --> 00:13:39,460

segment the service module which

265

00:13:46,630 --> 00:13:43,910

supports the Russian segment systems and

266

00:13:49,270 --> 00:13:46,640

experiment so there are many

267

00:13:51,130 --> 00:13:49,280

capabilities on board of the ISIS to

268

00:13:53,290 --> 00:13:51,140

perform scientific experiments your

269

00:13:55,780 --> 00:13:53,300

dreary whole day specifically we are

270

00:13:59,230 --> 00:13:55,790

scheduled to perform a three extra

271

00:14:01,780 --> 00:13:59,240

vehicular activity from the russian air

272

00:14:03,280 --> 00:14:01,790

lock using Russian space suits and I

273

00:14:05,740 --> 00:14:03,290

want to get you to tell me about those

274

00:14:09,310 --> 00:14:05,750

in a second your description of the

275

00:14:11,410 --> 00:14:09,320

station as it exists today is a

276

00:14:13,930 --> 00:14:11,420

dramatically different space station

277

00:14:16,900 --> 00:14:13,940

than that that the expedition one crew

278

00:14:19,120 --> 00:14:16,910

encountered when they arrived ten years

279

00:14:21,520 --> 00:14:19,130

ago and you'll be on board for the 10th

280

00:14:24,510 --> 00:14:21,530

anniversary of the arrival of the first

281

00:14:28,120 --> 00:14:24,520

crew to the International Space Station

282

00:14:31,300 --> 00:14:28,130

ally in your thinking what is it that is

283

00:14:32,050 --> 00:14:31,310

the best thing that has happened that as

284

00:14:34,690 --> 00:14:32,060

the bed

285

00:14:37,120 --> 00:14:34,700

achievement of the station partnership

286

00:14:46,150 --> 00:14:37,130

during this first 10 years of the

287

00:14:48,160 --> 00:14:46,160

International Space Station program grow

288

00:14:51,520 --> 00:14:48,170

me you can't just give an oyster from

289

00:14:53,760 --> 00:14:51,530

what more in addition to the technical

290

00:14:58,390 --> 00:14:53,770

support and the scientific support

291

00:14:59,980 --> 00:14:58,400

activities that I will be that we have

292

00:15:03,880 --> 00:14:59,990

performed we have gained a lot of

293

00:15:07,030 --> 00:15:03,890

experience in international cooperation

294

00:15:09,990 --> 00:15:07,040

because this is the first was quite a

295

00:15:13,060 --> 00:15:10,000

simple larger scale international

296

00:15:14,500 --> 00:15:13,070

project and that allowed us to gain a

297

00:15:16,120 --> 00:15:14,510

lot of experience in working together

298

00:15:18,700 --> 00:15:16,130

and i'm sure we can use that experience

299

00:15:20,650 --> 00:15:18,710

in the future as well as austin but the

300

00:15:22,690 --> 00:15:20,660

robots experiment additionally as i

301

00:15:25,090 --> 00:15:22,700

mentioned earlier we are performing

302

00:15:27,840 --> 00:15:25,100

interesting experiments on board of the

303

00:15:31,180 --> 00:15:27,850

SS including biomedical research

304

00:15:35,050 --> 00:15:31,190

astrophysics earth observation

305

00:15:37,540 --> 00:15:35,060

experiments etc I can keep going well I

306

00:15:39,490 --> 00:15:37,550

let's talk about that because now with a

307

00:15:42,190 --> 00:15:39,500

crew of six there's a greater

308

00:15:45,390 --> 00:15:42,200

opportunity for utilization of the space

309

00:15:48,400 --> 00:15:45,400

station then there has been up until now

310

00:15:51,670 --> 00:15:48,410

many of the experiments are designed to

311

00:15:55,150 --> 00:15:51,680

find out how human beings can live and

312

00:15:57,610 --> 00:15:55,160

work in space and for those you and your

313

00:16:01,330 --> 00:15:57,620

crewmates are the subjects of the

314

00:16:03,940 --> 00:16:01,340

experiment tell me about some of the the

315

00:16:06,190 --> 00:16:03,950

different kinds of investigations that

316

00:16:09,250 --> 00:16:06,200

will be involved during your flight for

317

00:16:18,880 --> 00:16:09,260

which you will be will be the experiment

318

00:16:23,930 --> 00:16:21,370

them with a lot of limp wristed

319

00:16:27,220 --> 00:16:23,940

experiment we are scheduled to perform a

320

00:16:30,500 --> 00:16:27,230

number of experiments related to

321

00:16:33,740 --> 00:16:30,510

motoroids triskin been investigating how

322

00:16:36,890 --> 00:16:33,750

a human organism human body can survive

323

00:16:39,140 --> 00:16:36,900

and exist in spaces lights at this new

324

00:16:41,720 --> 00:16:39,150

something specifically was another yard

325

00:16:45,320 --> 00:16:41,730

sale weightlessness increased radiation

326

00:16:46,940 --> 00:16:45,330

level yes the experimental kotori slid

327

00:16:49,790 --> 00:16:46,950

and there is a number of experiments

328

00:16:52,610 --> 00:16:49,800

that researches the cardiovascular

329

00:16:56,570 --> 00:16:52,620

system and the vegetative system we have

330

00:16:59,480 --> 00:16:56,580

technological experiments that zombie

331

00:17:02,930 --> 00:16:59,490

investigate how a small group of people

332

00:17:05,030 --> 00:17:02,940

can work for extended period of time

333

00:17:07,670 --> 00:17:05,040

together in an enclosed space for multi

334

00:17:10,280 --> 00:17:07,680

we are also researching and studying how

335

00:17:15,080 --> 00:17:10,290

weightlessness effects the coordination

336

00:17:17,990 --> 00:17:15,090

skills was nalini anak of yeah normal is

337

00:17:20,600 --> 00:17:18,000

how we can restore our capabilities

338

00:17:22,370 --> 00:17:20,610

wants to return to Earth certainly

339

00:17:26,750 --> 00:17:22,380

that's a very important thing you want

340

00:17:32,480 --> 00:17:26,760

to be able to to be able to function on

341

00:17:39,890 --> 00:17:35,640

it's just in the reverse I'll put the

342

00:17:43,500 --> 00:17:39,900

season cook sorry boot a little

343

00:17:47,220 --> 00:17:43,510

experiment understand say that the work

344

00:17:49,950 --> 00:17:47,230

that not only research is how we work on

345

00:17:51,810 --> 00:17:49,960

board SS for a long time but also how we

346

00:17:54,660 --> 00:17:51,820

can survive to spaceflight to other

347

00:17:58,500 --> 00:17:54,670

planets as well there are a lot of other

348

00:18:00,240 --> 00:17:58,510

kinds of laboratory research that for

349

00:18:03,210 --> 00:18:00,250

which you and your crew mates will be

350

00:18:05,580 --> 00:18:03,220

the operators during your time on orbit

351

00:18:07,890 --> 00:18:05,590

these are in other scientific

352

00:18:10,380 --> 00:18:07,900

disciplines tell me about some of those

353

00:18:12,600 --> 00:18:10,390

what other kinds of science research

354

00:18:14,160 --> 00:18:12,610

will you be involved in during the six

355

00:18:22,320 --> 00:18:14,170

months that you'll be spending on board

356

00:18:23,850 --> 00:18:22,330

the station yes Musiq avedon experiment

357

00:18:26,700 --> 00:18:23,860

of there are several types of

358

00:18:29,460 --> 00:18:26,710

experiments for example dignity special

359

00:18:32,850 --> 00:18:29,470

for materials research just material

360

00:18:36,150 --> 00:18:32,860

growing crystals and new materials with

361

00:18:39,570 --> 00:18:36,160

new properties of honey who also growing

362

00:18:41,400 --> 00:18:39,580

protein molecules explain the salesman's

363

00:18:43,080 --> 00:18:41,410

give these experiments related to jet

364

00:18:46,800 --> 00:18:43,090

physics yes those inner atmosphere

365

00:18:52,050 --> 00:18:46,810

really researching and observing the

366

00:18:54,900 --> 00:18:52,060

earth theme radiation levels symmetry

367

00:18:57,390 --> 00:18:54,910

seen in Italy earthquakes we are

368

00:19:01,320 --> 00:18:57,400

learning how we can predict earthquakes

369

00:19:03,720 --> 00:19:01,330

the diamond location also atmosphere

370

00:19:06,860 --> 00:19:03,730

observation specifically we will be

371

00:19:10,920 --> 00:19:06,870

developing the special methodology to

372

00:19:12,420 --> 00:19:10,930

research theme guess is being formed in

373

00:19:15,720 --> 00:19:12,430

the atmosphere of the station we are

374

00:19:20,220 --> 00:19:15,730

going to winter yourself study the

375

00:19:22,590 --> 00:19:20,230

environment ecology the men created and

376

00:19:26,580 --> 00:19:22,600

natural disasters and their consequences

377

00:19:31,380 --> 00:19:26,590

oh and again it's a long list that

378

00:19:33,060 --> 00:19:31,390

can keep going that science work will as

379

00:19:36,150 --> 00:19:33,070

you say there's a lot of it will keep

380

00:19:38,700 --> 00:19:36,160

you busy you also mentioned a couple of

381

00:19:41,370 --> 00:19:38,710

minutes ago that the current plan for

382

00:19:43,230 --> 00:19:41,380

your mission calls for spacewalks three

383

00:19:45,870 --> 00:19:43,240

of them out of the Russian section of

384

00:19:48,840 --> 00:19:45,880

the station in the latter part of this

385

00:19:51,330 --> 00:19:48,850

year and you are going to be involved as

386

00:19:53,460 --> 00:19:51,340

a space Walker in those tell me about

387

00:19:55,230 --> 00:19:53,470

who will be involved in in the

388

00:20:03,570 --> 00:19:55,240

spacewalks and what work it is that

389

00:20:05,220 --> 00:20:03,580

you'll be doing outside the statistics

390

00:20:10,080 --> 00:20:05,230

equation plan would be more into the

391

00:20:15,320 --> 00:20:10,090

current plan we will perform three

392

00:20:18,270 --> 00:20:15,330

spacewalks the boot to EDS are scheduled

393

00:20:20,610 --> 00:20:18,280

for the new chicken for a theater your

394

00:20:23,100 --> 00:20:20,620

chicken myself you treated with hood and

395

00:20:25,200 --> 00:20:23,110

myself and the third one will be

396

00:20:29,790 --> 00:20:25,210

performed by drink mix Twitter

397

00:20:31,380 --> 00:20:29,800

conductive and me so it looks like i

398

00:20:33,870 --> 00:20:31,390

will be participating in all three

399

00:20:35,550 --> 00:20:33,880

spacewalks so again that means

400

00:20:38,790 --> 00:20:35,560

additional responsibilities but that

401  
00:20:40,500 --> 00:20:38,800  
makes it that much more exciting not

402  
00:20:42,270 --> 00:20:40,510  
psst eros is costing me n touch

403  
00:20:43,520 --> 00:20:42,280  
accessibility sort of no moon on the

404  
00:20:45,780 --> 00:20:43,530  
surface of the Russian segment

405  
00:20:48,510 --> 00:20:45,790  
specifically on outside the service

406  
00:20:50,430 --> 00:20:48,520  
module we will need to remove some of

407  
00:20:53,880 --> 00:20:50,440  
the equipment that is working now and

408  
00:20:57,240 --> 00:20:53,890  
install new units new hardware there's

409  
00:21:02,640 --> 00:20:57,250  
no football specifically the

410  
00:21:04,740 --> 00:21:02,650  
experimental unit to museum the lace

411  
00:21:08,400 --> 00:21:04,750  
laser data exchange with the ground

412  
00:21:11,960 --> 00:21:08,410  
geophysics hard work with split

413  
00:21:15,230 --> 00:21:11,970

experiment specifically musicals that

414

00:21:18,930 --> 00:21:15,240

allows us to study the spikes in

415

00:21:21,330 --> 00:21:18,940

radiation that are observed immediately

416

00:21:23,340 --> 00:21:21,340

before the basic invisible Sydney's

417

00:21:26,010 --> 00:21:23,350

Putin earthquakes we will also need to

418

00:21:28,610 --> 00:21:26,020

launch a mini satellite which was

419

00:21:32,460 --> 00:21:28,620

developed by our students oh cool so

420

00:21:35,250 --> 00:21:32,470

these are the major activities that we

421

00:21:37,590 --> 00:21:35,260

have it's important I think for us to

422

00:21:39,510 --> 00:21:37,600

realize that all of the science on the

423

00:21:42,150 --> 00:21:39,520

International Space Station is not done

424

00:21:45,960 --> 00:21:42,160

inside the station that much of it is

425

00:21:50,250 --> 00:21:48,720

the conditioner that is correct such as

426

00:21:53,120 --> 00:21:50,260

two dishes he must he hasn't often

427

00:21:55,830 --> 00:21:53,130

though these are too chesty por una

428

00:21:57,570 --> 00:21:55,840

interconnected some of the hardware is

429

00:21:59,970 --> 00:21:57,580

located inside of the station and the

430

00:22:04,170 --> 00:21:59,980

crew works with it some of the units are

431

00:22:07,350 --> 00:22:04,180

outside and those are I'm starting

432

00:22:10,770 --> 00:22:07,360

control in the remote manner by the crew

433

00:22:13,020 --> 00:22:10,780

also we expose certain materials to

434

00:22:14,850 --> 00:22:13,030

radiation to see how the space flight or

435

00:22:17,880 --> 00:22:14,860

being in open space changes their

436

00:22:20,160 --> 00:22:17,890

properties has experience complete by

437

00:22:24,150 --> 00:22:20,170

risk experiment is something that will

438

00:22:28,950 --> 00:22:24,160

allow us to identify the survivability

439

00:22:31,590 --> 00:22:28,960

of micro-organisms in the in vacuum and

440

00:22:34,580 --> 00:22:31,600

in with high levels of radiation that we

441

00:22:38,640 --> 00:22:34,590

have in space have you gotten any

442

00:22:41,570 --> 00:22:38,650

special guidance or instruction from

443

00:22:43,890 --> 00:22:41,580

your cosmonaut colleagues about about

444

00:22:46,740 --> 00:22:43,900

performing a spacewalk and what it is

445

00:22:53,720 --> 00:22:46,750

like to float outside as your own little

446

00:22:59,220 --> 00:22:56,910

no Connie Astana's bully tenure of catan

447

00:23:03,150 --> 00:22:59,230

mr. Sudras chicken on of course we had

448

00:23:05,130 --> 00:23:03,160

the joint simulations and joint training

449

00:23:07,080 --> 00:23:05,140

with further you chicken and he is a

450

00:23:10,290 --> 00:23:07,090

crew member who is very experienced in a

451  
00:23:12,780 --> 00:23:10,300  
performing space walks in spaces so

452  
00:23:14,970 --> 00:23:12,790  
there are some tips and tricks that you

453  
00:23:18,690 --> 00:23:14,980  
can use to make your work more effective

454  
00:23:21,150 --> 00:23:18,700  
no doubt about that the plan for your

455  
00:23:23,390 --> 00:23:21,160  
time on orbit also now calls for a

456  
00:23:26,130 --> 00:23:23,400  
couple of visits from space shuttles

457  
00:23:30,870 --> 00:23:26,140  
current launch schedule has discovery

458  
00:23:34,110 --> 00:23:30,880  
arriving at the station on sts-133 late

459  
00:23:37,200 --> 00:23:34,120  
in this year tell me of just in general

460  
00:23:39,660 --> 00:23:37,210  
what is it that's on the agenda for your

461  
00:23:50,010 --> 00:23:39,670  
time or the joint mission with the

462  
00:23:52,530 --> 00:23:50,020  
discovery crew on 133 lamented

463  
00:23:54,420 --> 00:23:52,540

nakameguro you should travel asses

464

00:23:56,340 --> 00:23:54,430

questions it's Kapoor Shaad moist sacré

465

00:23:59,040 --> 00:23:56,350

boo tonight accustomed to Scott Kelly

466

00:24:01,410 --> 00:23:59,050

because he's our commander he works

467

00:24:04,080 --> 00:24:01,420

mostly on the u.s. segment my

468

00:24:05,340 --> 00:24:04,090

understanding is that he's a an

469

00:24:07,200 --> 00:24:05,350

experienced crew member and it will be

470

00:24:08,760 --> 00:24:07,210

easy for us to work with them sort of

471

00:24:10,410 --> 00:24:08,770

the Buddhist the burrata remote is

472

00:24:11,730 --> 00:24:10,420

normative a note also it will be

473

00:24:13,950 --> 00:24:11,740

interesting that we will have two

474

00:24:17,490 --> 00:24:13,960

brothers working on orbit at the same

475

00:24:19,800 --> 00:24:17,500

time yes that is supposed to happen in

476

00:24:25,320 --> 00:24:19,810

the last space shuttle mission of the

477

00:24:29,070 --> 00:24:25,330

that flies early next year sts-134 the

478

00:24:32,190 --> 00:24:29,080

last scheduled flight means that you

479

00:24:35,430 --> 00:24:32,200

will be on board to see that historical

480

00:24:38,490 --> 00:24:35,440

activity occur only what are your

481

00:24:40,980 --> 00:24:38,500

thoughts about the space shuttle's place

482

00:24:44,010 --> 00:24:40,990

in the history of human space flight and

483

00:24:52,310 --> 00:24:44,020

and its role in building the

484

00:24:57,960 --> 00:24:55,830

mrs. Lummis program specialist a girl no

485

00:24:59,999 --> 00:24:57,970

space shuttle program no doubt has been

486

00:25:03,299 --> 00:25:00,009

very important in a building that has

487

00:25:07,169 --> 00:25:03,309

because practically all US modules have

488

00:25:09,479 --> 00:25:07,179

been delivered in orbit by the shuttle

489

00:25:12,720 --> 00:25:09,489

and also the new Russian module as well

490

00:25:15,950 --> 00:25:12,730

mrm one it's a very interesting program

491

00:25:19,919 --> 00:25:15,960

that demonstrated was more testing

492

00:25:23,430 --> 00:25:19,929

capabilities possibly both advantages

493

00:25:25,409 --> 00:25:23,440

and disadvantages of multi-use

494

00:25:28,440 --> 00:25:25,419

transportation system blows whistles

495

00:25:32,849 --> 00:25:28,450

this program seclude has existed for

496

00:25:35,129 --> 00:25:32,859

almost 30 years yellow knowledge and it

497

00:25:40,529 --> 00:25:35,139

has contributed greatly to the

498

00:25:43,200 --> 00:25:40,539

development of the space I research once

499

00:25:45,930 --> 00:25:43,210

the space shuttle stops flying the major

500

00:25:49,379 --> 00:25:45,940

source of supplies to the station will

501  
00:25:51,810 --> 00:25:49,389  
end but there are three other proven

502  
00:25:53,549 --> 00:25:51,820  
cargo ships that are supplying the

503  
00:25:56,399 --> 00:25:53,559  
station and each one of them is

504  
00:26:00,269 --> 00:25:56,409  
scheduled to make a visit during

505  
00:26:02,609 --> 00:26:00,279  
expedition 26 can you tell us a little

506  
00:26:05,960 --> 00:26:02,619  
bit about the capabilities of these

507  
00:26:09,450 --> 00:26:05,970  
unpiloted Russian European and Japanese

508  
00:26:13,169 --> 00:26:09,460  
cargo ships and what role the crew

509  
00:26:22,680 --> 00:26:13,179  
members have in there arrivals and then

510  
00:26:30,330 --> 00:26:28,290  
oh goodness HD at a couple is the

511  
00:26:32,700 --> 00:26:30,340  
vehicle that has been developed by the

512  
00:26:35,460 --> 00:26:32,710  
japanese space agency and it's a

513  
00:26:38,760 --> 00:26:35,470

primarily a post on models quick goal is

514

00:26:41,580 --> 00:26:38,770

to add nothing to know would you support

515

00:26:44,220 --> 00:26:41,590

the you the Japanese module this is the

516

00:26:46,020 --> 00:26:44,230

new type of vehicle the free-throw flyer

517

00:26:48,600 --> 00:26:46,030

vehicle which means that it doesn't duck

518

00:26:50,190 --> 00:26:48,610

to the station directly but rather it

519

00:26:52,140 --> 00:26:50,200

approaches the station and performs the

520

00:26:54,150 --> 00:26:52,150

station keeping close to it and then the

521

00:26:59,640 --> 00:26:54,160

upgrade on board of the ISS uses the

522

00:27:03,090 --> 00:26:59,650

robotic arm to made it to the docking

523

00:27:05,400 --> 00:27:03,100

mechanism docking port is it the boy

524

00:27:07,200 --> 00:27:05,410

that is that no was my understanding is

525

00:27:09,690 --> 00:27:07,210

that this will be the responsibility of

526

00:27:12,270 --> 00:27:09,700

one of the u.s. crew members are about

527

00:27:14,580 --> 00:27:12,280

therapies of Cuzco against a TV has been

528

00:27:16,550 --> 00:27:14,590

developed by the european space agency

529

00:27:19,970 --> 00:27:16,560

and this is the vehicle that will be

530

00:27:23,400 --> 00:27:19,980

docking to the russian segment so

531

00:27:27,390 --> 00:27:23,410

supported by a mystical and the process

532

00:27:29,370 --> 00:27:27,400

of approach and docking will be sanity

533

00:27:31,380 --> 00:27:29,380

portal took something that the Russian

534

00:27:33,150 --> 00:27:31,390

crew member will be responsible for in

535

00:27:36,240 --> 00:27:33,160

cooperation with the European Space

536

00:27:38,460 --> 00:27:36,250

Agency in the continuous measuring is

537

00:27:42,740 --> 00:27:38,470

the cove cool I know that women are

538

00:27:46,220 --> 00:27:42,750

expected to the ATV arrival that will

539

00:27:48,330 --> 00:27:46,230

take place so when we are on board

540

00:27:50,600 --> 00:27:48,340

Alexander Kaleri encounters Polly will

541

00:27:53,940 --> 00:27:50,610

be responsible and systems before it

542

00:27:57,620 --> 00:27:53,950

this vehicle will supply the station

543

00:28:02,040 --> 00:27:57,630

with both air oxygen dry cargo and water

544

00:28:05,190 --> 00:28:02,050

to fill our water tanks we can also use

545

00:28:07,830 --> 00:28:05,200

what does on you this to perform

546

00:28:13,560 --> 00:28:07,840

attitude control for the station if

547

00:28:15,630 --> 00:28:13,570

necessary progress at the vs. kick

548

00:28:17,640 --> 00:28:15,640

progress is the Russian vehicle mostly

549

00:28:21,470 --> 00:28:17,650

the Robo chala FATCA you can call it a

550

00:28:23,640 --> 00:28:21,480

workhorse for the Russian space program

551

00:28:25,770 --> 00:28:23,650

he understands tough talk to the

552

00:28:27,690 --> 00:28:25,780

corroboree it's a great advantage is

553

00:28:30,270 --> 00:28:27,700

that it's the vehicle that can dock boom

554

00:28:33,270 --> 00:28:30,280

was bukas muchas custom to any docking

555

00:28:34,490 --> 00:28:33,280

port of the station with any stationed

556

00:28:37,610 --> 00:28:34,500

attitude from you

557

00:28:41,060 --> 00:28:37,620

of the Medicis Virginia and in addition

558

00:28:44,270 --> 00:28:41,070

to the automatic mode it can also be

559

00:28:46,790 --> 00:28:44,280

controlled manually San solution for you

560

00:28:49,310 --> 00:28:46,800

mr. by the operator inside of the

561

00:28:52,340 --> 00:28:49,320

station stone circle it can also supply

562

00:28:58,400 --> 00:28:52,350

the station with dry cargo air water

563

00:29:01,610 --> 00:28:58,410

oxygen the support lid and refill like

564

00:29:05,060 --> 00:29:01,620

you Austin so need a station the system

565

00:29:07,520 --> 00:29:05,070

is a prop Thanks with propellants at you

566

00:29:10,700 --> 00:29:07,530

say so that's a short description of all

567

00:29:13,610 --> 00:29:10,710

three vehicles so with all of those as

568

00:29:16,100 --> 00:29:13,620

well as the possible commercial vehicles

569

00:29:18,160 --> 00:29:16,110

that are being developed there will be a

570

00:29:21,410 --> 00:29:18,170

lot of different ways to continue to

571

00:29:23,450 --> 00:29:21,420

bring supplies to the station and change

572

00:29:26,480 --> 00:29:23,460

the look of the operations there in the

573

00:29:28,850 --> 00:29:26,490

future although I'm interested to get

574

00:29:31,940 --> 00:29:28,860

your thoughts about the future of the

575

00:29:35,960 --> 00:29:31,950

space station beyond just your time

576  
00:29:38,390 --> 00:29:35,970  
there where would you think that human

577  
00:29:41,600 --> 00:29:38,400  
space exploration is headed in the next

578  
00:29:44,000 --> 00:29:41,610  
I don't know 20 or 50 years or so and

579  
00:29:46,190 --> 00:29:44,010  
what role do you think the international

580  
00:29:54,260 --> 00:29:46,200  
space station will play in getting us

581  
00:29:56,570 --> 00:29:54,270  
ready for that future that's if it is

582  
00:29:59,510 --> 00:29:56,580  
that the one number 20 or 50 years is a

583  
00:30:01,490 --> 00:29:59,520  
long time all right we need the solution

584  
00:30:02,960 --> 00:30:01,500  
is to do i would say that in the next 10

585  
00:30:05,780 --> 00:30:02,970  
years the station will continue

586  
00:30:07,790 --> 00:30:05,790  
developing we have certain plans to see

587  
00:30:10,400 --> 00:30:07,800  
the scale modeling deliver new research

588  
00:30:12,740 --> 00:30:10,410

modules to the station was more about

589

00:30:14,300 --> 00:30:12,750

the turbot is no were typically possibly

590

00:30:17,330 --> 00:30:14,310

we will be testing new types of vehicles

591

00:30:19,670 --> 00:30:17,340

he suggests is plumbing poisoning and

592

00:30:24,320 --> 00:30:19,680

currently there are plans to use the ISS