



1
00:00:07,190 --> 00:00:05,110
expedition 27 is the first long-duration

2
00:00:09,589 --> 00:00:07,200
space flight for each member of the

3
00:00:11,270 --> 00:00:09,599
international space station crew

4
00:00:13,509 --> 00:00:11,280
russian air force colonel dmitry

5
00:00:15,990 --> 00:00:13,519
kondrathiev wanted to be a pilot since

6
00:00:17,750 --> 00:00:16,000
his early childhood growing up in south

7
00:00:19,109 --> 00:00:17,760
central russia

8
00:00:22,150 --> 00:00:19,119
i was born in

9
00:00:24,630 --> 00:00:22,160
irkutsk it's a siberian city

10
00:00:25,429 --> 00:00:24,640
nearby lake baikal

11
00:00:27,910 --> 00:00:25,439
but

12
00:00:31,669 --> 00:00:27,920
my parents moved from that city to

13
00:00:33,030 --> 00:00:31,679

another one to namaste beerus also

14

00:00:36,870 --> 00:00:33,040

one big

15

00:00:38,709 --> 00:00:36,880

siberian city when i was one month old

16

00:00:41,750 --> 00:00:38,719

kandrativ's family was living in

17

00:00:43,990 --> 00:00:41,760

ama'athi then the capital of kazakhstan

18

00:00:46,229 --> 00:00:44,000

by the time he was a teenager he

19

00:00:48,709 --> 00:00:46,239

completed pilot training before his high

20

00:00:50,790 --> 00:00:48,719

school graduation and then attended the

21

00:00:53,189 --> 00:00:50,800

kaczynski air force pilot school in

22

00:00:54,229 --> 00:00:53,199

volgograd and graduated as a pilot

23

00:00:56,630 --> 00:00:54,239

engineer

24

00:00:58,709 --> 00:00:56,640

quadratic flew fighters in the soviet

25

00:01:00,630 --> 00:00:58,719

and then russian air force for seven

26

00:01:03,270 --> 00:01:00,640

years before his selection as a

27

00:01:04,390 --> 00:01:03,280

cosmonaut in 1997.

28

00:01:07,030 --> 00:01:04,400

for me

29

00:01:09,030 --> 00:01:07,040

being a cosmonaut is the next step in my

30

00:01:09,910 --> 00:01:09,040

career because

31

00:01:13,429 --> 00:01:09,920

i'm

32

00:01:15,510 --> 00:01:13,439

a military pilot and i flew

33

00:01:19,510 --> 00:01:15,520

russian

34

00:01:21,510 --> 00:01:19,520

planes and the next step for me it's

35

00:01:23,670 --> 00:01:21,520

it's it's natural

36

00:01:25,990 --> 00:01:23,680

to fly to space

37

00:01:28,149 --> 00:01:26,000

while completing basic space training at

38

00:01:30,469 --> 00:01:28,159

the gagarin cosmonaut training center

39

00:01:32,710 --> 00:01:30,479

kondratyev also earned his qualification

40

00:01:35,030 --> 00:01:32,720

as an economist from the moscow state

41

00:01:37,270 --> 00:01:35,040

university for economy statistics and

42

00:01:39,350 --> 00:01:37,280

information technology he later

43

00:01:40,710 --> 00:01:39,360

graduated from the yuri gagarin air

44

00:01:42,550 --> 00:01:40,720

force academy

45

00:01:44,469 --> 00:01:42,560

khadrati have trained as a backup crew

46

00:01:46,870 --> 00:01:44,479

member for two international space

47

00:01:49,109 --> 00:01:46,880

station missions and on the prime crew

48

00:01:51,510 --> 00:01:49,119

for expedition 13 before a crew

49

00:01:53,350 --> 00:01:51,520

reassignment and served a year as the

50

00:01:55,270 --> 00:01:53,360

russian space agency's director of

51
00:01:57,910 --> 00:01:55,280
operations at the johnson space center

52
00:02:00,069 --> 00:01:57,920
in houston he's also earned his u.s

53
00:02:02,389 --> 00:02:00,079
private pilot's license and airline

54
00:02:04,950 --> 00:02:02,399
transport pilot's license while getting

55
00:02:06,389 --> 00:02:04,960
ready for his first flight in space

56
00:02:08,469 --> 00:02:06,399
i think

57
00:02:09,749 --> 00:02:08,479
in 50 years

58
00:02:11,910 --> 00:02:09,759
people will be

59
00:02:15,589 --> 00:02:11,920
on almost every planet

60
00:02:17,910 --> 00:02:15,599
in our solar system there is no

61
00:02:19,830 --> 00:02:17,920
choice for human

62
00:02:23,510 --> 00:02:19,840
human beings for people

63
00:02:29,030 --> 00:02:26,070

to fly to the to the flight of space

64

00:02:32,150 --> 00:02:29,040

paolo nespoli is a native of milan italy

65

00:02:33,990 --> 00:02:32,160

and grew up in nearby verano brianza he

66

00:02:36,070 --> 00:02:34,000

first dreamed of flying in space as a

67

00:02:38,869 --> 00:02:36,080

boy when he saw astronauts walk on the

68

00:02:41,910 --> 00:02:38,879

moon as he got older he found he had an

69

00:02:45,509 --> 00:02:41,920

interest in how things worked i was

70

00:02:49,430 --> 00:02:45,519

decent in the scientific area i was able

71

00:02:51,830 --> 00:02:49,440

to use my hands understanding

72

00:02:53,750 --> 00:02:51,840

mechanics and taking everything apart as

73

00:02:56,070 --> 00:02:53,760

my father and mother was saying and

74

00:02:58,070 --> 00:02:56,080

putting together having some leftovers

75

00:02:59,110 --> 00:02:58,080

you know this kind of stuff

76

00:03:05,270 --> 00:02:59,120

and

77

00:03:07,190 --> 00:03:05,280

drafted into the italian army at age 20

78

00:03:09,910 --> 00:03:07,200

nepoli became a paratrooper and

79

00:03:12,550 --> 00:03:09,920

parachute instructor in pisa then a

80

00:03:14,550 --> 00:03:12,560

special forces operator in livorno and

81

00:03:16,309 --> 00:03:14,560

spent two years as part of italy's

82

00:03:18,470 --> 00:03:16,319

contribution to a multinational

83

00:03:19,990 --> 00:03:18,480

peacekeeping force in lebanon in the mid

84

00:03:22,470 --> 00:03:20,000

1980s

85

00:03:25,430 --> 00:03:22,480

i learned in that period that with

86

00:03:27,110 --> 00:03:25,440

enough training enough knowledge the

87

00:03:29,430 --> 00:03:27,120

right equipment and the right

88

00:03:32,550 --> 00:03:29,440

psychological disposition you can do

89

00:03:36,229 --> 00:03:32,560

almost everything almost anything almost

90

00:03:39,509 --> 00:03:38,470

the dream of going in space came back

91

00:03:42,229 --> 00:03:39,519

again

92

00:03:43,830 --> 00:03:42,239

so nespoli retired from active duty to

93

00:03:46,229 --> 00:03:43,840

complete a bachelor of science in

94

00:03:48,630 --> 00:03:46,239

aerospace engineering and a master's in

95

00:03:51,350 --> 00:03:48,640

aeronautics and astronautics both at the

96

00:03:53,350 --> 00:03:51,360

polytechnic university of new york

97

00:03:56,149 --> 00:03:53,360

he returned to italy as a design and

98

00:03:58,390 --> 00:03:56,159

test engineer working on space equipment

99

00:04:01,990 --> 00:03:58,400

and joined the european space agency as

100

00:04:03,750 --> 00:04:02,000

an astronaut training engineer in 1991.

101

00:04:05,910 --> 00:04:03,760

he worked in space flight training at

102

00:04:07,670 --> 00:04:05,920

the johnson space center before becoming

103

00:04:09,990 --> 00:04:07,680

an astronaut himself

104

00:04:13,030 --> 00:04:10,000

nepoli was chosen by the italian space

105

00:04:15,350 --> 00:04:13,040

agency in 1998 and joined the esa

106

00:04:17,270 --> 00:04:15,360

astronaut corps a month later

107

00:04:19,749 --> 00:04:17,280

he completed astronaut training with the

108

00:04:22,390 --> 00:04:19,759

2000 class of astronaut candidates at

109

00:04:24,950 --> 00:04:22,400

jsc and then trained on the soyuz

110

00:04:27,350 --> 00:04:24,960

spacecraft in star city prior to his

111

00:04:29,590 --> 00:04:27,360

2007 space shuttle mission that

112

00:04:31,749 --> 00:04:29,600

delivered the italian-built harmony node

113

00:04:34,310 --> 00:04:31,759

to the international space station which

114

00:04:36,070 --> 00:04:34,320

he sees as a tool to help us move out

115

00:04:38,230 --> 00:04:36,080

into the solar system

116

00:04:40,629 --> 00:04:38,240

going to mars is another it's an order

117

00:04:42,950 --> 00:04:40,639

of magnitude of effort

118

00:04:45,270 --> 00:04:42,960

or complexity then go into the moon and

119

00:04:47,670 --> 00:04:45,280

there's a lot of things that we need to

120

00:04:49,350 --> 00:04:47,680

really figure out before we can do their

121

00:04:50,230 --> 00:04:49,360

space station has

122

00:05:06,469 --> 00:04:50,240

a

123

00:05:08,390 --> 00:05:06,479

d.c

124

00:05:10,870 --> 00:05:08,400

by the time she graduated high school in

125

00:05:12,469 --> 00:05:10,880

fairfax virginia she had some ideas

126

00:05:14,390 --> 00:05:12,479

about what she wanted to do with her

127

00:05:16,550 --> 00:05:14,400

life i was interested in being in the

128

00:05:18,310 --> 00:05:16,560

military i was interested in science i

129

00:05:20,950 --> 00:05:18,320

loved chemistry

130

00:05:23,350 --> 00:05:20,960

and at the same time i always wished for

131

00:05:24,950 --> 00:05:23,360

just a little bit more

132

00:05:26,870 --> 00:05:24,960

adventure

133

00:05:29,749 --> 00:05:26,880

at mit coleman was on the

134

00:05:31,510 --> 00:05:29,759

intercollegiate crew team and an rotc

135

00:05:34,310 --> 00:05:31,520

student while earning her bachelor's

136

00:05:36,870 --> 00:05:34,320

degree in chemistry she credits a visit

137

00:05:38,469 --> 00:05:36,880

to the college by astronaut sally ride

138

00:05:40,230 --> 00:05:38,479

with inspiring her to think about

139

00:05:42,550 --> 00:05:40,240

becoming an astronaut

140

00:05:45,029 --> 00:05:42,560

so she was a scientist and at the same

141

00:05:46,950 --> 00:05:45,039

time she was also

142

00:05:49,430 --> 00:05:46,960

somebody that was helping to

143

00:05:50,790 --> 00:05:49,440

explore the universe and she got to

144

00:05:53,430 --> 00:05:50,800

fly jets

145

00:05:56,390 --> 00:05:53,440

scuba dive all these things that i loved

146

00:05:57,430 --> 00:05:56,400

and i was actually just so inspired to

147

00:05:59,350 --> 00:05:57,440

meet her

148

00:06:01,430 --> 00:05:59,360

and it made a big difference to me

149

00:06:03,189 --> 00:06:01,440

to have met her that day

150

00:06:05,990 --> 00:06:03,199

commissioned a second lieutenant in the

151
00:06:07,909 --> 00:06:06,000
air force after graduation coleman began

152
00:06:10,150 --> 00:06:07,919
her career in graduate school at the

153
00:06:12,390 --> 00:06:10,160
university of massachusetts she

154
00:06:15,270 --> 00:06:12,400
continued her work as a research chemist

155
00:06:17,189 --> 00:06:15,280
while on active duty and earned a phd in

156
00:06:19,510 --> 00:06:17,199
polymer science and engineering from

157
00:06:22,070 --> 00:06:19,520
umass the year before she was selected

158
00:06:24,790 --> 00:06:22,080
as an astronaut in 1992

159
00:06:27,110 --> 00:06:24,800
coleman spent almost 16 days in space on

160
00:06:30,309 --> 00:06:27,120
the second u.s microgravity laboratory

161
00:06:33,510 --> 00:06:30,319
mission in 1995 and was at the controls

162
00:06:34,710 --> 00:06:33,520
in 1999 to deploy the chandra x-ray

163
00:06:36,629 --> 00:06:34,720

observatory

164

00:06:38,469 --> 00:06:36,639

in both cases she was involved in the

165

00:06:40,469 --> 00:06:38,479

kind of science she believes the

166

00:06:41,990 --> 00:06:40,479

international space station will support

167

00:06:43,590 --> 00:06:42,000

for our future

168

00:06:45,909 --> 00:06:43,600

to me

169

00:06:48,550 --> 00:06:45,919

it's hard to

170

00:06:51,830 --> 00:06:48,560

measure and compare but the fact that we

171

00:06:54,309 --> 00:06:51,840

can do science experiments up in space

172

00:06:55,830 --> 00:06:54,319

that we simply cannot do

173

00:06:58,309 --> 00:06:55,840

down here

174

00:07:01,029 --> 00:06:58,319

means it should be done if we can do it

175

00:07:03,749 --> 00:07:01,039

and we can do it safely or as safe as we

176

00:07:05,749 --> 00:07:03,759

possibly can then we should go there and

177

00:07:08,070 --> 00:07:05,759

we should do these things

178

00:07:10,150 --> 00:07:08,080

andre barisenko was born and raised in

179

00:07:12,710 --> 00:07:10,160

leningrad and grew up with a great

180

00:07:15,029 --> 00:07:12,720

desire to read especially science

181

00:07:17,670 --> 00:07:15,039

fiction about space by the most popular

182

00:07:19,909 --> 00:07:17,680

writers in the east and the west he was

183

00:07:24,390 --> 00:07:19,919

15 when he joined a cosmonautics club

184

00:07:31,670 --> 00:07:26,070

kids just like me who wanted to become

185

00:07:36,309 --> 00:07:33,909

and that's where i learned a lot about

186

00:07:38,950 --> 00:07:36,319

aviation cosmonautics

187

00:07:42,309 --> 00:07:38,960

um astronomy

188

00:07:44,629 --> 00:07:42,319

was nowhere and the more i learned

189

00:07:46,550 --> 00:07:44,639

the more i became confident that this

190

00:07:47,589 --> 00:07:46,560

was something i want to dedicate my life

191

00:07:49,270 --> 00:07:47,599

to

192

00:07:51,749 --> 00:07:49,280

after graduating from a high school

193

00:07:53,589 --> 00:07:51,759

specializing in physics and mathematics

194

00:07:55,990 --> 00:07:53,599

bharasenka attended the leningrad

195

00:07:58,230 --> 00:07:56,000

military mechanical institute and earned

196

00:07:59,430 --> 00:07:58,240

a degree in the dynamics and control of

197

00:08:01,510 --> 00:07:59,440

spacecraft

198

00:08:03,990 --> 00:08:01,520

he spent two years as an engineer with a

199

00:08:06,469 --> 00:08:04,000

military unit before transferring to the

200

00:08:08,629 --> 00:08:06,479

rocket space corporation energia as a

201
00:08:10,629 --> 00:08:08,639
specialist in the motion control systems

202
00:08:12,309 --> 00:08:10,639
of the mir space station

203
00:08:15,749 --> 00:08:12,319
he became a shift flight director in

204
00:08:19,270 --> 00:08:15,759
1999 and was leading the shift the day

205
00:08:21,029 --> 00:08:19,280
mir was deorbited in march 2001.

206
00:08:22,710 --> 00:08:21,039
he then became a shift flight director

207
00:08:24,869 --> 00:08:22,720
for the international space station at

208
00:08:27,990 --> 00:08:24,879
mission control in corioloff and was

209
00:08:30,070 --> 00:08:28,000
selected as a cosmonaut in 2003.

210
00:08:33,829 --> 00:08:30,080
he hopes his first space flight will

211
00:08:36,870 --> 00:08:33,839
help open the way to space for everyone

212
00:08:41,670 --> 00:08:39,350
set medical parameters

213
00:08:43,750 --> 00:08:41,680

space candidates specified candidates

214

00:08:45,670 --> 00:08:43,760

have been great produced

215

00:08:48,070 --> 00:08:45,680

and this is the way it should be because

216

00:08:50,550 --> 00:08:48,080

space is not something for selected

217

00:08:52,150 --> 00:08:50,560

individuals but so that every human

218

00:08:53,509 --> 00:08:52,160

being who wants to go there should have

219

00:08:55,509 --> 00:08:53,519

this opportunity

220

00:08:58,470 --> 00:08:55,519

russian air force colonel alexander

221

00:09:01,030 --> 00:08:58,480

samokutyaev was born in penza southeast

222

00:09:03,269 --> 00:09:01,040

of moscow he recalls his kindergarten

223

00:09:05,910 --> 00:09:03,279

class receiving the gift of a replica of

224

00:09:19,590 --> 00:09:05,920

the spacecraft that carried yuri gagarin

225

00:09:22,470 --> 00:09:20,870

and that was the moment when i

226

00:09:25,750 --> 00:09:22,480

understood that i wanted to become a

227

00:09:27,670 --> 00:09:25,760

cosmonaut as a boy he loved science and

228

00:09:30,070 --> 00:09:27,680

ice hockey he even attended a

229

00:09:32,070 --> 00:09:30,080

professional hockey academy but after

230

00:09:33,870 --> 00:09:32,080

high school he chose to pursue his dream

231

00:09:36,310 --> 00:09:33,880

of flying in space

232

00:09:38,790 --> 00:09:36,320

samokutyaev went to chernigov air force

233

00:09:41,350 --> 00:09:38,800

pilot school in ukraine graduating in

234

00:09:43,910 --> 00:09:41,360

1992 and starting his career in the

235

00:09:46,710 --> 00:09:43,920

russian air force he graduated from the

236

00:09:48,630 --> 00:09:46,720

gagarin air force academy in 2000 and

237

00:09:50,870 --> 00:09:48,640

was assigned to the gagarin cosmonaut

238

00:09:52,949 --> 00:09:50,880

training center as a division chief

239

00:09:56,070 --> 00:09:52,959

before being selected to start cosmonaut

240

00:09:59,509 --> 00:09:56,080

training himself in 2003

241

00:10:03,030 --> 00:09:59,519

we are just a little piece of that human

242

00:10:06,389 --> 00:10:03,040

kind that is trying to achieve new

243

00:10:09,030 --> 00:10:06,399

heights for our race perhaps sometime in

244

00:10:11,350 --> 00:10:09,040

the future we will be able to find some

245

00:10:13,829 --> 00:10:11,360

other human beings some other life out

246

00:10:15,509 --> 00:10:13,839

there who is sharing the space with us

247

00:10:16,710 --> 00:10:15,519

perhaps it will happen during our

248

00:10:19,269 --> 00:10:16,720

lifetime

249

00:10:22,069 --> 00:10:19,279

ron garan was born and raised in yonkers

250

00:10:24,630 --> 00:10:22,079

new york just north of new york city

251
00:10:27,389 --> 00:10:24,640
one of his most vivid childhood memories

252
00:10:29,269 --> 00:10:27,399
came on a sunday night in july

253
00:10:31,350 --> 00:10:29,279
1969.

254
00:10:33,829 --> 00:10:31,360
it was the 50th anniversary wedding

255
00:10:35,990 --> 00:10:33,839
anniversary of my great grandparents we

256
00:10:37,269 --> 00:10:36,000
had a big family party and you know at

257
00:10:39,110 --> 00:10:37,279
one point during the party we all

258
00:10:40,630 --> 00:10:39,120
gathered around this black and white tv

259
00:10:41,750 --> 00:10:40,640
and you know i along with you know

260
00:10:42,949 --> 00:10:41,760
millions and millions of other people

261
00:10:45,190 --> 00:10:42,959
around the world

262
00:10:47,590 --> 00:10:45,200
watch those first steps on the moon and

263
00:10:48,870 --> 00:10:47,600

that day i said this is what i want to

264

00:10:50,790 --> 00:10:48,880

be when i grow up

265

00:10:52,949 --> 00:10:50,800

but he went to college without knowing

266

00:10:55,350 --> 00:10:52,959

what he would do since the u.s wasn't

267

00:10:57,350 --> 00:10:55,360

flying people in space at the time

268

00:11:00,470 --> 00:10:57,360

shuttle columbia's first flight during

269

00:11:02,310 --> 00:11:00,480

his sophomore year solved that problem

270

00:11:04,150 --> 00:11:02,320

after he finished his bachelor's degree

271

00:11:05,829 --> 00:11:04,160

in business economics at the state

272

00:11:08,069 --> 00:11:05,839

university of new york college at

273

00:11:09,829 --> 00:11:08,079

oneonta he went to officer training

274

00:11:10,790 --> 00:11:09,839

school to earn a commission in the air

275

00:11:12,949 --> 00:11:10,800

force

276

00:11:13,829 --> 00:11:12,959

garen flew in combat in the persian gulf

277

00:11:15,910 --> 00:11:13,839

war

278

00:11:17,990 --> 00:11:15,920

later while stationed in florida he

279

00:11:20,389 --> 00:11:18,000

earned a masters of aeronautical science

280

00:11:21,910 --> 00:11:20,399

at embry riddle aeronautical university

281

00:11:23,670 --> 00:11:21,920

and a masters of aeronautical

282

00:11:24,790 --> 00:11:23,680

engineering from the university of

283

00:11:26,630 --> 00:11:24,800

florida

284

00:11:29,030 --> 00:11:26,640

garen attended the navy test pilot

285

00:11:31,190 --> 00:11:29,040

school and was operations officer of the

286

00:11:33,910 --> 00:11:31,200

40th flight test squadron when he was

287

00:11:35,509 --> 00:11:33,920

selected as an astronaut in 2000

288

00:11:37,430 --> 00:11:35,519

he made his first space flight on the

289

00:11:39,269 --> 00:11:37,440

shuttle mission that delivered the kibo

290

00:11:42,230 --> 00:11:39,279

laboratory module to the international

291

00:11:45,350 --> 00:11:42,240

space station in 2008 and retired from

292

00:11:47,750 --> 00:11:45,360

the air force as a colonel in 2009 a

293

00:11:48,870 --> 00:11:47,760

very important aspect of the research

294

00:11:51,430 --> 00:11:48,880

that we're doing onboard the space

295

00:11:52,389 --> 00:11:51,440

station is basically to learn how we can

296

00:11:53,750 --> 00:11:52,399

live for

297

00:11:55,190 --> 00:11:53,760

longer and longer periods of time and

298

00:11:56,870 --> 00:11:55,200

space to get farther and farther away

299

00:11:58,389 --> 00:11:56,880

from the earth so that we could reach

300

00:12:00,550 --> 00:11:58,399

out and do all the exploration that we

301

00:12:02,870 --> 00:12:00,560

want to do in the future but the other

302

00:12:05,269 --> 00:12:02,880

part of the research which is equally as