1
00:00:07,749 --> 00:00:02,310
station this is houston are you ready

2
00:00:07,759 --> 00:00:12,789
houston station i am ready for the event

3
00:00:16,630 --> 00:00:14,709
associated press this is mission control

4
00:00:17,670 --> 00:00:16,640
houston please call station for a voice

5
00:00:19,429 --> 00:00:17,680
check

6
00:00:24,150 --> 00:00:19,439
station this is marcia dunn with the

7
00:00:27,349 --> 00:00:25,830
hey marcia good to talk to you again

8
00:00:29,189 --> 00:00:27,359
i've got you loud and clear well

9
00:00:31,750 --> 00:00:29,199
greetings from the kennedy space center

10
00:00:34,470 --> 00:00:31,760
kate um good to see you too

11
00:00:36,389 --> 00:00:34,480
um i'll get right into my questions

12
00:00:37,990 --> 00:00:36,399
you're down to three crew members right

13
00:00:40,229 --> 00:00:38,000

now and i'm i'm wondering if you're

14
00:00:42,069 --> 00:00:40,239
feeling a bit lonely or isolated because

15
00:00:47,670 --> 00:00:42,079
of that and what's the latest on when

16
00:00:52,069 --> 00:00:49,270
yeah it sounds like it might be a little

17
00:00:54,150 --> 00:00:52,079
bit lonely but it's actually not so i've

18
00:00:56,549 --> 00:00:54,160
got two of my crewmates in the next

19
00:00:58,790 --> 00:00:56,559
module over and we actually do a lot of

20
00:01:00,229 --> 00:00:58,800
work together during the day so space

21
00:01:02,150 --> 00:01:00,239
station can actually seem like an

22
00:01:04,310 --> 00:01:02,160
incredibly busy place

23
00:01:05,990 --> 00:01:04,320
we're doing a huge number of research

24
00:01:09,190 --> 00:01:06,000
experiments right now

25
00:01:11,190 --> 00:01:09,200
so it's definitely hopping up here and

26
00:01:13,750 --> 00:01:11,200
we're still waiting on word from our

27
00:01:14,950 --> 00:01:13,760
russian colleagues about when they're

28
00:01:17,510 --> 00:01:14,960
going to be able to have the soyuz

29
00:01:18,950 --> 00:01:17,520
launch but we are anxiously awaiting and

30
00:01:20,950 --> 00:01:18,960
looking forward to greeting our new

31
00:01:22,390 --> 00:01:20,960
crewmates up here

32
00:01:25,030 --> 00:01:22,400
well is there any chance that your

33
00:01:27,429 --> 00:01:25,040
mission might be extended and

34
00:01:29,429 --> 00:01:27,439
and if so what's the word on when you'll

35
00:01:31,429 --> 00:01:29,439
be returning and how do you feel about

36
00:01:35,510 --> 00:01:31,439
spending potentially some extra weeks up

37
00:01:40,149 --> 00:01:37,590
yeah so we're still waiting to hear word

38
00:01:41,830 --> 00:01:40,159

from all of that and of course the our

39
00:01:44,789 --> 00:01:41,840
russian partners are going to let us

40
00:01:47,030 --> 00:01:44,799
know as soon as they have any word

41
00:01:49,270 --> 00:01:47,040
when we launch to space we know that we

42
00:01:50,870 --> 00:01:49,280
may be here for shorter than originally

43
00:01:52,230 --> 00:01:50,880
intended or longer than originally

44
00:01:54,950 --> 00:01:52,240
intended so

45
00:01:57,510 --> 00:01:54,960
we're prepared uh the teams have quite a

46
00:01:59,990 --> 00:01:57,520
bit of science actually right now so i

47
00:02:01,749 --> 00:02:00,000
think uh nobody would mind too much if

48
00:02:04,389 --> 00:02:01,759
we got extended a little bit we would be

49
00:02:06,709 --> 00:02:04,399
able to get a lot of research done

50
00:02:08,949 --> 00:02:06,719
well you know originally um and you may

51
00:02:10,550 --> 00:02:08,959
still be back in time for election day

52
00:02:12,550 --> 00:02:10,560
but if not

53
00:02:15,190 --> 00:02:12,560
will you be able to vote for president

54
00:02:16,470 --> 00:02:15,200
up there and and as an aside to that do

55
00:02:21,750 --> 00:02:16,480
you find yourself keeping up with

56
00:02:26,309 --> 00:02:23,830
yeah so i will be able to vote um

57
00:02:28,790 --> 00:02:26,319
there's actually some uh fantastic folks

58
00:02:32,070 --> 00:02:28,800
on the ground that get me an absentee

59
00:02:34,869 --> 00:02:32,080
ballot before i uh i launched and

60
00:02:38,390 --> 00:02:34,879
uh it got sent to my my home address and

61
00:02:40,630 --> 00:02:38,400
the absentee ballot address is low earth

62
00:02:41,830 --> 00:02:40,640
orbit so i think that's uh it's pretty

63
00:02:43,430 --> 00:02:41,840

amazing

64
00:02:45,589 --> 00:02:43,440
it's it's very incredible that we're

65
00:02:47,430 --> 00:02:45,599
able to vote from up here and i think

66
00:02:48,630 --> 00:02:47,440
it's incredibly important

67
00:02:51,030 --> 00:02:48,640
for

68
00:02:53,990 --> 00:02:51,040
us to vote in all of the elections and

69
00:02:56,229 --> 00:02:54,000
so yes i definitely do plan on voting

70
00:02:58,390 --> 00:02:56,239
well now tell me um how the genetic

71
00:03:00,309 --> 00:02:58,400
sequencer is working in orbit have you

72
00:03:02,229 --> 00:03:00,319
noticed any differences operating the

73
00:03:04,550 --> 00:03:02,239
device in weightlessness versus on the

74
00:03:09,110 --> 00:03:04,560
ground and are there any early results

75
00:03:13,190 --> 00:03:11,350
yeah it's working incredibly well on

76
00:03:15,430 --> 00:03:13,200
orbit which is actually a little bit

77
00:03:17,990 --> 00:03:15,440
surprising things are very different in

78
00:03:20,470 --> 00:03:18,000
microgravity you find any system that

79
00:03:21,589 --> 00:03:20,480
you work with up here to be

80
00:03:24,630 --> 00:03:21,599
uh

81
00:03:26,309 --> 00:03:24,640
it just works differently than than the

82
00:03:27,910 --> 00:03:26,319
way you would expect it to work on the

83
00:03:30,149 --> 00:03:27,920
ground and a lot of that's because of

84
00:03:32,470 --> 00:03:30,159
the way that bubbles behave in fluids or

85
00:03:34,789 --> 00:03:32,480
how fluids move across surfaces there's

86
00:03:37,750 --> 00:03:34,799
some really fascinating unexpected

87
00:03:40,309 --> 00:03:37,760
behavior but because this device is a

88
00:03:41,270 --> 00:03:40,319

microfluidics device and it has such

89
00:03:43,750 --> 00:03:41,280
small

90
00:03:46,229 --> 00:03:43,760
pores and then essentially a thin

91
00:03:47,990 --> 00:03:46,239
membrane it's actually pretty well

92
00:03:50,229 --> 00:03:48,000
designed for space flight surface

93
00:03:52,149 --> 00:03:50,239
tension takes over and it's been working

94
00:03:53,750 --> 00:03:52,159
wonderfully it's actually

95
00:03:56,309 --> 00:03:53,760
a lot better i think than anybody

96
00:03:59,110 --> 00:03:56,319
expected we've gotten over a billion

97
00:04:01,190 --> 00:03:59,120
base pairs of dna sequence at this point

98
00:04:02,869 --> 00:04:01,200
well i was going to ask you about that

99
00:04:05,110 --> 00:04:02,879
that sounds like a lot to me given that

100
00:04:06,869 --> 00:04:05,120
you started at zero but if you could put

101
00:04:10,470 --> 00:04:06,879
that in perspective

102
00:04:12,309 --> 00:04:10,480
um for the layperson uh what's how how

103
00:04:14,550 --> 00:04:12,319
many how many or how little are one

104
00:04:19,670 --> 00:04:14,560
billion bases of dna could you compare

105
00:04:24,469 --> 00:04:22,150
sure thing i'll tell you when i was an

106
00:04:25,990 --> 00:04:24,479
undergrad i used to do sequencing one

107
00:04:26,790 --> 00:04:26,000
base pair at a time

108
00:04:28,870 --> 00:04:26,800
and

109
00:04:29,749 --> 00:04:28,880
i don't think that was too too long ago

110
00:04:32,310 --> 00:04:29,759
so

111
00:04:34,230 --> 00:04:32,320
uh for for me it's actually been amazing

112
00:04:36,710 --> 00:04:34,240
to see that the evolution of the

113
00:04:38,629 --> 00:04:36,720

sequencing technologies the rate that

114
00:04:41,430 --> 00:04:38,639
we're able to sequence

115
00:04:43,749 --> 00:04:41,440
has really gotten exponential since the

116
00:04:45,830 --> 00:04:43,759
initial human genome project and so what

117
00:04:48,469 --> 00:04:45,840
we're doing with the sequencer on board

118
00:04:51,270 --> 00:04:48,479
here is the scale of easily doing a

119
00:04:53,670 --> 00:04:51,280
human genome or a mouse genome

120
00:04:55,749 --> 00:04:53,680
or we can look at hundreds or hundreds

121
00:04:57,590 --> 00:04:55,759
of thousands of bacterial genomes if

122
00:04:59,590 --> 00:04:57,600
we're interested in the microbiome

123
00:05:00,950 --> 00:04:59,600
onboard space station

124
00:05:03,990 --> 00:05:00,960
well that sounds like it could have some

125
00:05:09,110 --> 00:05:04,000
real implications could you just mention

126
00:05:14,070 --> 00:05:10,950
yeah one of the things that's really

127
00:05:15,990 --> 00:05:14,080
fascinating about doing research in this

128
00:05:18,629 --> 00:05:16,000
incredibly remote environment we're in a

129
00:05:21,430 --> 00:05:18,639
remote outpost here is the ability to

130
00:05:23,670 --> 00:05:21,440
track things in real time and so right

131
00:05:25,350 --> 00:05:23,680
now we have to wait for samples to come

132
00:05:28,070 --> 00:05:25,360
back to earth in order to do a lot of

133
00:05:30,469 --> 00:05:28,080
the analysis so the ability to look in

134
00:05:33,670 --> 00:05:30,479
real time at for example our bone

135
00:05:37,430 --> 00:05:33,680
degeneration or our muscle loss or the

136
00:05:40,070 --> 00:05:37,440
changes we get in intracranial pressure

137
00:05:41,909 --> 00:05:40,080
all the fluid shift we have upwards as

138
00:05:44,469 --> 00:05:41,919

well as what's going on with the

139
00:05:46,790 --> 00:05:44,479
microbiome on board space station you've

140
00:05:49,029 --> 00:05:46,800
got all these bacteria up here

141
00:05:51,029 --> 00:05:49,039
potentially that are living in a

142
00:05:53,430 --> 00:05:51,039
completely unique environment just like

143
00:05:56,390 --> 00:05:53,440
the humans are and assessing what's

144
00:05:58,870 --> 00:05:56,400
going on on the microbial level could be

145
00:06:00,629 --> 00:05:58,880
very fascinating if we're using genome

146
00:06:03,029 --> 00:06:00,639
technology

147
00:06:05,029 --> 00:06:03,039
well uh you know the spacex launch pad

148
00:06:06,629 --> 00:06:05,039
explosion is still pretty big news down

149
00:06:08,309 --> 00:06:06,639
here and i'm just wondering what were

150
00:06:09,189 --> 00:06:08,319
your thoughts when you saw the video of

151
00:06:14,550 --> 00:06:09,199
that

152
00:06:16,390 --> 00:06:14,560
station supply issues or might it even

153
00:06:18,550 --> 00:06:16,400
put a crimp on the research and getting

154
00:06:23,350 --> 00:06:18,560
things down like some of your

155
00:06:27,270 --> 00:06:25,590
yeah so space flight is a tricky

156
00:06:28,390 --> 00:06:27,280
business i mean it is definitely

157
00:06:31,110 --> 00:06:28,400
difficult

158
00:06:33,990 --> 00:06:31,120
and i think we forget that sometimes we

159
00:06:36,950 --> 00:06:34,000
see launches and landings as routine

160
00:06:39,510 --> 00:06:36,960
it's a huge amount of energy and

161
00:06:42,629 --> 00:06:39,520
dangerous substances and that work is

162
00:06:45,110 --> 00:06:42,639
very hard the spacex team is incredible

163
00:06:47,189 --> 00:06:45,120

they are working on recovering from this

164
00:06:50,469 --> 00:06:47,199
in terms of the research we actually

165
00:06:53,029 --> 00:06:50,479
have so much a buffer of research up

166
00:06:54,790 --> 00:06:53,039
here that we could go for quite a long

167
00:06:56,870 --> 00:06:54,800
time we have a lot of supplies and

168
00:06:59,189 --> 00:06:56,880
materials and

169
00:07:01,749 --> 00:06:59,199
right now more work than i have hours to

170
00:07:03,670 --> 00:07:01,759
do in the day so there's an incredible

171
00:07:05,589 --> 00:07:03,680
amount that we're doing on the space

172
00:07:08,469 --> 00:07:05,599
station that shouldn't be uh too

173
00:07:10,230 --> 00:07:08,479
strongly affected by the spacex incident

174
00:07:12,309 --> 00:07:10,240
well will some of your dna work be

175
00:07:14,550 --> 00:07:12,319
coming down on a dragon

176
00:07:16,469 --> 00:07:14,560
uh soon or you know whenever it does get

177
00:07:18,070 --> 00:07:16,479
back up there i mean how important is

178
00:07:19,749 --> 00:07:18,080
that to get down on the earth or is it

179
00:07:23,909 --> 00:07:19,759
just coming down real time all the data

180
00:07:27,189 --> 00:07:25,589
yeah so that's the incredible thing

181
00:07:29,510 --> 00:07:27,199
about the sequencer is that we're

182
00:07:31,749 --> 00:07:29,520
processing biological information up

183
00:07:34,230 --> 00:07:31,759
here but we're sending it down as ones

184
00:07:35,749 --> 00:07:34,240
and zeros so we're sending down just

185
00:07:38,230 --> 00:07:35,759
data and that's got all of the

186
00:07:40,390 --> 00:07:38,240
information that we need to do the

187
00:07:42,710 --> 00:07:40,400
experiments so we're not sending any

188
00:07:44,950 --> 00:07:42,720

samples back we're processing them in

189
00:07:47,749 --> 00:07:44,960
real time and really using the space

190
00:07:50,710 --> 00:07:47,759
station as a real-time laboratory for

191
00:07:52,790 --> 00:07:50,720
high-throughput genomics well great um

192
00:07:54,790 --> 00:07:52,800
and and one last question if i might

193
00:07:56,869 --> 00:07:54,800
elon musk is going to be making a major

194
00:07:59,749 --> 00:07:56,879
address next week in mexico about his

195
00:08:02,150 --> 00:07:59,759
plans for colonizing mars making humans

196
00:08:04,230 --> 00:08:02,160
a multi-planetary species

197
00:08:06,629 --> 00:08:04,240
and do you think you're going to be

198
00:08:07,589 --> 00:08:06,639
alive to see any of this come to light

199
00:08:09,110 --> 00:08:07,599
um

200
00:08:10,950 --> 00:08:09,120
you know it's nothing that's going to be

201
00:08:12,550 --> 00:08:10,960
happening anytime soon but that's that's

202
00:08:14,070 --> 00:08:12,560
his vision and

203
00:08:15,510 --> 00:08:14,080
i'm just wondering

204
00:08:17,110 --> 00:08:15,520
what you you know whether you think

205
00:08:21,189 --> 00:08:17,120
you'll live to see any of this come to

206
00:08:25,510 --> 00:08:23,589
absolutely i am very convinced this is

207
00:08:28,150 --> 00:08:25,520
going to happen in my lifetime

208
00:08:30,629 --> 00:08:28,160
i think it's incredibly exciting

209
00:08:31,589 --> 00:08:30,639
where spacex is going where nasa is

210
00:08:33,670 --> 00:08:31,599
going

211
00:08:34,709 --> 00:08:33,680
where all of the commercial crew efforts

212
00:08:36,790 --> 00:08:34,719
are going

213
00:08:39,029 --> 00:08:36,800

we're really looking to

214
00:08:41,110 --> 00:08:39,039
maintain station as an orbiting

215
00:08:42,870 --> 00:08:41,120
laboratory but we're also really pushing

216
00:08:46,230 --> 00:08:42,880
the boundaries in terms of where we're

217
00:08:48,870 --> 00:08:46,240
going forward with exploration i think

218
00:08:51,670 --> 00:08:48,880
humans are naturally driven to do this

219
00:08:53,670 --> 00:08:51,680
and this is really the beginning i think

220
00:08:55,990 --> 00:08:53,680
of human beings leaving low earth orbit

221
00:08:57,509 --> 00:08:56,000
i certainly plan on being around to see

222
00:08:58,870 --> 00:08:57,519
that

223
00:09:03,430 --> 00:08:58,880
what are your thoughts about going to

224
00:09:07,590 --> 00:09:05,990
i'd have to ask my husband first but i'd

225
00:09:09,350 --> 00:09:07,600
probably sign up

226
00:09:11,190 --> 00:09:09,360
in a second

227
00:09:13,829 --> 00:09:11,200
well listen thank you so much it's been

228
00:09:16,230 --> 00:09:13,839
a delight talking to you

229
00:09:18,630 --> 00:09:16,240
good luck god speed on the rest of your

230
00:09:22,389 --> 00:09:18,640
journey as long as it may last thank you

231
00:09:22,399 --> 00:09:26,790
absolutely thank you

232
00:09:30,790 --> 00:09:28,870
station this is houston acr that

233
00:09:31,910 --> 00:09:30,800
concludes the associated press portion

234
00:09:33,829 --> 00:09:31,920
of the event

235
00:09:38,870 --> 00:09:33,839
please stand by for a voice check from

236
00:09:38,880 --> 00:09:56,230
copy acr thank you

237
00:09:59,269 --> 00:09:57,350
okay

238
00:10:02,630 --> 00:09:59,279

station this is kgo tv how do you hear

239
00:10:07,590 --> 00:10:04,310
hey i've got you loud and clear how do

240
00:10:11,590 --> 00:10:10,069
i am ready to speak with you

241
00:10:13,750 --> 00:10:11,600
all right we are talking with napa

242
00:10:17,509 --> 00:10:13,760
resident and nasa astronaut kate rubin

243
00:10:19,750 --> 00:10:17,519
before she departs the ic iss heads back

244
00:10:21,590 --> 00:10:19,760
home here to the bay area kate good

245
00:10:25,350 --> 00:10:21,600
morning and thanks for joining us we're

246
00:10:32,310 --> 00:10:27,030
hey it's great to be talking to you from

247
00:10:35,829 --> 00:10:34,630
so uh you're coming back to the bay area

248
00:10:37,750 --> 00:10:35,839
you grew up in napa you're an

249
00:10:40,389 --> 00:10:37,760
inspiration for so many people around

250
00:10:42,150 --> 00:10:40,399
here tell us how it's going on the iss

251
00:10:43,269 --> 00:10:42,160
and are you even ready to come home

252
00:10:47,750 --> 00:10:43,279
would you like to stay there a little

253
00:10:51,509 --> 00:10:49,190
well i think the

254
00:10:54,230 --> 00:10:51,519
glimpses of the planet that we get every

255
00:10:56,790 --> 00:10:54,240
day out the window would never get old

256
00:10:58,710 --> 00:10:56,800
we i could do this for years probably

257
00:11:00,310 --> 00:10:58,720
and never want to leave space there are

258
00:11:02,630 --> 00:11:00,320
of course things that draw you back to

259
00:11:03,590 --> 00:11:02,640
the planet your friends your family your

260
00:11:06,150 --> 00:11:03,600
home

261
00:11:07,990 --> 00:11:06,160
every time i pass over california

262
00:11:09,990 --> 00:11:08,000
sometimes we've had a few passes from

263
00:11:12,790 --> 00:11:10,000

the north i look down the whole central

264
00:11:14,230 --> 00:11:12,800
valley and see san francisco and think

265
00:11:16,550 --> 00:11:14,240
it would be pretty nice to be there

266
00:11:18,150 --> 00:11:16,560
right now but we are enjoying space

267
00:11:19,670 --> 00:11:18,160
we're getting an incredible amount of

268
00:11:22,470 --> 00:11:19,680
work done up here

269
00:11:25,750 --> 00:11:22,480
for example today i just started a

270
00:11:28,550 --> 00:11:25,760
microbial monitoring system project

271
00:11:29,430 --> 00:11:28,560
took 200 pictures of chile

272
00:11:31,509 --> 00:11:29,440
and

273
00:11:33,190 --> 00:11:31,519
we got a lot of maintenance done on the

274
00:11:38,069 --> 00:11:33,200
space station so

275
00:11:42,630 --> 00:11:40,069
200 pictures of chile i think a lot of

276
00:11:44,470 --> 00:11:42,640
people would be right on board with you

277
00:11:45,829 --> 00:11:44,480
apart from the view what are some of

278
00:11:50,389 --> 00:11:45,839
your favorite things about being on the

279
00:11:55,269 --> 00:11:52,629
so i think for a scientist it's amazing

280
00:11:57,509 --> 00:11:55,279
to be an environment where all of the

281
00:12:01,110 --> 00:11:57,519
things that you normally would expect in

282
00:12:03,269 --> 00:12:01,120
daily life have completely changed so

283
00:12:05,269 --> 00:12:03,279
things like it's just it's totally

284
00:12:07,110 --> 00:12:05,279
normal to float upside down that doesn't

285
00:12:08,150 --> 00:12:07,120
bother me anymore

286
00:12:20,870 --> 00:12:08,160
i

287
00:12:22,710 --> 00:12:20,880
natural world completely get thrown out

288
00:12:27,829 --> 00:12:22,720

of order when you no longer have gravity

289
00:12:31,670 --> 00:12:29,750
some ordinary things must be difficult

290
00:12:37,030 --> 00:12:31,680
i'm looking at your ponytail and i wish

291
00:12:40,790 --> 00:12:39,110
tying my shoes was very difficult the

292
00:12:46,310 --> 00:12:40,800
first week i was here but you actually

293
00:12:49,430 --> 00:12:48,150
what are some of the things you are most

294
00:12:50,389 --> 00:12:49,440
anxious for and what's the first thing

295
00:12:54,790 --> 00:12:50,399
you're going to do when you get back

296
00:12:59,590 --> 00:12:57,269
well i have to say i miss vegetables a

297
00:13:01,990 --> 00:12:59,600
lot a nice salad would be excellent

298
00:13:04,389 --> 00:13:02,000
they're working on ways to grow plants

299
00:13:05,829 --> 00:13:04,399
in orbit and i'm extremely supportive of

300
00:13:08,150 --> 00:13:05,839
that effort

301
00:13:10,230 --> 00:13:08,160
i think there's a there's a

302
00:13:12,949 --> 00:13:10,240
a lot of things to be incredibly

303
00:13:15,910 --> 00:13:12,959
grateful for on the planet uh when when

304
00:13:18,949 --> 00:13:15,920
people are home but it's also just such

305
00:13:19,829 --> 00:13:18,959
an amazing and a special time up here

306
00:13:22,230 --> 00:13:19,839
that

307
00:13:25,030 --> 00:13:22,240
i'm i'm really just truly blessed to

308
00:13:27,269 --> 00:13:25,040
have this opportunity to see the planet

309
00:13:31,509 --> 00:13:27,279
from space and to do all of these

310
00:13:34,470 --> 00:13:33,269
and speaking of that since you are from

311
00:13:36,550 --> 00:13:34,480
the bay area

312
00:13:38,470 --> 00:13:36,560
it's not often especially for kids that

313
00:13:40,949 --> 00:13:38,480

they get to see someone from where they

314
00:13:43,110 --> 00:13:40,959
grew up go up into space so can you talk

315
00:13:45,350 --> 00:13:43,120
to them directly and

316
00:13:46,710 --> 00:13:45,360
you know especially girls young girls

317
00:13:51,189 --> 00:13:46,720
who may be interested in the science

318
00:13:55,910 --> 00:13:52,870
yeah i think for anybody that's

319
00:13:58,629 --> 00:13:55,920
interested in science my message is to

320
00:14:00,790 --> 00:13:58,639
pursue that absolutely i think a lot of

321
00:14:03,590 --> 00:14:00,800
times people say well science is

322
00:14:06,150 --> 00:14:03,600
difficult it's hard work it's uh it's a

323
00:14:09,030 --> 00:14:06,160
lot of work to major in science and or

324
00:14:11,430 --> 00:14:09,040
engineering in college and

325
00:14:13,269 --> 00:14:11,440
it is a lot of work it takes dedication

326
00:14:15,110 --> 00:14:13,279
and perseverance but it's also

327
00:14:17,670 --> 00:14:15,120
incredibly rewarding

328
00:14:20,310 --> 00:14:17,680
the thrill that you get of discovery

329
00:14:22,710 --> 00:14:20,320
the joy that every experiment brings i

330
00:14:25,110 --> 00:14:22,720
think it's a fascinating and an

331
00:14:26,150 --> 00:14:25,120
incredible career prospect for any young

332
00:14:28,150 --> 00:14:26,160
person

333
00:14:29,910 --> 00:14:28,160
so i would say to anybody

334
00:14:32,870 --> 00:14:29,920
that's in school that's growing up

335
00:14:35,829 --> 00:14:32,880
that's in california right now uh that

336
00:14:37,509 --> 00:14:35,839
they should go ahead and uh just go full

337
00:14:39,269 --> 00:14:37,519
steam ahead for whatever they're

338
00:14:44,790 --> 00:14:39,279

passionate about and you never know you

339
00:14:49,110 --> 00:14:46,710
do you have any plans here at least in

340
00:14:51,189 --> 00:14:49,120
san francisco in the bay area to reach

341
00:14:52,870 --> 00:14:51,199
out to some of those kids and

342
00:14:54,470 --> 00:14:52,880
talk to them about your experience there

343
00:14:58,710 --> 00:14:54,480
and maybe kind of encourage those young

344
00:15:02,870 --> 00:15:00,470
yes absolutely

345
00:15:05,829 --> 00:15:02,880
they're planning a lot of events in

346
00:15:07,670 --> 00:15:05,839
california and we actually just did a

347
00:15:10,310 --> 00:15:07,680
down link with my high school vintage

348
00:15:11,750 --> 00:15:10,320
high school in napa california so i

349
00:15:16,470 --> 00:15:11,760
think we'll definitely be seeing

350
00:15:20,550 --> 00:15:18,629
we certainly saw that and on that note

351
00:15:25,670 --> 00:15:20,560
do you want to send out a special shout

352
00:15:31,829 --> 00:15:28,230
well my entire family lives uh in the

353
00:15:34,150 --> 00:15:31,839
bay area either in davis uh or napa or

354
00:15:37,350 --> 00:15:34,160
in vallejo so i would like to say hello

355
00:15:42,949 --> 00:15:37,360
to my whole family and i look for you

356
00:15:48,069 --> 00:15:45,110
kate rubens great talking to you thank

357
00:15:51,910 --> 00:15:48,079
you have a wonderful trip home be safe

358
00:15:51,920 --> 00:15:56,069
thank you so much

359
00:16:02,550 --> 00:15:57,829
station this is houston acr that

360
00:16:08,470 --> 00:16:05,110
thanks acr

361
00:16:10,230 --> 00:16:08,480
thank you associated press and kgo tv