



10000

5

10

2868

NAVY

TEST FLIGHT SCHOOL

1
00:00:15,589 --> 00:00:13,030
the members of the expedition 42 crew

2
00:00:17,349 --> 00:00:15,599
include four men and two women from

3
00:00:19,109 --> 00:00:17,359
three different countries serving

4
00:00:21,750 --> 00:00:19,119
together on the world's only

5
00:00:24,470 --> 00:00:21,760
international space station

6
00:00:27,109 --> 00:00:24,480
u.s navy captain barry wilmore grew up

7
00:00:29,589 --> 00:00:27,119
in mount juliet tennessee a suburb of

8
00:00:31,830 --> 00:00:29,599
nashville it's a place and time he

9
00:00:34,389 --> 00:00:31,840
remembers for great friends and a great

10
00:00:37,110 --> 00:00:34,399
school program that nurtured his natural

11
00:00:39,590 --> 00:00:37,120
impulses my parents my mom specifically

12
00:00:43,030 --> 00:00:39,600
told me that my first word was not mama

13
00:00:44,549 --> 00:00:43,040

or daddy it was why i've always always

14

00:00:46,709 --> 00:00:44,559

been inquisitive

15

00:00:48,950 --> 00:00:46,719

and you know what's out there how's that

16

00:00:50,950 --> 00:00:48,960

work and those type of type of thoughts

17

00:00:53,350 --> 00:00:50,960

have always been within me

18

00:00:55,029 --> 00:00:53,360

after high school in mount julia wilmore

19

00:00:57,270 --> 00:00:55,039

walked on to the football team at

20

00:01:00,150 --> 00:00:57,280

tennessee technological university

21

00:01:01,910 --> 00:01:00,160

despite being what he describes as slow

22

00:01:04,390 --> 00:01:01,920

small and weak

23

00:01:05,990 --> 00:01:04,400

but his urge to know why kicked in and

24

00:01:07,670 --> 00:01:06,000

he earned a bachelor's degree in

25

00:01:10,469 --> 00:01:07,680

electrical engineering

26

00:01:12,870 --> 00:01:10,479

then what he calls a patriotic tug

27

00:01:14,789 --> 00:01:12,880

pulled him to the navy after finishing

28

00:01:17,670 --> 00:01:14,799

flight school and picking up the call

29

00:01:19,749 --> 00:01:17,680

sign butch wilmore made two deployments

30

00:01:22,070 --> 00:01:19,759

during operation desert storm

31

00:01:24,469 --> 00:01:22,080

then went to the navy test pilot school

32

00:01:26,310 --> 00:01:24,479

and later earned two master's degrees

33

00:01:28,550 --> 00:01:26,320

one in aviation systems from the

34

00:01:31,350 --> 00:01:28,560

university of tennessee and the other in

35

00:01:34,390 --> 00:01:31,360

electrical engineering from ttu before

36

00:01:36,789 --> 00:01:34,400

making two more overseas deployments

37

00:01:39,190 --> 00:01:36,799

then he taught at the navies and the air

38

00:01:42,069 --> 00:01:39,200

force's test pilot schools before being

39

00:01:44,149 --> 00:01:42,079

selected as an astronaut in 2000

40

00:01:45,910 --> 00:01:44,159

wilmore made his first space flight as

41

00:01:47,670 --> 00:01:45,920

the pilot on a space shuttle mission

42

00:01:49,510 --> 00:01:47,680

that delivered express logistics

43

00:01:52,870 --> 00:01:49,520

carriers and other parts to the

44

00:01:54,630 --> 00:01:52,880

international space station in late 2009

45

00:01:56,950 --> 00:01:54,640

this mission gives him the chance to

46

00:01:59,590 --> 00:01:56,960

push the boundaries of human knowledge

47

00:02:01,350 --> 00:01:59,600

we do science and various things

48

00:02:03,510 --> 00:02:01,360

hopefully for the betterment of mankind

49

00:02:05,749 --> 00:02:03,520

that's why the station exists so we can

50

00:02:08,869 --> 00:02:05,759

turn around what we learned there and

51
00:02:09,990 --> 00:02:08,879
and and and use it here on earth that's

52
00:02:12,070 --> 00:02:10,000
our purpose

53
00:02:14,630 --> 00:02:12,080
and to to go and and have the

54
00:02:16,630 --> 00:02:14,640
opportunity to do that like i said is is

55
00:02:19,110 --> 00:02:16,640
very very humbling

56
00:02:22,229 --> 00:02:19,120
alexander samokutyaev was born and

57
00:02:25,030 --> 00:02:22,239
raised in penza southeast of moscow as a

58
00:02:27,110 --> 00:02:25,040
boy he loved science and ice hockey

59
00:02:28,869 --> 00:02:27,120
but he had no real doubt about what he

60
00:02:30,710 --> 00:02:28,879
would do with his life

61
00:02:32,070 --> 00:02:30,720
a lot of children when you ask them who

62
00:02:34,630 --> 00:02:32,080
they want to be

63
00:02:36,949 --> 00:02:34,640

sometimes it's hard for them to answer

64

00:02:39,670 --> 00:02:36,959

as long as i remember myself it was

65

00:02:42,229 --> 00:02:39,680

never a difficult question for me

66

00:02:43,750 --> 00:02:42,239

who do you want to be i always knew i

67

00:02:45,270 --> 00:02:43,760

was going to

68

00:02:48,070 --> 00:02:45,280

be a pilot

69

00:02:50,630 --> 00:02:48,080

maybe a little bit later i realized i

70

00:02:52,790 --> 00:02:50,640

wanted to be in military pilot

71

00:02:55,270 --> 00:02:52,800

semakutiya made his first flight as a

72

00:02:56,630 --> 00:02:55,280

pilot at age 16.

73

00:02:58,630 --> 00:02:56,640

after high school he went to the

74

00:03:01,990 --> 00:02:58,640

chernigov air force pilot school in

75

00:03:04,390 --> 00:03:02,000

ukraine graduating in 1992 and starting

76

00:03:06,309 --> 00:03:04,400

his career in the russian air force he

77

00:03:08,949 --> 00:03:06,319

graduated from the gagarin air force

78

00:03:11,030 --> 00:03:08,959

academy in 2000 and was assigned to the

79

00:03:13,589 --> 00:03:11,040

gagarin cosmonaut training center as a

80

00:03:17,350 --> 00:03:13,599

division chief before being selected to

81

00:03:19,509 --> 00:03:17,360

start cosmonaut training himself in 2003

82

00:03:22,149 --> 00:03:19,519

he completed one spacewalk on his first

83

00:03:24,149 --> 00:03:22,159

flight a 164-day mission to the

84

00:03:27,750 --> 00:03:24,159

international space station as flight

85

00:03:29,509 --> 00:03:27,760

engineer on expeditions 27 and 28.

86

00:03:31,430 --> 00:03:29,519

since then he retired from the russian

87

00:03:33,509 --> 00:03:31,440

air force as a colonel and has been

88

00:03:35,830 --> 00:03:33,519

studying finance and economics at the

89

00:03:37,990 --> 00:03:35,840

russian government service academy but

90

00:03:39,350 --> 00:03:38,000

he's eager to continue the exploration

91

00:03:42,710 --> 00:03:39,360

of space

92

00:03:44,869 --> 00:03:42,720

and with the prospect of flying to

93

00:03:47,350 --> 00:03:44,879

distance planets maybe out into the

94

00:03:50,630 --> 00:03:47,360

solar system right now we're laying the

95

00:03:53,670 --> 00:03:50,640

foundation the stepping stone that we

96

00:03:55,350 --> 00:03:53,680

can do and can implement as part of the

97

00:03:57,910 --> 00:03:55,360

isis project

98

00:04:01,270 --> 00:03:57,920

elena sarova the fourth russian woman to

99

00:04:03,830 --> 00:04:01,280

go to space and the first since 1997 was

100

00:04:06,390 --> 00:04:03,840

born in the far east of russia in a town

101
00:04:08,630 --> 00:04:06,400
called boswell where her father was

102
00:04:10,070 --> 00:04:08,640
stationed with the soviet military

103
00:04:12,309 --> 00:04:10,080
there she learned to love the

104
00:04:14,710 --> 00:04:12,319
star-filled sky and developed an

105
00:04:16,629 --> 00:04:14,720
appreciation for flight on trips with

106
00:04:18,629 --> 00:04:16,639
her father to the airfield

107
00:04:20,710 --> 00:04:18,639
as a young student she was influenced by

108
00:04:23,270 --> 00:04:20,720
the writings of constantine siokovsky

109
00:04:25,189 --> 00:04:23,280
the russian father of rocketry and by

110
00:04:27,430 --> 00:04:25,199
the leading personalities of the early

111
00:04:28,870 --> 00:04:27,440
soviet space program

112
00:04:31,110 --> 00:04:28,880
when i was in school

113
00:04:34,150 --> 00:04:31,120

my first teacher

114

00:04:35,590 --> 00:04:34,160

told us about different achievements in

115

00:04:38,230 --> 00:04:35,600

cosmonautics

116

00:04:40,950 --> 00:04:38,240

and i was very much impressed by those

117

00:04:43,430 --> 00:04:40,960

first flights from svetlana savitzka in

118

00:04:44,550 --> 00:04:43,440

particular who was the first woman

119

00:04:46,070 --> 00:04:44,560

performing

120

00:04:49,350 --> 00:04:46,080

a space walk

121

00:04:51,430 --> 00:04:49,360

she was an amazing individual

122

00:04:53,270 --> 00:04:51,440

sorova spent part of her teens in

123

00:04:55,350 --> 00:04:53,280

germany when her father was transferred

124

00:04:57,510 --> 00:04:55,360

there but she returned to moscow when it

125

00:04:59,430 --> 00:04:57,520

was time for college she pursued her

126

00:05:01,909 --> 00:04:59,440

interest in space and engineering at the

127

00:05:04,230 --> 00:05:01,919

moscow aviation institute graduating

128

00:05:06,150 --> 00:05:04,240

from its aerospace department and then

129

00:05:08,710 --> 00:05:06,160

going to work as a test engineer at the

130

00:05:10,950 --> 00:05:08,720

rocket space corporation inergia while

131

00:05:13,110 --> 00:05:10,960

also earning a postgraduate degree in

132

00:05:15,350 --> 00:05:13,120

economics from the moscow academy of

133

00:05:17,270 --> 00:05:15,360

machinery and informatics she was

134

00:05:20,550 --> 00:05:17,280

selected for russia's cosmonaut corps in

135

00:05:24,629 --> 00:05:20,560

2006 and is eager for the opportunity to

136

00:05:26,710 --> 00:05:24,639

go to space and improve life on earth

137

00:05:29,990 --> 00:05:26,720

we don't do it for ourselves we do it

138

00:05:32,390 --> 00:05:30,000

for others for future generations

139

00:05:34,469 --> 00:05:32,400

so that

140

00:05:38,790 --> 00:05:34,479

people on earth live better

141

00:05:39,670 --> 00:05:38,800

they have better opportunities they have

142

00:05:42,790 --> 00:05:39,680

better

143

00:05:44,870 --> 00:05:42,800

conditions of life on earth

144

00:05:46,550 --> 00:05:44,880

so that's what we do when we take the

145

00:05:48,469 --> 00:05:46,560

risk

146

00:05:50,390 --> 00:05:48,479

air force colonel terry vertz is a

147

00:05:52,390 --> 00:05:50,400

native of baltimore who grew up in

148

00:05:55,110 --> 00:05:52,400

nearby columbia maryland

149

00:05:57,670 --> 00:05:55,120

his parents worked at nasa and astronaut

150

00:05:59,590 --> 00:05:57,680

was his goal since he was a little kid

151
00:06:01,510 --> 00:05:59,600
and there's something about me naturally

152
00:06:02,710 --> 00:06:01,520
that i just love flying in space when i

153
00:06:04,629 --> 00:06:02,720
was a kid i had

154
00:06:06,629 --> 00:06:04,639
space pictures and airplane pictures my

155
00:06:07,510 --> 00:06:06,639
room was all four walls were completely

156
00:06:09,749 --> 00:06:07,520
covered

157
00:06:12,230 --> 00:06:09,759
with posters of that kind of stuff

158
00:06:13,909 --> 00:06:12,240
flying remained his passion and after

159
00:06:15,590 --> 00:06:13,919
high school he went to the air force

160
00:06:17,830 --> 00:06:15,600
academy and earned a bachelor's in

161
00:06:20,070 --> 00:06:17,840
mathematics he earned his wings at

162
00:06:22,390 --> 00:06:20,080
williams air force base in arizona and

163
00:06:25,029 --> 00:06:22,400

then flew f-16s operationally while

164

00:06:27,590 --> 00:06:25,039

stationed in the united states korea and

165

00:06:29,909 --> 00:06:27,600

germany while also earning a masters of

166

00:06:31,670 --> 00:06:29,919

science in aeronautics from embry-riddle

167

00:06:33,350 --> 00:06:31,680

aeronautical university

168

00:06:35,350 --> 00:06:33,360

verts went to edwards air force base in

169

00:06:37,430 --> 00:06:35,360

california for air force test pilot

170

00:06:39,510 --> 00:06:37,440

training and worked as a test pilot

171

00:06:41,590 --> 00:06:39,520

there until he was selected as a nasa

172

00:06:43,510 --> 00:06:41,600

astronaut in 2000

173

00:06:45,909 --> 00:06:43,520

birch was the pilot and lead robotics

174

00:06:47,909 --> 00:06:45,919

operator on the 2010 space shuttle

175

00:06:49,749 --> 00:06:47,919

mission that delivered the tranquility

176

00:06:52,070 --> 00:06:49,759

module and the kuvila to the

177

00:06:53,670 --> 00:06:52,080

international space station he completed

178

00:06:56,550 --> 00:06:53,680

the general management program at

179

00:06:58,550 --> 00:06:56,560

harvard business school in 2011 before

180

00:07:00,950 --> 00:06:58,560

starting training for this flight which

181

00:07:03,670 --> 00:07:00,960

he feels is part of the plan to achieve

182

00:07:05,270 --> 00:07:03,680

humankind's goal of living off of this

183

00:07:06,790 --> 00:07:05,280

planet

184

00:07:08,390 --> 00:07:06,800

there's a lot that we can learn from

185

00:07:10,390 --> 00:07:08,400

robotics and it's a it's a great

186

00:07:11,909 --> 00:07:10,400

partnership and they can do things that

187

00:07:13,270 --> 00:07:11,919

people can't do but people can do things

188

00:07:15,510 --> 00:07:13,280

that they can't do

189

00:07:17,189 --> 00:07:15,520

and ultimately it's about

190

00:07:18,790 --> 00:07:17,199

us being there and living there and if

191

00:07:21,029 --> 00:07:18,800

we're going to do that we have to

192

00:07:23,510 --> 00:07:21,039

go there and live there

193

00:07:25,510 --> 00:07:23,520

anton shkaplerov was born and raised in

194

00:07:28,150 --> 00:07:25,520

sevastopol the home of the russian

195

00:07:30,629 --> 00:07:28,160

navy's black sea fleet though his father

196

00:07:32,870 --> 00:07:30,639

worked on a submarine shkaplerov became

197

00:07:34,870 --> 00:07:32,880

fascinated with space flight as a boy

198

00:07:38,230 --> 00:07:34,880

and felt that the air force was the best

199

00:07:43,189 --> 00:07:41,670

when i was 15 in the eighth grade

200

00:07:43,909 --> 00:07:43,199

i joined

201
00:07:45,909 --> 00:07:43,919
an

202
00:07:50,150 --> 00:07:45,919
aviation club

203
00:07:53,510 --> 00:07:50,160
in sivastoppel i flew small planes

204
00:07:55,909 --> 00:07:53,520
and so when i turned 16 i got my pilot's

205
00:07:59,029 --> 00:07:55,919
license and i started flying

206
00:08:00,790 --> 00:07:59,039
aircrafts on my own after high school

207
00:08:02,950 --> 00:08:00,800
shkaplerov went to the kaczynsk air

208
00:08:05,670 --> 00:08:02,960
force pilot school in volgograd and

209
00:08:08,070 --> 00:08:05,680
graduated as a pilot engineer he flew

210
00:08:10,790 --> 00:08:08,080
mig-29s while attending the zukovsky air

211
00:08:13,430 --> 00:08:10,800
force engineering school then spent six

212
00:08:16,070 --> 00:08:13,440
years as a pilot instructor while also

213
00:08:18,150 --> 00:08:16,080

flying as a member of the sky hussars a

214

00:08:20,150 --> 00:08:18,160

flight demonstration squadron

215

00:08:22,869 --> 00:08:20,160

shkaplerov was selected as a cosmonaut

216

00:08:24,869 --> 00:08:22,879

in 2003 and made his first trip to the

217

00:08:27,749 --> 00:08:24,879

international space station as a flight

218

00:08:31,189 --> 00:08:27,759

engineer on expeditions 29 and 30 in

219

00:08:33,029 --> 00:08:31,199

2011 and 2012. he retired from the

220

00:08:35,269 --> 00:08:33,039

russian air force as a colonel after

221

00:08:37,589 --> 00:08:35,279

that flight and earned a phd in

222

00:08:40,949 --> 00:08:37,599

aerodynamics from russia's military

223

00:08:42,790 --> 00:08:40,959

aviation engineering academy in 2014

224

00:08:45,430 --> 00:08:42,800

while finishing the training for this

225

00:08:50,949 --> 00:08:45,440

flight which he feels is blazing a trail

226

00:08:57,509 --> 00:08:54,389

i'm ready to take all these risks

227

00:09:00,150 --> 00:08:57,519

um to get this shot of adrenaline

228

00:09:05,750 --> 00:09:00,160

because i know that every day on board

229

00:09:09,910 --> 00:09:07,430

when i am on board the international

230

00:09:11,509 --> 00:09:09,920

space station i am

231

00:09:14,790 --> 00:09:11,519

at the forefront

232

00:09:16,790 --> 00:09:14,800

of space exploration

233

00:09:19,430 --> 00:09:16,800

italian air force captain samantha

234

00:09:21,990 --> 00:09:19,440

christoferetti is a native of milan but

235

00:09:24,230 --> 00:09:22,000

she grew up in the italian alps in a

236

00:09:26,070 --> 00:09:24,240

small tourist town of mali where her

237

00:09:28,230 --> 00:09:26,080

parents ran a hotel

238

00:09:31,350 --> 00:09:28,240

she doesn't remember a time that she

239

00:09:33,030 --> 00:09:31,360

didn't love adventure or want to explore

240

00:09:34,630 --> 00:09:33,040

space

241

00:09:36,710 --> 00:09:34,640

i was very fortunate to enjoy a

242

00:09:38,550 --> 00:09:36,720

childhood in which you can roam around

243

00:09:40,230 --> 00:09:38,560

as a child you know unsupervised you

244

00:09:41,750 --> 00:09:40,240

don't have adults with you all the time

245

00:09:43,430 --> 00:09:41,760

and maybe that's what i got that taste

246

00:09:44,389 --> 00:09:43,440

for adventure that i think is very much

247

00:09:47,509 --> 00:09:44,399

part of

248

00:09:49,829 --> 00:09:47,519

that desire i always had to go to space

249

00:09:51,990 --> 00:09:49,839

her adventurous nature persisted as she

250

00:09:54,150 --> 00:09:52,000

grew up she spent her junior year of

251
00:09:56,550 --> 00:09:54,160
high school abroad in saint paul

252
00:09:59,430 --> 00:09:56,560
minnesota because it was in the country

253
00:10:01,190 --> 00:09:59,440
that had the most exciting space program

254
00:10:02,790 --> 00:10:01,200
then she earned a degree in mechanical

255
00:10:04,949 --> 00:10:02,800
engineering from the university of

256
00:10:07,990 --> 00:10:04,959
munich which included research in

257
00:10:10,870 --> 00:10:08,000
aerodynamics done in toulouse and in

258
00:10:12,710 --> 00:10:10,880
solid rocket propellants in moscow

259
00:10:14,790 --> 00:10:12,720
next she joined italy's air force

260
00:10:17,110 --> 00:10:14,800
academy just as the country first

261
00:10:19,829 --> 00:10:17,120
allowed voluntary military service by

262
00:10:22,150 --> 00:10:19,839
women while also completing a bachelor's

263
00:10:23,990 --> 00:10:22,160

degree in aeronautical sciences at the

264

00:10:25,990 --> 00:10:24,000

university of naples

265

00:10:27,670 --> 00:10:26,000

then it was flight training at the nato

266

00:10:30,550 --> 00:10:27,680

school at shepherd air force base in

267

00:10:32,470 --> 00:10:30,560

texas followed by fighter training and

268

00:10:34,710 --> 00:10:32,480

when one of the infrequent astronaut

269

00:10:37,190 --> 00:10:34,720

selections by the european space agency

270

00:10:38,949 --> 00:10:37,200

came up she applied for the program even

271

00:10:41,430 --> 00:10:38,959

though she was doing her operational

272

00:10:43,509 --> 00:10:41,440

conversion to the amx ground attack

273

00:10:46,630 --> 00:10:43,519

fighter she was selected for isis

274

00:10:49,030 --> 00:10:46,640

astronaut corps in 2009 and is now eager

275

00:10:52,630 --> 00:10:49,040

to contribute to making a reality out of

276

00:10:54,710 --> 00:10:52,640

her dream imagine humanity in 500 years

277

00:10:57,269 --> 00:10:54,720

do you imagine humanity being still

278

00:10:58,870 --> 00:10:57,279

earthbound like we still are not able to

279

00:11:01,350 --> 00:10:58,880

go anywhere else

280

00:11:05,030 --> 00:11:01,360

to me is being part of the you know the

281

00:11:08,310 --> 00:11:05,040

first step towards that future that is