
PAO

1
00:00:00,780 --> 00:00:01,490
>> Brandi Dean: Hi, welcome

2
00:00:01,490 --> 00:00:03,880
to the International Space
Station Flight Control Room.

3
00:00:03,880 --> 00:00:04,620
I'm Brandi Dean.

4
00:00:04,620 --> 00:00:07,140
I'm a Public Affairs
Officer here at NASA

5
00:00:07,140 --> 00:00:08,500
at Johnson Space
Center and I've got

6
00:00:08,500 --> 00:00:11,400
with me today Jason Dyer
who's one of our flight --

7
00:00:11,400 --> 00:00:12,700
Robotics Flight Controllers.

8
00:00:12,700 --> 00:00:14,130
Jason thanks so much
for joining us.

9
00:00:14,130 --> 00:00:16,280
You want to tell them a
little bit about yourself?

10
00:00:16,280 --> 00:00:16,730
>> Jason Dyer: Sure.

11
00:00:16,730 --> 00:00:17,710
Good morning.

12
00:00:17,710 --> 00:00:18,850
My name is Jason Dyer.

13
00:00:18,850 --> 00:00:21,470
I've been a Robotics Flight
Controller down here at NASA

14
00:00:21,470 --> 00:00:23,120
for just over 10 years.

15
00:00:23,120 --> 00:00:26,350
Originally from Canada
in Ontario

16
00:00:26,350 --> 00:00:29,200
and I've been loving this
job ever since I started.

17
00:00:29,200 --> 00:00:30,900
>> Brandi Dean: What are some
of the things that you do

18
00:00:30,900 --> 00:00:32,360
as a Robotics Flight Controller?

19
00:00:32,360 --> 00:00:34,310
>> Jason Dyer: We
do a lot of planning

20
00:00:34,310 --> 00:00:36,780
for the robotics here
on the space station.

21
00:00:36,780 --> 00:00:38,900
We train the crew
on how to use the --

22
00:00:38,900 --> 00:00:42,750
both the Canadarm

and the activities

23
00:00:42,750 --> 00:00:43,900
on the ground to support that.

24
00:00:43,900 --> 00:00:46,250
We do on-ground training
and then, obviously,

25
00:00:46,250 --> 00:00:48,900
we continue our own
certification both

26
00:00:48,900 --> 00:00:51,240
for our background
certifications and for up here

27
00:00:51,240 --> 00:00:52,610
in the flight control
room as well.

28
00:00:52,610 --> 00:00:54,640
>> Brandi Dean: And just in
case, I bet they've looked

29
00:00:54,640 --> 00:00:56,790
at that, but why don't you
tell them what the Canadarm is.

30
00:00:56,790 --> 00:00:57,800
>> Jason Dyer: So the Canadarm,

31
00:00:57,800 --> 00:00:59,130
it's actually the
second Canadarm.

32
00:00:59,130 --> 00:01:01,820
The first round of Canadarms
flew on the space shuttles

33
00:01:01,820 --> 00:01:04,460
and they were retired with the
space shuttles a few years ago.

34
00:01:04,460 --> 00:01:07,800
But our second generation
arm now is fully maintained

35
00:01:07,800 --> 00:01:11,320
on the space station and
allows us to walk all

36
00:01:11,320 --> 00:01:14,930
over the space station using
the mobile transporting system

37
00:01:14,930 --> 00:01:19,670
and along with that
and SPM, or Dextre;

38
00:01:19,670 --> 00:01:22,500
we do robotics activities
to repair

39
00:01:22,500 --> 00:01:25,720
on orbit repairable units.

40
00:01:25,720 --> 00:01:26,200
>> Brandi Dean: All right,

41
00:01:26,200 --> 00:01:31,280
so I think y'all have
some questions for us now.

42
00:01:31,280 --> 00:01:33,230
>> Yes. What inspired you

43
00:01:33,230 --> 00:01:35,870
to choose your profession

and work at NASA?

44
00:01:35,870 --> 00:01:37,650
>> Jason Dyer: That's
a really good question.

45
00:01:37,650 --> 00:01:40,760
I've been looking at the stars
since I was like six years old,

46
00:01:40,760 --> 00:01:42,540
as I'm sure a lot of people do.

47
00:01:42,540 --> 00:01:46,350
I had a telescope, I think, for
my seventh birthday and I was

48
00:01:46,350 --> 00:01:48,540
about to do anything I
could possibly do to get

49
00:01:48,540 --> 00:01:49,990
down here into a space program.

50
00:01:49,990 --> 00:01:53,320
Whether it had been this one,
the space program I joined

51
00:01:53,320 --> 00:01:54,800
in Canada that sent me down here

52
00:01:54,800 --> 00:01:56,760
to this international
partnership

53
00:01:56,760 --> 00:01:58,660
and whether I support
it on the ground

54

00:01:58,660 --> 00:02:00,920
or ultimately become an
astronaut who's capable

55
00:02:00,920 --> 00:02:03,540
of flying up there, I was
just happy to be here.

56
00:02:03,540 --> 00:02:07,490
>> Brandi Dean: Next question.

57
00:02:09,170 --> 00:02:12,640
>> Can you describe a
typical day at work?

58
00:02:12,640 --> 00:02:16,400
Nothing big happening, I
guess, just an everyday

59
00:02:16,400 --> 00:02:17,970
on the job kind of thing.

60
00:02:17,970 --> 00:02:20,010
>> Jason Dyer: You know I
really wish it was the same nine

61
00:02:20,010 --> 00:02:21,780
to five thing every single day.

62
00:02:21,780 --> 00:02:23,400
One of the interesting --

63
00:02:23,400 --> 00:02:24,360
really interesting things

64
00:02:24,360 --> 00:02:26,960
about this job is
that it's so dynamic.

65

00:02:26,960 --> 00:02:30,770
I don't think I could
cut and paste one day

66
00:02:30,770 --> 00:02:33,140
or even one week's
worth of activities

67
00:02:33,140 --> 00:02:37,200
to make them the same every
single day or every single week.

68
00:02:37,200 --> 00:02:41,650
My days can be dynamic in
the fact that I could be here

69
00:02:41,650 --> 00:02:43,790
in the flight control room
that you see behind me,

70
00:02:43,790 --> 00:02:45,760
I could spend an
entire day here.

71
00:02:45,760 --> 00:02:49,260
I could be at the neutral
buoyancy lab helping train

72
00:02:49,260 --> 00:02:52,910
astronauts in both -- for a
spacewalk or using the arm.

73
00:02:52,910 --> 00:02:55,260
>> Brandi Dean: And the neutral
buoyancy lab is a giant swimming

74
00:02:55,260 --> 00:02:56,200
pool basically.

75
00:02:56,200 --> 00:02:57,120

That's pretty cool.

76
00:02:57,120 --> 00:02:57,730
>> Jason Dyer: Yeah, it is.

77
00:02:57,730 --> 00:02:58,880
It's really cool to see it.

78
00:02:58,880 --> 00:03:01,140
It's absolutely huge.

79
00:03:01,140 --> 00:03:04,720
My day could be over
in the simulator --

80
00:03:04,720 --> 00:03:07,350
the space station simulator
which we all work together

81
00:03:07,350 --> 00:03:10,290
as a big huge team supporting

82
00:03:10,290 --> 00:03:13,790
on orbit operation
type simulations,

83
00:03:13,790 --> 00:03:16,380
or I could be sitting at
my desk writing procedures

84
00:03:16,380 --> 00:03:18,510
for the next upcoming event.

85
00:03:18,510 --> 00:03:26,040
[Noises]

86
00:03:26,040 --> 00:03:27,810
>> What are some life
changing things you learned

87
00:03:27,810 --> 00:03:31,330
in your profession?

88
00:03:31,330 --> 00:03:33,690
>> Jason Dyer: That's a
great philosophical question,

89
00:03:33,690 --> 00:03:37,490
but honestly it's you've got
to really enjoy your job.

90
00:03:37,490 --> 00:03:39,280
You've -- you're going
to have some bad days

91
00:03:39,280 --> 00:03:41,200
and I don't care what job
you have, you're going

92
00:03:41,200 --> 00:03:42,460
to have some bad days.

93
00:03:42,460 --> 00:03:46,380
And as long as you love your
job and you love what you do,

94
00:03:46,380 --> 00:03:48,950
those bad days go
by fairly quickly

95
00:03:48,950 --> 00:03:50,720
and you can just enjoy
the stuff that you --

96
00:03:50,720 --> 00:03:51,950
you're doing that day.

97
00:03:51,950 --> 00:03:54,850

>> Thank you.

98
00:03:55,910 --> 00:03:58,050
>> You talked about that
neutral buoyancy lab.

99
00:03:58,050 --> 00:04:00,590
What are the differences
between being

100
00:04:00,590 --> 00:04:02,670
in the neutral buoyancy
lab and being in actual --

101
00:04:02,670 --> 00:04:04,200
like actually being in space?

102
00:04:04,200 --> 00:04:05,480
>> Jason Dyer: A lot of water.

103
00:04:05,480 --> 00:04:06,090
No [laughter].

104
00:04:06,090 --> 00:04:08,920
It's the best thing that --

105
00:04:08,920 --> 00:04:15,320
obviously we can't truly create
zero-g here on the ground,

106
00:04:15,320 --> 00:04:19,730
so the next best thing we can do
is in the neutral buoyancy lab.

107
00:04:19,730 --> 00:04:24,140
We can balance ourselves between
wanting to float to the surface

108
00:04:24,140 --> 00:04:28,100

with some weights and that
balance basically simulates the

109
00:04:28,100 --> 00:04:29,660
best that we can do
for zero gravity.

110
00:04:29,660 --> 00:04:34,150
And that allows the
crew members to train

111
00:04:34,150 --> 00:04:36,430
so they can get the feeling
of how they're going to have

112
00:04:36,430 --> 00:04:39,090
to constrain themselves when
they're doing activities

113
00:04:39,090 --> 00:04:43,480
or how they can move along the
truss while they're outside.

114
00:04:43,480 --> 00:04:45,050
So it's the best we can do.

115
00:04:45,050 --> 00:04:47,260
It's a little bit different.

116
00:04:47,260 --> 00:04:48,490
Really the best people to ask

117
00:04:48,490 --> 00:04:50,640
for that would be the crew
members once they come back

118
00:04:50,640 --> 00:04:52,300
from the -- from the station

119

00:04:52,300 --> 00:04:54,510
and see what they can
say as the difference.

120
00:04:54,510 --> 00:04:59,470
[Noises]

121
00:04:59,470 --> 00:05:03,630
>> What did you do during
the 11 shuttle missions

122
00:05:03,630 --> 00:05:05,790
and staged activities
and which do you consider

123
00:05:05,790 --> 00:05:08,320
to be the most successful?

124
00:05:08,320 --> 00:05:12,970
>> Jason Dyer: So, those 11
shuttle missions spanned eight

125
00:05:12,970 --> 00:05:16,570
to 10 years, and the
staged missions as well.

126
00:05:16,570 --> 00:05:19,040
I have a lot of fond
memories of some of the shifts

127
00:05:19,040 --> 00:05:22,800
that I've done, mainly
supporting installations

128
00:05:22,800 --> 00:05:25,870
of modules, some
of the solar rays.

129
00:05:25,870 --> 00:05:28,930
I was on consult for

those sort of things.

130
00:05:28,930 --> 00:05:31,010
I think the two most
memorable --

131
00:05:31,010 --> 00:05:34,410
three most memorable
events that I have is one,

132
00:05:34,410 --> 00:05:39,710
back early we were unfurling
a new solar ray that was going

133
00:05:39,710 --> 00:05:42,670
to give power to the
station and it got stuck.

134
00:05:42,670 --> 00:05:46,050
And we had to re-coordinate

135
00:05:46,050 --> 00:05:49,580
through the entire team how we
were going to fix this thing

136
00:05:49,580 --> 00:05:53,850
and that was 17 days
of non-stop operations

137
00:05:53,850 --> 00:05:55,750
and that was pretty exciting.

138
00:05:55,750 --> 00:05:57,650
The second one was probably
when I was in charge

139
00:05:57,650 --> 00:06:02,690
of delivering the new
Cupola work environment.

140
00:06:02,690 --> 00:06:04,630
It's basically a
giant observatory here

141
00:06:04,630 --> 00:06:05,470
on the space station.

142
00:06:05,470 --> 00:06:09,240
The crew loves it and most of
us love it here on the ground

143
00:06:09,240 --> 00:06:11,170
because it provides
some excellent photos

144
00:06:11,170 --> 00:06:13,110
of the earth as they go by.

145
00:06:13,110 --> 00:06:15,530
And it was my robotics
team that installed

146
00:06:15,530 --> 00:06:16,960
that where it currently is.

147
00:06:16,960 --> 00:06:18,260
That was really exciting for me.

148
00:06:18,260 --> 00:06:21,180
And I guess the last one
would probably be part

149
00:06:21,180 --> 00:06:27,140
of the emergency team that fixed
the pump module two years ago.

150
00:06:27,140 --> 00:06:29,650
It's a very dynamic time when
we've got issues like that.

151
00:06:29,650 --> 00:06:32,660
That's what we train for and
I was very proud of my team

152
00:06:32,660 --> 00:06:34,510
and how fast we were
able to recover that.

153
00:06:34,510 --> 00:06:40,040
[Noises]

154
00:06:40,040 --> 00:06:41,950
>> What is the scariest
situation you ever --

155
00:06:41,950 --> 00:06:44,490
you've ever been faced with?

156
00:06:44,490 --> 00:06:47,570
>> Jason Dyer: So that last
one was probably pretty one

157
00:06:47,570 --> 00:06:49,970
of the worst situations we had.

158
00:06:49,970 --> 00:06:54,770
It's hard to -- it's hard to
explain to people that aren't

159
00:06:54,770 --> 00:06:57,290
in this environment what's
the situation we're in.

160
00:06:57,290 --> 00:06:59,730
We're basically working,
you know,

161
00:06:59,730 --> 00:07:02,670

15-16 hour shifts
non-stop trying

162
00:07:02,670 --> 00:07:04,090
to get all these products done

163
00:07:04,090 --> 00:07:07,360
that we usually normally have
weeks or months to complete,

164
00:07:07,360 --> 00:07:11,030
under the understanding that
we're -- we can't make an error.

165
00:07:11,030 --> 00:07:15,440
All of this while, you
know, we're one failure away

166
00:07:15,440 --> 00:07:18,160
from having to shut down the
space station and come home.

167
00:07:18,160 --> 00:07:23,440
And I think it's not so much
scary as in challenging,

168
00:07:23,440 --> 00:07:25,720
and it's that challenge
that really drives a lot

169
00:07:25,720 --> 00:07:28,510
of the flight controllers
here do -- to do their job.

170
00:07:28,510 --> 00:07:35,650
[Noises]

171
00:07:35,650 --> 00:07:39,370
>> What is your opinion
and/or personal view on fut --

172
00:07:39,370 --> 00:07:44,410
on the future of
space exploration?

173
00:07:44,410 --> 00:07:46,720
>> Jason Dyer: I'm always happy
to hear that we're, you know,

174
00:07:46,720 --> 00:07:49,940
most countries or most
agencies are pressing forward.

175
00:07:49,940 --> 00:07:52,720
Obviously, there are
difficulties right now

176
00:07:52,720 --> 00:07:54,530
in setting priorities
and stuff like that

177
00:07:54,530 --> 00:07:59,550
and each country has their ideas
of what's the highest priority.

178
00:07:59,550 --> 00:08:03,440
It is nice to be here in an
international setting where,

179
00:08:03,440 --> 00:08:08,320
you know, as we have, I believe
16 countries involved here,

180
00:08:08,320 --> 00:08:11,170
each one of them is still
providing some sort of resources

181
00:08:11,170 --> 00:08:12,870
to keep this program going.

182
00:08:12,870 --> 00:08:14,870
And as long as we
keep that philosophy

183
00:08:14,870 --> 00:08:17,020
of just keep going
forward, keep going forward,

184
00:08:17,020 --> 00:08:19,570
I think we'll still have
a successful program,

185
00:08:19,570 --> 00:08:20,510
at least globally.

186
00:08:20,510 --> 00:08:29,320
[Noises]

187
00:08:29,320 --> 00:08:34,040
>> What applications might your
work have in the public sector?

188
00:08:34,040 --> 00:08:35,190
>> Jason Dyer: That's
a really good question.

189
00:08:35,190 --> 00:08:38,970
You can't really go to school
for flight control operations.

190
00:08:38,970 --> 00:08:43,280
It's a -- It's a gathering of
skill sets that you learn both

191
00:08:43,280 --> 00:08:47,360
at school and pri --
and in industry itself.

192
00:08:47,360 --> 00:08:50,540

I think if I were to
leave flight control here,

193
00:08:50,540 --> 00:08:52,720
some of the best skills
I would probably transfer

194
00:08:52,720 --> 00:08:56,880
out would be management and
integration would be a lot

195
00:08:56,880 --> 00:08:59,470
of the activities I
do on a regular basis.

196
00:08:59,470 --> 00:09:02,460
Operational concepts would be
another good one that would go

197
00:09:02,460 --> 00:09:04,510
to other industries
quite easily.

198
00:09:04,510 --> 00:09:14,080
[Noises]

199
00:09:14,080 --> 00:09:15,590
>> What is the most
complex robot

200
00:09:15,590 --> 00:09:19,230
that you've made or designed?

201
00:09:19,230 --> 00:09:20,060
>> Jason Dyer: I'll be honest.

202
00:09:20,060 --> 00:09:22,120
I haven't actually
built a robot.

203
00:09:22,120 --> 00:09:25,380
My background is in
aerospace engineering

204
00:09:25,380 --> 00:09:30,540
and material science and, but
I have done program management

205
00:09:30,540 --> 00:09:31,650
and integration in the past

206
00:09:31,650 --> 00:09:34,880
which gave me the basic
skill sets I needed to come

207
00:09:34,880 --> 00:09:36,550
into this job in
the first place.

208
00:09:36,550 --> 00:09:39,520
The most complex robot I have
seen is one we're currently

209
00:09:39,520 --> 00:09:42,420
working on here in the
space station, you know,

210
00:09:42,420 --> 00:09:46,460
thousands of lines
of code and he --

211
00:09:46,460 --> 00:09:49,070
it's just incredible to
see the amount of software

212
00:09:49,070 --> 00:09:52,510
and hardware that's required
to get these robots to go.

213

00:09:52,510 --> 00:10:00,050
[Noises]

214
00:10:00,050 --> 00:10:02,560
>> Can you describe
what it feels

215
00:10:02,560 --> 00:10:05,620
like to be in a buoyancy pool?

216
00:10:05,620 --> 00:10:06,430
>> Jason Dyer: Not far off.

217
00:10:06,430 --> 00:10:10,070
I actually a certified
scuba diver and a lot

218
00:10:10,070 --> 00:10:14,570
of the activities we do
even privately or, you know,

219
00:10:14,570 --> 00:10:17,310
away on vacation transfers
similar to what we see

220
00:10:17,310 --> 00:10:18,960
in the neutral buoyancy lab.

221
00:10:18,960 --> 00:10:22,370
It is -- it's almost
like floating.

222
00:10:22,370 --> 00:10:26,130
It's -- and it takes a
little bit of getting used

223
00:10:26,130 --> 00:10:29,310
to of not being able to
trust that when you let go

224
00:10:29,310 --> 00:10:32,470
of something your feet
just go to the ground.

225
00:10:32,470 --> 00:10:35,940
Your body doesn't understand
which way is up and which way is

226
00:10:35,940 --> 00:10:39,700
down and if you close your
eyes, you really can't tell.

227
00:10:39,700 --> 00:10:41,230
So, it's quite exhilarating.

228
00:10:41,230 --> 00:10:44,170
I quite enjoy it, which is why
I got certified as a scuba diver

229
00:10:44,170 --> 00:10:46,420
and I would imagine that being

230
00:10:46,420 --> 00:10:49,510
in the buoyancy lab it's
very much similar there.

231
00:10:49,510 --> 00:10:55,750
[Noises]

232
00:10:55,750 --> 00:10:58,260
>> How do you think NASA
will go about conserving fuel

233
00:10:58,260 --> 00:11:02,070
for the trip to Mars by 2030 and
what fuel will be more efficient

234
00:11:02,070 --> 00:11:03,820
for this trip and why?

235
00:11:03,820 --> 00:11:08,490
>> Jason Dyer: That's a
really excellent question and,

236
00:11:08,490 --> 00:11:09,810
you know, it's really
hard to answer.

237
00:11:09,810 --> 00:11:13,050
It will all depend on
what's going on at the time

238
00:11:13,050 --> 00:11:14,770
and what priorities
and when we do it.

239
00:11:14,770 --> 00:11:18,990
If we look at, say the
space shuttle, you know,

240
00:11:18,990 --> 00:11:21,620
the solid rocket boosters
were using one type of fuel,

241
00:11:21,620 --> 00:11:24,310
then we went to the hydrogen
oxygen mix for a different type

242
00:11:24,310 --> 00:11:27,250
of fuel and then when we were
on orbit we had a third type

243
00:11:27,250 --> 00:11:29,140
of fuel with the thrusters.

244
00:11:29,140 --> 00:11:32,300
I would imagine the Mars
mission would be similar,

245
00:11:32,300 --> 00:11:36,050
depending on which stage of
the activity that we're in.

246
00:11:36,050 --> 00:11:38,090
It would also depend
on when we do it,

247
00:11:38,090 --> 00:11:41,950
whether we develop new
technologies or new ideas on how

248
00:11:41,950 --> 00:11:45,120
to produce thrust or
whatever we need to do.

249
00:11:45,120 --> 00:11:49,450
So, to give you an exact fuel

250
00:11:49,450 --> 00:11:51,940
of what we would use would
be very difficult right now,

251
00:11:51,940 --> 00:11:53,990
but I think it's an
excellent question.

252
00:11:53,990 --> 00:11:55,970
I'm sure many engineers
are down here thinking

253
00:11:55,970 --> 00:11:57,730
about the same thing
right now too.

254
00:11:57,730 --> 00:11:59,900
>> Brandi Dean: We
actually have a group here

255

00:11:59,900 --> 00:12:01,620
at Johnson Space
Center who's working

256
00:12:01,620 --> 00:12:05,270
on what they call institute
resource utilization,

257
00:12:05,270 --> 00:12:07,210
which is basically
a big fancy way

258
00:12:07,210 --> 00:12:08,390
of saying living off the land.

259
00:12:08,390 --> 00:12:10,430
And hopefully they're
looking into ways

260
00:12:10,430 --> 00:12:12,530
that they might be
able to get the fuel

261
00:12:12,530 --> 00:12:14,450
that we need where we go.

262
00:12:14,450 --> 00:12:17,980
So if we can find a way to
produce the fuel that we need

263
00:12:17,980 --> 00:12:21,000
to get back, on Mars,
then we don't have to take

264
00:12:21,000 --> 00:12:23,650
as much with us when we go.

265
00:12:23,650 --> 00:12:25,980
>> Thank you.

266
00:12:25,980 --> 00:12:29,950
>> Before you were saying how
your eyes kind of like disagree

267
00:12:29,950 --> 00:12:33,350
with your inner ear and you
see something that your --

268
00:12:33,350 --> 00:12:34,360
you don't really und --

269
00:12:34,360 --> 00:12:36,420
it doesn't really
feel the same way.

270
00:12:36,420 --> 00:12:38,880
So if you're like upside down,
you'll see as if you were

271
00:12:38,880 --> 00:12:41,090
like you think you're
falling but your inner ear.

272
00:12:41,090 --> 00:12:44,090
Do you kind of just feel like
you're just floating around,

273
00:12:44,090 --> 00:12:45,180
you don't really feel
like you're going down

274
00:12:45,180 --> 00:12:45,780
or anything like that?

275
00:12:45,780 --> 00:12:48,650
You just feel constant,
I guess you could say.

276
00:12:48,650 --> 00:12:49,970

>> Jason Dyer: That's
a -- you --

277
00:12:49,970 --> 00:12:51,730
I think your question
is border lining

278
00:12:51,730 --> 00:12:54,750
on what it's like
to get vertigo.

279
00:12:54,750 --> 00:12:57,380
Which happens both when you're
on a very tall building looking

280
00:12:57,380 --> 00:13:00,270
down and actually you're exactly
right, it happens when you're

281
00:13:00,270 --> 00:13:03,900
in a zero gravity or even in
scuba diving at the same time.

282
00:13:03,900 --> 00:13:06,700
It's basically your eyes
thinking, or not being able

283
00:13:06,700 --> 00:13:09,940
to determine between where you
are and where you should be

284
00:13:09,940 --> 00:13:13,420
and your body, your inner ear
not sensing, or not lining

285
00:13:13,420 --> 00:13:14,990
up with that intuition.

286
00:13:14,990 --> 00:13:18,960
And unfortunately, getting

vertigo some people handle it --

287
00:13:18,960 --> 00:13:23,140
handle it better than others,
but yeah you can feel kind

288
00:13:23,140 --> 00:13:25,510
of queasy if your body
doesn't handle it well.

289
00:13:25,510 --> 00:13:31,200
[Noises]

290
00:13:31,200 --> 00:13:32,480
>> Hello, again.

291
00:13:32,480 --> 00:13:34,930
I understand you work
with a lot of technology,

292
00:13:34,930 --> 00:13:37,210
so I was wondering
what you think

293
00:13:37,210 --> 00:13:40,920
of the recent mass
of solar flares.

294
00:13:40,920 --> 00:13:44,920
What kind of concerns they
might -- they might have to you.

295
00:13:44,920 --> 00:13:46,290
>> Jason Dyer: Well,
the sun's been all

296
00:13:46,290 --> 00:13:47,870
around for quite a long time

297

00:13:47,870 --> 00:13:52,520
and I'm sure this is
part of its solar cycles.

298
00:13:52,520 --> 00:13:53,910
It's always spitting out stuff.

299
00:13:53,910 --> 00:13:56,560
It's always -- it's
always having solar flares.

300
00:13:56,560 --> 00:14:00,010
I don't work personally
with those solar flares,

301
00:14:00,010 --> 00:14:05,610
but the keen interest I do
have in all orbital mechanics

302
00:14:05,610 --> 00:14:10,630
and stuff like that, I'm not
overly concerned about them.

303
00:14:10,630 --> 00:14:12,430
And -- but I am monitoring just

304
00:14:12,430 --> 00:14:14,510
out of pure excitement
of what's going on.

305
00:14:14,510 --> 00:14:20,130
[Noises]

306
00:14:20,130 --> 00:14:24,110
>> What do you do during
extensive simulator training?

307
00:14:24,110 --> 00:14:25,200
>> Jason Dyer: That's
a really good question.

308
00:14:25,200 --> 00:14:30,480
So, part of our training down
here is to prepare ourselves

309
00:14:30,480 --> 00:14:36,480
for contingency or bad
days here in operations.

310
00:14:36,480 --> 00:14:39,500
Whether something fails or
something isn't going right,

311
00:14:39,500 --> 00:14:41,090
the way we expect it to.

312
00:14:41,090 --> 00:14:42,620
And we use our simulator
training

313
00:14:42,620 --> 00:14:46,990
to basically simulate our
days and then we have trainers

314
00:14:46,990 --> 00:14:50,140
in the back room that
will cause things to fail

315
00:14:50,140 --> 00:14:52,300
or cause activities to go wrong.

316
00:14:52,300 --> 00:14:57,420
And they are building our skills
to learn how to react to those

317
00:14:57,420 --> 00:14:59,990
in the shortest amount
of time possible.

318

00:14:59,990 --> 00:15:02,430
And some days can get pretty --

319
00:15:02,430 --> 00:15:06,510
pretty tiring, we'll
put it that way.

320
00:15:06,510 --> 00:15:13,640
[Noises]

321
00:15:13,640 --> 00:15:16,320
>> I'm going to be majoring in
electrical engineering next year

322
00:15:16,320 --> 00:15:17,980
at Penn State and I
was wondering what kind

323
00:15:17,980 --> 00:15:22,060
of jobs are available to
electrical engineers as NASA?

324
00:15:22,060 --> 00:15:26,600
>> Jason Dyer: There's a wide
range of jobs here at NASA along

325
00:15:26,600 --> 00:15:30,390
with many other agencies
around the globe.

326
00:15:30,390 --> 00:15:32,970
Skill sets, like a
specific engineering type,

327
00:15:32,970 --> 00:15:38,540
just to give you an idea, here
in robotics we have mechanical,

328
00:15:38,540 --> 00:15:41,620
aerospace, electrical,

biomedical.

329
00:15:41,620 --> 00:15:42,820
We have mathematicians.

330
00:15:42,820 --> 00:15:45,980
We have one geologist.

331
00:15:45,980 --> 00:15:50,310
So, it's not so much the actual
degree that you bring with you,

332
00:15:50,310 --> 00:15:51,820
whether it's electrical
or mechanical,

333
00:15:51,820 --> 00:15:54,600
but more the skill sets that
you've learned or are willing

334
00:15:54,600 --> 00:15:57,470
to learn when you come
here to apply for the job.

335
00:15:57,470 --> 00:15:59,740
>> All right, thanks.

336
00:15:59,740 --> 00:16:01,230
As another question.

337
00:16:01,230 --> 00:16:03,320
What difference is having
those between Canadian

338
00:16:03,320 --> 00:16:06,860
and American states programs?

339
00:16:06,860 --> 00:16:09,130
>> Jason Dyer: Size

and scope [laughter].

340
00:16:09,130 --> 00:16:11,890
Really, I mean, NASA's budget

341
00:16:11,890 --> 00:16:15,210
for the space program budget is
probably about 50 times the size

342
00:16:15,210 --> 00:16:18,770
of the Canadian one, but I mean
the country is larger as well.

343
00:16:18,770 --> 00:16:22,380
You're talking a population of
300 million versus 30 million.

344
00:16:22,380 --> 00:16:24,770
It also comes down
to priorities.

345
00:16:24,770 --> 00:16:27,700
You know, I find that
Canada spends a lot

346
00:16:27,700 --> 00:16:29,150
of its resources
trying to partner

347
00:16:29,150 --> 00:16:32,520
with other space
agencies, such as NASA

348
00:16:32,520 --> 00:16:34,610
or the European Space
Agency to try

349
00:16:34,610 --> 00:16:39,860
to build toward bigger projects;
whereas NASA has a capability

350
00:16:39,860 --> 00:16:43,010
of doing a lot of
projects by itself.

351
00:16:43,010 --> 00:16:47,830
Both of them are pushing
forward in space development

352
00:16:47,830 --> 00:16:51,700
and it's really just coming down
to the scale of that push and,

353
00:16:51,700 --> 00:16:52,680
you know, the priotor --

354
00:16:52,680 --> 00:16:54,850
priorities of what's
important to each agency.

355
00:16:54,850 --> 00:16:58,650
>> Brandi Dean: The first
Space Station Commander

356
00:16:58,650 --> 00:17:00,890
for the Canadian Space
Agency just actually wrapped

357
00:17:00,890 --> 00:17:04,700
up his time at the space station
and landed back in Kazakhstan

358
00:17:04,700 --> 00:17:06,510
on Monday, Chris Hadfield.

359
00:17:06,510 --> 00:17:12,180
[Noises]

360
00:17:12,180 --> 00:17:14,760

>> I'm just really
curious to know this,

361
00:17:14,760 --> 00:17:17,770
but did you ever witness any
accidents during your time

362
00:17:17,770 --> 00:17:19,570
at NASA?

363
00:17:19,570 --> 00:17:22,180
>> Jason Dyer: Honestly, no.

364
00:17:22,180 --> 00:17:23,730
>> All right.

365
00:17:23,730 --> 00:17:24,420
Another question.

366
00:17:24,420 --> 00:17:29,070
What plant would you like
NASA to explore after Mars?

367
00:17:29,070 --> 00:17:30,880
>> Jason Dyer: After Mars?

368
00:17:30,880 --> 00:17:32,230
>> Yes.

369
00:17:32,230 --> 00:17:34,010
>> Jason Dyer: That's
a tough one.

370
00:17:34,010 --> 00:17:38,100
Probably go further out,
I'm going to say I'd

371
00:17:38,100 --> 00:17:40,030
like them to explore Pluto.

372
00:17:40,030 --> 00:17:42,600
>> All right.

373
00:17:42,600 --> 00:17:44,750
One more question.

374
00:17:44,750 --> 00:17:47,780
What is your favorite
astronaut [inaudible]?

375
00:17:47,780 --> 00:17:49,120
>> Jason Dyer: Sorry, favorite?

376
00:17:49,120 --> 00:17:49,890
>> Brandi Dean: Astronaut movie?

377
00:17:49,890 --> 00:17:51,650
>> Astronaut.

378
00:17:51,650 --> 00:17:53,260
No. Astronaut food.

379
00:17:53,260 --> 00:17:53,480
>> Brandi Dean: Food.

380
00:17:53,480 --> 00:17:54,680
>> Jason Dyer: Oh,
astronaut food.

381
00:17:54,680 --> 00:17:56,820
It's really interesting

382
00:17:56,820 --> 00:18:01,380
to see what they take
up on orbit for food.

383
00:18:01,380 --> 00:18:06,260

Most of it's dehydrated
or canned and I think

384
00:18:06,260 --> 00:18:10,070
of all these astronaut food
I've tasted here on the ground,

385
00:18:10,070 --> 00:18:16,400
surprisingly I was best, or I
most enjoyed the apple slices.

386
00:18:16,400 --> 00:18:18,510
>> Thank you.

387
00:18:18,510 --> 00:18:26,200
[Noises]

388
00:18:26,200 --> 00:18:27,810
>> All right do we have
any other questions

389
00:18:27,810 --> 00:18:29,500
from East Stroudsberg?

390
00:18:29,500 --> 00:18:31,040
>> I think we have
someone coming

391
00:18:31,040 --> 00:18:32,950
up from the back over here.

392
00:18:32,950 --> 00:18:33,810
>> Okay. Excellent.

393
00:18:33,810 --> 00:18:35,900
Looks like we finished
all of our 16 questions.

394
00:18:35,900 --> 00:18:38,120

Looks like these are
kind of off-the-cuff

395
00:18:38,120 --> 00:18:41,570
so our next question
is coming from someone.

396
00:18:41,570 --> 00:18:42,740
And...

397
00:18:42,740 --> 00:18:45,340
>> Brandi Dean: Well prepared.

398
00:18:45,340 --> 00:18:46,580
>> ...who's that student?

399
00:18:46,580 --> 00:18:49,480
>> What number is that student?

400
00:18:49,480 --> 00:18:53,540
>> Okay, she's coming up there.

401
00:18:53,540 --> 00:18:54,700
>> Okay, that's fine.

402
00:18:54,700 --> 00:18:58,020
>> Okay. My comrades in
the back would like to know

403
00:18:58,020 --> 00:19:00,840
if you believe in aliens.

404
00:19:02,050 --> 00:19:02,990
>> Jason Dyer: Really
good question.

405
00:19:02,990 --> 00:19:06,230
I'm not sure whether belief

406
00:19:06,230 --> 00:19:10,280
or statistical possibility is
the same thing, but I would hope

407
00:19:10,280 --> 00:19:13,050
that in all that space
out there that there's

408
00:19:13,050 --> 00:19:14,830
at least someone else.

409
00:19:14,830 --> 00:19:19,400
Just to compare, I
think of what goes on.

410
00:19:20,790 --> 00:19:24,240
>> Okay. And also, how
does scuba diving compare

411
00:19:24,240 --> 00:19:26,320
to being in space?

412
00:19:26,320 --> 00:19:28,310
>> Jason Dyer: Well having
never been in space right now,

413
00:19:28,310 --> 00:19:33,830
I would hope it was somewhat
similar, but I love scuba diving

414
00:19:33,830 --> 00:19:36,100
and I hope one day it does
prepare me to go into space,

415
00:19:36,100 --> 00:19:38,710
so I hope it is very similar.

416
00:19:38,710 --> 00:19:39,380
>> Brandi Dean: We have a group

417
00:19:39,380 --> 00:19:42,620
that does what we call analog
missions, which is kind

418
00:19:42,620 --> 00:19:47,500
of simulated missions on
the ocean floor to practice

419
00:19:47,500 --> 00:19:51,160
for going on planetary
exploration missions

420
00:19:51,160 --> 00:19:51,880
in the future.

421
00:19:51,880 --> 00:19:52,870
It's called the NEEMO --

422
00:19:52,870 --> 00:19:56,200
the NEEMO missions and we've
had I think 16 of them,

423
00:19:56,200 --> 00:19:58,890
so I think a lot of
the astronauts say

424
00:19:58,890 --> 00:20:01,950
that that's really
helpful for training.

425
00:20:01,950 --> 00:20:03,220
>> Okay, thank you.

426
00:20:03,220 --> 00:20:08,110
>> Good. I think that
was all of the questions.

427
00:20:08,110 --> 00:20:08,770

>> All right.

428
00:20:08,770 --> 00:20:11,180
Thank you guys so much
for all those questions.

429
00:20:11,180 --> 00:20:13,590
And thank you Mr.
Dyer for coming

430
00:20:13,590 --> 00:20:15,760
and actually doing these
question and answer

431
00:20:15,760 --> 00:20:16,920
and this little interview.

432
00:20:16,920 --> 00:20:18,540
We really appreciate your time.

433
00:20:18,540 --> 00:20:22,130
Are there any final words you'd
like to say at East Stroudsberg?

434
00:20:22,130 --> 00:20:24,390
>> Jason Dyer: I know I've
really enjoyed talking

435
00:20:24,390 --> 00:20:29,160
to you people, or you guys and
a lot of excellent questions.

436
00:20:29,160 --> 00:20:31,250
I'm glad you guys are thinking
really hard about this stuff.

437
00:20:31,250 --> 00:20:35,170
I hope I've been able to
at least get you interested

438
00:20:35,170 --> 00:20:38,500
in the space program as much
-- at least as much as I am

439
00:20:38,500 --> 00:20:40,740
and hopefully one of you
guys down there will end

440
00:20:40,740 --> 00:20:45,190
up down here working at NASA
with as much interested --

441
00:20:45,190 --> 00:20:48,550
interest in this
program as I have.