

1
00:00:04,169 --> 00:00:07,009
nothing

2
00:00:11,939 --> 00:00:17,289
we're live

3
00:00:14,199 --> 00:00:20,199
okay hello everybody hello everybody

4
00:00:17,289 --> 00:00:23,439
we're back this is our final hang up for

5
00:00:20,199 --> 00:00:24,759
the day at the 225th meeting American

6
00:00:23,439 --> 00:00:27,368
Astronomical Society my name is Tony

7
00:00:24,759 --> 00:00:29,550
Darnell I work at Space Telescope and so

8
00:00:27,368 --> 00:00:33,039
does my colleague carol christian she's

9
00:00:29,550 --> 00:00:34,570
we she is the we're still here we're

10
00:00:33,039 --> 00:00:35,920
still showing you what's going on and

11
00:00:34,570 --> 00:00:37,719
what we'd like to do every time this day

12
00:00:35,920 --> 00:00:39,250
is talk a little bit give you guys a

13
00:00:37,719 --> 00:00:40,750
recap of the meeting itself some of the

14
00:00:39,250 --> 00:00:42,308
things that we've learned in carol has

15
00:00:40,750 --> 00:00:44,558
gone around getting a bunch of swag so

16
00:00:42,308 --> 00:00:47,109
she's going to show you that as well we

17
00:00:44,558 --> 00:00:48,339
hope that you guys are enjoying these

18
00:00:47,109 --> 00:00:50,049
things we're doing giving them to you

19
00:00:48,340 --> 00:00:53,590
i'm not monitoring comments or questions

20
00:00:50,049 --> 00:00:55,869
at this point because our colleague has

21
00:00:53,590 --> 00:00:57,310
had to go do something else so let's go

22
00:00:55,869 --> 00:01:00,219
ahead and a service with Carol okay

23
00:00:57,310 --> 00:01:03,900
first of all the rundown today there was

24
00:01:00,219 --> 00:01:06,819
a big emphasis actually on education

25
00:01:03,899 --> 00:01:08,469
astronomers love to talk about what they

26
00:01:06,819 --> 00:01:11,559
do and they love to be involved in

27
00:01:08,469 --> 00:01:13,359
education so there are many posters and

28
00:01:11,560 --> 00:01:18,429
presentations about education with

29

00:01:13,359 --> 00:01:21,879
astronomy and as usual there were also a

30
00:01:18,429 --> 00:01:24,879
lot of talks on exoplanet research and

31
00:01:21,879 --> 00:01:26,589
also a couple of press releases and so

32
00:01:24,879 --> 00:01:28,060
one of the press releases was from the

33
00:01:26,590 --> 00:01:30,789
Kepler project and they were talking

34
00:01:28,060 --> 00:01:34,030
about how they've been of course looking

35
00:01:30,789 --> 00:01:36,519
they've upped the number of planet

36
00:01:34,030 --> 00:01:40,358
candidates to something like 4,700 oh

37
00:01:36,519 --> 00:01:43,688
wow yeah and they have a handful that

38
00:01:40,358 --> 00:01:45,458
are earth-like so we've got some super

39
00:01:43,688 --> 00:01:47,288
Earths they're in the right place called

40
00:01:45,459 --> 00:01:49,450
the habitable zone so they're in the

41
00:01:47,289 --> 00:01:52,149
right place to have water so of course

42
00:01:49,450 --> 00:01:55,590
follow-up observations will be done and

43
00:01:52,149 --> 00:01:58,269

in fact there was another presentation

44

00:01:55,590 --> 00:02:00,849

it was another present sorry there was

45

00:01:58,269 --> 00:02:06,069

another presentation that was about

46

00:02:00,849 --> 00:02:09,368

follow up on on planets and and they are

47

00:02:06,069 --> 00:02:11,949

looking for the confirmation of the size

48

00:02:09,368 --> 00:02:14,050

and the atmospheres and they think they

49

00:02:11,949 --> 00:02:16,089

have another one that might have be kind

50

00:02:14,050 --> 00:02:18,069

of like an earth-like planet

51

00:02:16,090 --> 00:02:20,140

but it's not confirmed but it's just a

52

00:02:18,068 --> 00:02:21,369

teaser so that was that your press

53

00:02:20,139 --> 00:02:23,529

release there's a difference between

54

00:02:21,370 --> 00:02:27,009

when you say up the couplers got a bun

55

00:02:23,530 --> 00:02:28,150

is up the number of panic experts what

56

00:02:27,009 --> 00:02:30,848

is it what does that mean exact that

57

00:02:28,150 --> 00:02:35,709

means that they have analyzed the data

58
00:02:30,848 --> 00:02:38,439
carefully and they have 4,700 object

59
00:02:35,709 --> 00:02:42,310
stars that have a brightness change

60
00:02:38,439 --> 00:02:44,530
which could be due to a planet so then

61
00:02:42,310 --> 00:02:47,199
after that they have to continue to

62
00:02:44,530 --> 00:02:51,068
monitor and the reason that it takes so

63
00:02:47,199 --> 00:02:53,229
long to continue getting candidates is

64
00:02:51,068 --> 00:02:56,859
that when Kepler first started it stares

65
00:02:53,229 --> 00:03:00,280
at one part of the sky only and in the

66
00:02:56,860 --> 00:03:02,890
first year they could detect planets

67
00:03:00,280 --> 00:03:05,079
that went around their parent star

68
00:03:02,889 --> 00:03:06,639
fairly rapidly so they'd see it many

69
00:03:05,079 --> 00:03:09,489
times because you have to see it many

70
00:03:06,639 --> 00:03:11,439
times before you say yeah it's

71
00:03:09,489 --> 00:03:14,049
repeatable looks like it could be a

72
00:03:11,439 --> 00:03:16,539
planet but now it's been in orbit for

73
00:03:14,049 --> 00:03:19,299
four years and so they're starting to

74
00:03:16,539 --> 00:03:21,939
detect planets that are further out that

75
00:03:19,299 --> 00:03:24,069
have probably gone round like only a

76
00:03:21,939 --> 00:03:26,680
couple of times so the longer they're up

77
00:03:24,068 --> 00:03:28,689
there then the planet state detector

78
00:03:26,680 --> 00:03:30,700
further and further from the parent star

79
00:03:28,689 --> 00:03:33,848
and then we use ground-based and

80
00:03:30,699 --> 00:03:36,280
space-based telescopes to then go back

81
00:03:33,848 --> 00:03:38,560
and look at those objects and see if

82
00:03:36,280 --> 00:03:42,159
they can detect the planet itself its

83
00:03:38,560 --> 00:03:43,299
atmosphere or do deeper observations and

84
00:03:42,159 --> 00:03:44,799
it's important to remember also that

85
00:03:43,299 --> 00:03:46,689
this is the Kepler date Kepler has

86

00:03:44,799 --> 00:03:48,129
completed its main mission yes and this

87
00:03:46,689 --> 00:03:50,560
this is data they're still going through

88
00:03:48,129 --> 00:03:53,680
and coming up with even more candidates

89
00:03:50,560 --> 00:03:56,530
now and Kepler uses the radio Vlad sorry

90
00:03:53,680 --> 00:03:58,480
the transit transit method to detect

91
00:03:56,530 --> 00:04:00,129
these dips and brightness as a planet

92
00:03:58,479 --> 00:04:01,810
goes in front that's this primary way of

93
00:04:00,129 --> 00:04:03,400
doing it and from that they can get

94
00:04:01,810 --> 00:04:05,139
things like the size of the planet and

95
00:04:03,400 --> 00:04:06,730
whether or not might have an atmosphere

96
00:04:05,139 --> 00:04:07,319
or not as well as how far away it might

97
00:04:06,729 --> 00:04:09,358
be from

98
00:04:07,318 --> 00:04:11,658
right so the things they can learn from

99
00:04:09,359 --> 00:04:15,450
that so other things that go on besides

100
00:04:11,658 --> 00:04:16,829

the reporting of research posters which

101

00:04:15,449 --> 00:04:19,709

we talked about today was a big

102

00:04:16,829 --> 00:04:22,978

education poster day is that we have

103

00:04:19,709 --> 00:04:24,959

these town hall groupings where we talk

104

00:04:22,978 --> 00:04:26,788

about that astronomers get together talk

105

00:04:24,959 --> 00:04:29,939

about the facility so we're having a

106

00:04:26,788 --> 00:04:32,098

Hubble town hall on thursday tonight

107

00:04:29,939 --> 00:04:35,728

we're having a James Webb telescope Town

108

00:04:32,098 --> 00:04:37,500

Hall which I'll be recording but I won't

109

00:04:35,728 --> 00:04:40,139

be streaming it'll be posted later on

110

00:04:37,500 --> 00:04:42,060

our website later on so we had one today

111

00:04:40,139 --> 00:04:43,199

on the ground-based observatories

112

00:04:42,060 --> 00:04:44,970

because there are many ground-based

113

00:04:43,199 --> 00:04:46,710

observatories and what new

114

00:04:44,970 --> 00:04:48,599

instrumentation are being put on that

115
00:04:46,709 --> 00:04:50,969
some pretty exciting stuff they're doing

116
00:04:48,598 --> 00:04:54,360
some large surveys from the ground and

117
00:04:50,970 --> 00:04:56,130
they're also doing some spectroscopy

118
00:04:54,360 --> 00:04:58,620
which they can do know that the

119
00:04:56,129 --> 00:05:00,870
advantage of ground-based observatory is

120
00:04:58,620 --> 00:05:03,389
that in a couple of years you can build

121
00:05:00,870 --> 00:05:06,269
a brand new brand new instrument with

122
00:05:03,389 --> 00:05:09,150
new technology and and pretty large

123
00:05:06,269 --> 00:05:11,069
format so they can be heavier than the

124
00:05:09,149 --> 00:05:12,569
stuff we put in space read last night

125
00:05:11,069 --> 00:05:14,699
remember they had the thirty meter

126
00:05:12,569 --> 00:05:17,519
telescope never had I've had a big

127
00:05:14,699 --> 00:05:21,720
banquet kind of thing The Meters really

128
00:05:17,519 --> 00:05:24,508
big really big hardware big pieces of

129
00:05:21,720 --> 00:05:27,139
glass and big instrumentation but

130
00:05:24,509 --> 00:05:31,288
another thing I wanted to share with you

131
00:05:27,139 --> 00:05:36,060
that is a feature of these meetings as

132
00:05:31,288 --> 00:05:39,598
all trade shows and meetings is fun

133
00:05:36,060 --> 00:05:42,329
stuff which is that you can pick up at

134
00:05:39,598 --> 00:05:47,250
the various booths around the room that

135
00:05:42,329 --> 00:05:50,098
reminds you of different kinds of of the

136
00:05:47,250 --> 00:05:51,249
different organizations that are here so

137
00:05:50,098 --> 00:05:57,009
this

138
00:05:51,249 --> 00:05:58,959
Oh 45 minutes in one anyway this this

139
00:05:57,009 --> 00:06:00,669
piece of schwag is actually from a

140
00:05:58,959 --> 00:06:03,699
little company called Eureka that

141
00:06:00,668 --> 00:06:06,988
supports research and astronomy oh here

142
00:06:03,699 --> 00:06:06,989
we go it makes noise too

143

00:06:09,360 --> 00:06:19,210
so it's science on top okay that's

144
00:06:15,790 --> 00:06:22,629
enough so then so there's there's also

145
00:06:19,209 --> 00:06:24,519
an unlimited quantity of handouts so

146
00:06:22,629 --> 00:06:27,790
there are business cards there are these

147
00:06:24,519 --> 00:06:31,180
kind of cards this one happens to be

148
00:06:27,790 --> 00:06:32,770
about spectroscopy education there's

149
00:06:31,180 --> 00:06:35,139
also what was that I saw that I don't

150
00:06:32,769 --> 00:06:37,089
know this here but this thing is really

151
00:06:35,139 --> 00:06:39,490
cool you should get one Tony you put it

152
00:06:37,089 --> 00:06:43,418
around the handle on your briefcase or

153
00:06:39,490 --> 00:06:45,490
Oh luggage because no one else has these

154
00:06:43,418 --> 00:06:47,469
so it's really easy for me to find my

155
00:06:45,490 --> 00:06:50,259
luggage and it has the name of the

156
00:06:47,470 --> 00:06:54,030
organization Associated university so

157
00:06:50,259 --> 00:06:57,339

there's what that was it first Microsoft

158

00:06:54,029 --> 00:07:03,699

had the red and blue 3d glasses that you

159

00:06:57,339 --> 00:07:08,439

can use worldwide telescope we have pins

160

00:07:03,699 --> 00:07:13,569

we have our HST and our jwst pins as his

161

00:07:08,439 --> 00:07:16,360

as well there's also bookmarks are fun

162

00:07:13,569 --> 00:07:18,969

because they're cute but also because

163

00:07:16,360 --> 00:07:20,979

they give you lots of information about

164

00:07:18,970 --> 00:07:23,289

the organization that made the bookmark

165

00:07:20,978 --> 00:07:25,329

so there's educational stuff this is a

166

00:07:23,288 --> 00:07:27,909

digital library there are books

167

00:07:25,329 --> 00:07:30,250

companies there's that stuff there are

168

00:07:27,910 --> 00:07:32,590

stickers what's it say you want you your

169

00:07:30,250 --> 00:07:35,228

Pluto the year on Pluto this is the year

170

00:07:32,589 --> 00:07:36,989

that as you as you as you all smart

171

00:07:35,228 --> 00:07:39,728

people know and have been following that

172
00:07:36,990 --> 00:07:40,990
there's a probe going to Pluto it's

173
00:07:39,728 --> 00:07:43,329
going to be out there pretty soon

174
00:07:40,990 --> 00:07:45,370
looking at Pluto and this is an

175
00:07:43,329 --> 00:07:49,029
advertisement for that mission you can

176
00:07:45,370 --> 00:07:51,550
collect probably a thousand stickers

177
00:07:49,029 --> 00:07:54,519
from the various places or admissions

178
00:07:51,550 --> 00:07:56,650
yeah I got a w first one this is post at

179
00:07:54,519 --> 00:08:01,180
notes for a ground-based telescope that

180
00:07:56,649 --> 00:08:03,939
will be depressing come online large

181
00:08:01,180 --> 00:08:05,620
synoptic survey telescope also the

182
00:08:03,939 --> 00:08:06,480
astrophysics data system which does

183
00:08:05,620 --> 00:08:09,840
public

184
00:08:06,480 --> 00:08:13,230
patient's there's a screen cleaner for

185
00:08:09,839 --> 00:08:19,339
your iphone there's a key ring from

186
00:08:13,230 --> 00:08:26,370
Hawaii which has a surfboard their pens

187
00:08:19,339 --> 00:08:29,849
there's candy there's mac nuts mmm more

188
00:08:26,370 --> 00:08:31,829
pins chocolate is my favorite more pens

189
00:08:29,850 --> 00:08:34,409
oh yeah this year is very popular to

190
00:08:31,829 --> 00:08:36,600
have you can have it in almost any color

191
00:08:34,409 --> 00:08:39,839
you can think of from every organization

192
00:08:36,600 --> 00:08:42,389
and sure enough they put their logo on

193
00:08:39,840 --> 00:08:46,950
it so when you charge your phone you

194
00:08:42,389 --> 00:08:49,529
won't forget them and I think I think

195
00:08:46,950 --> 00:08:51,450
well I have more chocolate egg like lots

196
00:08:49,529 --> 00:08:56,990
of chocolate there's other kinds of food

197
00:08:51,450 --> 00:09:02,550
and last but not least sorry is also a

198
00:08:56,990 --> 00:09:05,100
lighted pen which changes color which if

199
00:09:02,549 --> 00:09:08,069
you still use pencil and paper or

200

00:09:05,100 --> 00:09:10,620
post-it notes if you still use pencil

201
00:09:08,070 --> 00:09:12,660
and paper so anyway oh yeah and then a

202
00:09:10,620 --> 00:09:14,340
pencil I don't even know where there is

203
00:09:12,659 --> 00:09:19,529
a pencil for you see that first night

204
00:09:14,340 --> 00:09:22,500
you would you have a bright pencil from

205
00:09:19,529 --> 00:09:24,659
from era sebo so that's pretty much the

206
00:09:22,500 --> 00:09:26,970
swag I collected and let me tell you

207
00:09:24,659 --> 00:09:29,569
this only tip of the iceberg and it's

208
00:09:26,970 --> 00:09:32,190
only a little bit of the paper and

209
00:09:29,570 --> 00:09:34,080
postcards that I that I picked up I mean

210
00:09:32,190 --> 00:09:36,990
I could have like a bucket load this

211
00:09:34,080 --> 00:09:40,379
stuff anyway have at it today writer

212
00:09:36,990 --> 00:09:41,940
today Tony yep your job is cut out for

213
00:09:40,379 --> 00:09:44,879
you yeah so i've got i'll be doing the

214
00:09:41,940 --> 00:09:48,030

James Webb Space Telescope town hall

215

00:09:44,879 --> 00:09:49,470

tonight that'll be at six-thirty pacific

216

00:09:48,029 --> 00:09:50,579

time i'll be recording that and posting

217

00:09:49,470 --> 00:09:52,290

it sometime on youtube that's where

218

00:09:50,580 --> 00:09:53,670

everybody's giving everybody updates on

219

00:09:52,289 --> 00:09:58,349

what's going on with the mission

220

00:09:53,669 --> 00:10:00,750

and stuff tomorrow we'll be back so we

221

00:09:58,350 --> 00:10:01,980

hope you'll join us and what we did with

222

00:10:00,750 --> 00:10:04,740

Carolyn i'll be back at three thirty two

223

00:10:01,980 --> 00:10:06,570

morrow pacific time to talk about some

224

00:10:04,740 --> 00:10:08,039

we're having a science workshop tomorrow

225

00:10:06,570 --> 00:10:09,990

afternoon and we'll be talking about

226

00:10:08,039 --> 00:10:11,429

some of the highlights of that we'll

227

00:10:09,990 --> 00:10:13,950

have people from that as well as doing

228

00:10:11,429 --> 00:10:16,919

another recap in the morning tomorrow

229

00:10:13,950 --> 00:10:19,490
will be a hangout over to northrop

230

00:10:16,919 --> 00:10:21,929
grumman booth we will have a w first and

231

00:10:19,490 --> 00:10:24,120
evolvable Space Telescope's hang out

232

00:10:21,929 --> 00:10:26,489
with the people involved can't wait for

233

00:10:24,120 --> 00:10:28,320
that way that'll be fine yeah I agree so

234

00:10:26,490 --> 00:10:29,879
with that folks thank you for watching

235

00:10:28,320 --> 00:10:32,670
we're done for today we'll see you

236

00:10:29,879 --> 00:10:35,090
tomorrow and Carolyn line signing off as

237

00:10:32,669 --> 00:10:35,089
always