
Sandy Magnus
STS-135 Mission Specialist

1
00:00:07,040 --> 00:00:12,709
this week at nasa

2
00:00:17,430 --> 00:00:15,350
nasa astronaut mike fossum and satoshi

3
00:00:20,070 --> 00:00:17,440
furukawa of the japan aerospace

4
00:00:21,830 --> 00:00:20,080
exploration agency joined cosmonaut

5
00:00:24,390 --> 00:00:21,840
sergei volkov aboard the soyuz

6
00:00:26,390 --> 00:00:24,400
spacecraft he commanded and lifted off

7
00:00:28,870 --> 00:00:26,400
from the baikonur cosmodrome for the

8
00:00:31,750 --> 00:00:28,880
international space station hatches are

9
00:00:33,750 --> 00:00:31,760
open a little more than two days later

10
00:00:37,190 --> 00:00:33,760
the trio joined the other members of

11
00:00:39,830 --> 00:00:37,200
expedition 28 already aboard the iss

12
00:00:42,389 --> 00:00:39,840
commander andre borosenko and flight

13
00:00:43,670 --> 00:00:42,399

engineers ron garan and alexander sama

14
00:00:45,670 --> 00:00:43,680
kutaya

15
00:00:48,310 --> 00:00:45,680
they're scheduled to return to earth in

16
00:00:50,229 --> 00:00:48,320
september while volkov fossum and

17
00:00:52,470 --> 00:00:50,239
furukawa are slated to conduct

18
00:00:56,069 --> 00:00:52,480
experiments and maintain the complex

19
00:00:57,110 --> 00:00:56,079
through their return in november

20
00:00:59,029 --> 00:00:57,120
three

21
00:01:01,750 --> 00:00:59,039
two one

22
00:01:04,469 --> 00:01:01,760
we have ignition

23
00:01:07,190 --> 00:01:04,479
and liftoff of aquarius and the sacd

24
00:01:10,710 --> 00:01:07,200
observatory on an international mission

25
00:01:13,990 --> 00:01:10,720
to study earth's salty seas also sent

26
00:01:16,469 --> 00:01:14,000
aloft was the aquarius sac d spacecraft

27
00:01:19,109 --> 00:01:16,479
roaring off the launch pad at vandenberg

28
00:01:21,990 --> 00:01:19,119
air force base in california this is a

29
00:01:23,749 --> 00:01:22,000
great day aquarius sacti is going to be

30
00:01:25,590 --> 00:01:23,759
making measurements

31
00:01:28,230 --> 00:01:25,600
in places that have never had

32
00:01:30,469 --> 00:01:28,240
measurements made before from its polar

33
00:01:33,109 --> 00:01:30,479
orbit of the earth the nasa built

34
00:01:35,670 --> 00:01:33,119
aquarius the spacecraft's primary

35
00:01:38,469 --> 00:01:35,680
instrument will analyze the oceans for

36
00:01:41,350 --> 00:01:38,479
their comparative levels of salinity or

37
00:01:43,190 --> 00:01:41,360
the water's saltiness a major factor in

38
00:01:45,590 --> 00:01:43,200

the flow of currents that ultimately

39
00:01:49,350 --> 00:01:45,600
affect climate it's going to tell us a

40
00:01:52,630 --> 00:01:49,360
bit about how the ocean circulates and

41
00:01:55,190 --> 00:01:52,640
therefore how the ocean contributes to

42
00:01:57,910 --> 00:01:55,200
moving heat around from low latitudes to

43
00:02:01,990 --> 00:01:57,920
high latitudes making this earth more

44
00:02:06,789 --> 00:02:04,230
data from the voyager spacecraft and a

45
00:02:09,029 --> 00:02:06,799
new computer model suggests scientists

46
00:02:11,350 --> 00:02:09,039
will have to revise their notion of what

47
00:02:14,070 --> 00:02:11,360
transpires at the edge of our solar

48
00:02:15,270 --> 00:02:14,080
system magnetic field in the solar wind

49
00:02:17,430 --> 00:02:15,280
where it

50
00:02:19,510 --> 00:02:17,440
interacts with the interstellar medium

51
00:02:22,229 --> 00:02:19,520
which is way out there it's a hundred

52
00:02:23,589 --> 00:02:22,239
times the distance of the earth from the

53
00:02:24,470 --> 00:02:23,599
sun

54
00:02:26,710 --> 00:02:24,480
is

55
00:02:29,350 --> 00:02:26,720
was thought to be in in rather straight

56
00:02:31,270 --> 00:02:29,360
lines curving smoothly around

57
00:02:33,190 --> 00:02:31,280
but what we found now with voyage

58
00:02:35,190 --> 00:02:33,200
actually entering this region

59
00:02:37,270 --> 00:02:35,200
as it usually is it's much more

60
00:02:39,670 --> 00:02:37,280
complicated than that this region

61
00:02:42,390 --> 00:02:39,680
appears not to be smooth as previously

62
00:02:45,190 --> 00:02:42,400
thought but filled with a swirling sea

63
00:02:47,589 --> 00:02:45,200

of magnetic bubbles it was discovered by

64
00:02:49,030 --> 00:02:47,599
the two voyager probes actually going

65
00:02:51,830 --> 00:02:49,040
into places where we've never been

66
00:02:53,750 --> 00:02:51,840
before in combination with sophisticated

67
00:02:55,430 --> 00:02:53,760
high-end computer modeling

68
00:02:57,430 --> 00:02:55,440
that

69
00:02:59,750 --> 00:02:57,440
uses the existing information plus the

70
00:03:00,710 --> 00:02:59,760
new voyager information

71
00:03:03,190 --> 00:03:00,720
to

72
00:03:05,670 --> 00:03:03,200
synthesize our new view that comes out

73
00:03:07,910 --> 00:03:05,680
of this comprehending the complexities

74
00:03:10,070 --> 00:03:07,920
of the outer edges of our solar system

75
00:03:12,070 --> 00:03:10,080
is crucial to understanding how cosmic

76
00:03:13,350 --> 00:03:12,080
rays are created and reached near

77
00:03:15,990 --> 00:03:13,360
earth's space

78
00:03:18,309 --> 00:03:16,000
galactic cosmic rays are a key concern

79
00:03:21,670 --> 00:03:18,319
as they can have a major impact on human

80
00:03:23,750 --> 00:03:21,680
space travel launched in 1977 the

81
00:03:28,149 --> 00:03:23,760
voyagers have traveled farther from

82
00:03:30,630 --> 00:03:28,159
earth than any man-made object

83
00:03:32,470 --> 00:03:30,640
with about a month to go till the july 8

84
00:03:35,030 --> 00:03:32,480
launch date targeted for space shuttle

85
00:03:37,670 --> 00:03:35,040
atlantis its four crew members continue

86
00:03:39,750 --> 00:03:37,680
to prepare for sts-135

87
00:03:41,309 --> 00:03:39,760
the final mission of the space shuttle

88
00:03:44,630 --> 00:03:41,319

program

89
00:03:47,509 --> 00:03:44,640
sts-135's commander chris ferguson pilot

90
00:03:50,789 --> 00:03:47,519
doug hurley and mission specialist sandy

91
00:03:52,949 --> 00:03:50,799
magnus and rex walheim will use atlantis

92
00:03:55,190 --> 00:03:52,959
to bring one last batch of supplies to

93
00:03:57,110 --> 00:03:55,200
the international space station before

94
00:03:59,350 --> 00:03:57,120
the shuttle fleet is retired well i

95
00:04:01,670 --> 00:03:59,360
certainly feel honored to be part of the

96
00:04:03,030 --> 00:04:01,680
last crew you know i think that i'm i

97
00:04:05,429 --> 00:04:03,040
feel the most honored about is it

98
00:04:07,110 --> 00:04:05,439
requires a special skill set to operate

99
00:04:09,429 --> 00:04:07,120
with the crew for and i

100
00:04:11,509 --> 00:04:09,439
i'm very flattered that it's felt that i

101
00:04:15,670 --> 00:04:11,519
have that skill set that is needed to do

102
00:04:17,670 --> 00:04:15,680
that i'm very very flattered by that

103
00:04:19,270 --> 00:04:17,680
those newly released images of a space

104
00:04:21,749 --> 00:04:19,280
shuttle docked to the international

105
00:04:23,830 --> 00:04:21,759
space station are the first taken from

106
00:04:25,110 --> 00:04:23,840
the perspective of a russian soyuz

107
00:04:28,230 --> 00:04:25,120
spacecraft

108
00:04:30,469 --> 00:04:28,240
on may 23 european space agency

109
00:04:33,430 --> 00:04:30,479
astronaut paolo nespoli took the

110
00:04:36,150 --> 00:04:33,440
pictures and video of the iss and

111
00:04:38,550 --> 00:04:36,160
endeavor on sts-134

112
00:04:41,270 --> 00:04:38,560
nespoli along with russian cosmonaut

113
00:04:43,830 --> 00:04:41,280

dmitry kondratyev and nasa astronaut

114
00:04:45,990 --> 00:04:43,840
katie coleman were aboard the soyuz that

115
00:04:48,230 --> 00:04:46,000
had just undocked from the station and

116
00:04:50,550 --> 00:04:48,240
was about to carry them back to earth

117
00:04:53,270 --> 00:04:50,560
once their vehicle was about 600 feet

118
00:04:55,430 --> 00:04:53,280
from the station mission control moscow

119
00:04:58,310 --> 00:04:55,440
outside the russian capital commanded

120
00:05:00,710 --> 00:04:58,320
the orbiting laboratory to rotate 130

121
00:05:02,790 --> 00:05:00,720
degrees to provide nespoli with his

122
00:05:06,629 --> 00:05:02,800
unique views of the station and the

123
00:05:12,150 --> 00:05:08,950
the sun unleashed a medium-sized solar

124
00:05:15,510 --> 00:05:12,160
flare a minor radiation storm and a

125
00:05:19,830 --> 00:05:15,520
spectacular coronal mass ejection a cme

126
00:05:21,909 --> 00:05:19,840
from sunspot complex 1226 1227.

127
00:05:24,150 --> 00:05:21,919
the large cloud of particles mushroomed

128
00:05:26,150 --> 00:05:24,160
up and fell back down looking as if it

129
00:05:27,749 --> 00:05:26,160
covered an area of almost half the

130
00:05:30,870 --> 00:05:27,759
surface of the sun

131
00:05:33,909 --> 00:05:30,880
the solar dynamics observatory sdo

132
00:05:35,749 --> 00:05:33,919
observed the flare's peak at 1 41 am

133
00:05:37,270 --> 00:05:35,759
eastern on june 7th

134
00:05:40,150 --> 00:05:37,280
when viewed in the solar and

135
00:05:42,629 --> 00:05:40,160
heliospheric observatories or soho's

136
00:05:45,670 --> 00:05:42,639
coronagraphs the event shows bright

137
00:05:46,950 --> 00:05:45,680
plasma and high energy particles roaring

138
00:05:49,510 --> 00:05:46,960

from the sun

139
00:05:52,469 --> 00:05:49,520
according to nasa models the cme is

140
00:05:54,070 --> 00:05:52,479
shown moving at about 1400 kilometers a

141
00:05:55,350 --> 00:05:54,080
second

142
00:05:57,510 --> 00:05:55,360
it was like roller coaster something

143
00:05:59,830 --> 00:05:57,520
that really kind of shakes you around

144
00:06:02,309 --> 00:05:59,840
astronaut doug wheelock who served as

145
00:06:03,990 --> 00:06:02,319
flight engineer on expedition 24 and

146
00:06:06,790 --> 00:06:04,000
commander of the international space

147
00:06:09,189 --> 00:06:06,800
station for expedition 25 was a guest

148
00:06:11,110 --> 00:06:09,199
speaker at the glenn research center

149
00:06:13,830 --> 00:06:11,120
wheelock encouraged students from area

150
00:06:16,870 --> 00:06:13,840
schools to dream big when planning their

151
00:06:19,350 --> 00:06:16,880
education and career path wheels as he

152
00:06:20,950 --> 00:06:19,360
is known in space flight circles also

153
00:06:22,710 --> 00:06:20,960
shared with glenn employees the

154
00:06:25,029 --> 00:06:22,720
highlights of his nearly six months

155
00:06:26,629 --> 00:06:25,039
aboard the iss i'm still standing there

156
00:06:28,230 --> 00:06:26,639
at the computer and the alarms and

157
00:06:30,309 --> 00:06:28,240
you'll hear those in the video we

158
00:06:32,550 --> 00:06:30,319
captured the sound of the alarms

159
00:06:34,950 --> 00:06:32,560
and the alarms are really loud you know

160
00:06:37,029 --> 00:06:34,960
and we have cautions and warnings and

161
00:06:39,189 --> 00:06:37,039
and their red lights yellow lights

162
00:06:41,749 --> 00:06:39,199
everything flashing lights turning off

163
00:06:43,909 --> 00:06:41,759

fans shutting down you know the the the

164
00:06:45,830 --> 00:06:43,919
space station sort of sort of dying you

165
00:06:47,830 --> 00:06:45,840
know like controlling itself but

166
00:06:49,909 --> 00:06:47,840
shutting down you know his efforts along

167
00:06:52,790 --> 00:06:49,919
with those of crewmates tracy caldwell

168
00:06:55,749 --> 00:06:52,800
dyson and shannon walker helped restore

169
00:06:57,350 --> 00:06:55,759
the iss to full function after a faulty

170
00:06:59,830 --> 00:06:57,360
pump module caused the emergency

171
00:07:02,629 --> 00:06:59,840
shutdown of half the station's external

172
00:07:05,749 --> 00:07:02,639
cooling system

173
00:07:08,230 --> 00:07:05,759
on october 25th 1961

174
00:07:10,710 --> 00:07:08,240
nasa announced plans to open a rocket

175
00:07:12,390 --> 00:07:10,720
engine test facility in hancock county

176
00:07:14,870 --> 00:07:12,400
in south mississippi

177
00:07:17,350 --> 00:07:14,880
the result was the stennis space center

178
00:07:19,430 --> 00:07:17,360
and in honor of this milestone stennis

179
00:07:21,670 --> 00:07:19,440
opened its doors to the community to

180
00:07:23,670 --> 00:07:21,680
celebrate 50 years of contributions to

181
00:07:26,070 --> 00:07:23,680
the u.s space program

182
00:07:28,710 --> 00:07:26,080
activities of the day included speakers

183
00:07:30,390 --> 00:07:28,720
exhibits demonstrations and interactive

184
00:07:32,390 --> 00:07:30,400
activities for children

185
00:07:34,629 --> 00:07:32,400
attendees also met former astronaut

186
00:07:39,749 --> 00:07:34,639
scott altman shuttle commander of the

187
00:07:44,309 --> 00:07:41,909
this nasa helium weather balloon is

188
00:07:46,550 --> 00:07:44,319

carrying not only the experiments but

189
00:07:47,830 --> 00:07:46,560
also the hopes of four teams of high

190
00:07:50,150 --> 00:07:47,840
school students

191
00:07:51,990 --> 00:07:50,160
they're the finalists in nasa's second

192
00:07:54,390 --> 00:07:52,000
balloon set high altitude flight

193
00:07:56,550 --> 00:07:54,400
competition the glenn research center

194
00:07:57,909 --> 00:07:56,560
hosts the national competition which

195
00:07:59,909 --> 00:07:57,919
offers high school students an

196
00:08:12,629 --> 00:07:59,919
opportunity to experience an authentic

197
00:08:17,749 --> 00:08:15,029
released at wyandotte county airport in

198
00:08:19,749 --> 00:08:17,759
upper sandusky ohio the balloon climbed

199
00:08:22,230 --> 00:08:19,759
to the stratosphere a near space

200
00:08:25,189 --> 00:08:22,240
environment 19 to 20 miles above sea

201
00:08:27,510 --> 00:08:25,199
level the onboard experiments designed

202
00:08:30,150 --> 00:08:27,520
by the teams from virginia new york

203
00:08:33,029 --> 00:08:30,160
arkansas and north carolina investigate

204
00:08:35,430 --> 00:08:33,039
solar power atmospheric gases and

205
00:08:37,190 --> 00:08:35,440
growing food hydroponically in near

206
00:08:39,029 --> 00:08:37,200
space conditions

207
00:08:41,509 --> 00:08:39,039
glenn scientists and engineers are

208
00:08:43,190 --> 00:08:41,519
evaluating each team's efforts

209
00:08:45,910 --> 00:08:43,200
post the name of the winning school on

210
00:08:47,750 --> 00:08:45,920
the balloon set website july 1st

211
00:08:51,430 --> 00:08:47,760
the champs will receive an award at

212
00:08:51,440 --> 00:09:03,110
and now centerpieces

213
00:09:07,190 --> 00:09:05,350

in a summer party fanfare the tidewater

214
00:09:09,430 --> 00:09:07,200
builders association of virginia beach

215
00:09:12,150 --> 00:09:09,440
virginia kicked off its spring homorama

216
00:09:13,829 --> 00:09:12,160
showcase of homes featured was the space

217
00:09:16,150 --> 00:09:13,839
exploration house constructed in

218
00:09:17,910 --> 00:09:16,160
cooperation with nearby langley research

219
00:09:19,670 --> 00:09:17,920
center

220
00:09:22,150 --> 00:09:19,680
throughout the house are more than 20

221
00:09:24,310 --> 00:09:22,160
nasa spin-offs commercial products that

222
00:09:26,630 --> 00:09:24,320
incorporate nasa develop technologies in

223
00:09:28,230 --> 00:09:26,640
their design or manufacture these

224
00:09:30,870 --> 00:09:28,240
include a commercial application of

225
00:09:32,470 --> 00:09:30,880
aerogel a high-tech insulation used by

226
00:09:34,070 --> 00:09:32,480
astronauts against the extreme

227
00:09:35,910 --> 00:09:34,080
temperatures of space

228
00:09:37,750 --> 00:09:35,920
other products and systems on display

229
00:09:39,990 --> 00:09:37,760
that have spun off from nasa research

230
00:09:43,030 --> 00:09:40,000
and development included light bulbs

231
00:09:45,910 --> 00:09:43,040
cosmetics clothing footwear aeroponic

232
00:09:48,949 --> 00:09:45,920
gardening and baby food i am a sponsor

233
00:09:52,710 --> 00:09:48,959
of nasa i believe in it and i just can't

234
00:09:53,910 --> 00:09:52,720
tell you how excited i am to have nasa

235
00:09:56,310 --> 00:09:53,920
um

236
00:09:58,310 --> 00:09:56,320
participate the homorama spotlight on

237
00:10:01,350 --> 00:09:58,320
nasa was shared with former astronaut

238
00:10:07,110 --> 00:10:01,360

susan kilrain who in 1997 piloted two

239
00:10:11,430 --> 00:10:09,030
hello seattle

240
00:10:13,670 --> 00:10:11,440
from the international space station

241
00:10:15,829 --> 00:10:13,680
astronaut mark kelly made a surprise

242
00:10:22,710 --> 00:10:15,839
appearance during the seattle leg of the

243
00:10:27,670 --> 00:10:25,269
before a crowd of thousands lead singer

244
00:10:29,990 --> 00:10:27,680
bono dedicated their award-winning hit a

245
00:10:32,150 --> 00:10:30,000
beautiful day to kelly's wife

246
00:10:34,550 --> 00:10:32,160
congresswoman gabby giffords who was

247
00:10:37,190 --> 00:10:34,560
recovering from a gunshot wound while

248
00:10:39,190 --> 00:10:37,200
kelly enthusiastically greeted the crowd

249
00:10:41,590 --> 00:10:39,200
and sent a heartwarming message to his

250
00:10:43,190 --> 00:10:41,600
wife in a pre-recorded message from his

251
00:10:46,790 --> 00:10:43,200
time aboard the international space

252
00:10:49,990 --> 00:10:46,800
station during mission sts-134

253
00:10:52,710 --> 00:10:50,000
tell my wife i love her very much

254
00:10:57,110 --> 00:10:54,230
houston

255
00:10:59,110 --> 00:10:57,120
we have no problem

256
00:11:00,870 --> 00:10:59,120
you too has worked with nasa and the

257
00:11:03,110 --> 00:11:00,880
international space station throughout

258
00:11:05,430 --> 00:11:03,120
their tour having previously linked up

259
00:11:07,910 --> 00:11:05,440
with belgian astronaut frank davina

260
00:11:10,630 --> 00:11:07,920
nasa's mike barrett bob thirsk of the

261
00:11:13,190 --> 00:11:10,640
canadian space agency koichi wakata of

262
00:11:17,190 --> 00:11:13,200
the japan aerospace exploration agency

263
00:11:21,590 --> 00:11:19,509

and that's this week at nasa