

HUBBLE
25



HUBBLE

hangouts

Hubble Hangouts Live at AAS 225

#11: Hubble 25 Anniversary Kickoff!

Thursday, Jan 8, 2014, 3:30pm PST, 11:30pm UT, 12:30am (Fri) CET

1
00:00:10,250 --> 00:00:06,440
too hello everybody and welcome to the

2
00:00:11,629 --> 00:00:10,260
our final hubble hangout for the 225th

3
00:00:13,879 --> 00:00:11,639
meeting of the american astronomical

4
00:00:15,169 --> 00:00:13,889
society my name is Tony Darnell I work

5
00:00:17,269 --> 00:00:15,179
at the Space Telescope Science Institute

6
00:00:20,240 --> 00:00:17,279
in with me as dr. carol christian the

7
00:00:27,800 --> 00:00:20,250
hubble outreach scientists we are at the

8
00:00:30,019 --> 00:00:27,810
end all finally and then hi Albert it's

9
00:00:31,820 --> 00:00:30,029
only away or some late so that's all

10
00:00:33,290 --> 00:00:31,830
right he was taking a nap we are this

11
00:00:35,690 --> 00:00:33,300
has been some meeting hasn't it guys I

12
00:00:38,810 --> 00:00:35,700
mean this has been no Thursday's are

13
00:00:40,250 --> 00:00:38,820

always the most you just try to work to

14

00:00:43,040 --> 00:00:40,260

get through it because our the by then

15

00:00:44,630 --> 00:00:43,050

you're just exhausted saying goodbyes to

16

00:00:47,450 --> 00:00:44,640

the people you've seen and having less

17

00:00:51,590 --> 00:00:47,460

meetings and being bugged by Carol to

18

00:00:54,139 --> 00:00:51,600

get out of the meeting you know yeah so

19

00:00:55,340 --> 00:00:54,149

anyway this this will be our last this

20

00:00:57,529 --> 00:00:55,350

will be our last hang out like I said

21

00:00:59,029 --> 00:00:57,539

for the meeting and to sort of cap

22

00:01:00,920 --> 00:00:59,039

everything off what we thought we'd do

23

00:01:03,590 --> 00:01:00,930

is we have dr. and restaurant from NASA

24

00:01:06,170 --> 00:01:03,600

headquarters to join us and sort of help

25

00:01:08,450 --> 00:01:06,180

us talk a little bit about the we've

26
00:01:11,149 --> 00:01:08,460
kind of used this meeting as a launching

27
00:01:12,649 --> 00:01:11,159
point for this beginning of our

28
00:01:14,270 --> 00:01:12,659
celebration for Hubble's 25th

29
00:01:16,640 --> 00:01:14,280
anniversary and we have a lot of things

30
00:01:19,370 --> 00:01:16,650
planned in today's Hubble Town Hall

31
00:01:21,800 --> 00:01:19,380
amber gave a really good discussion or

32
00:01:23,060 --> 00:01:21,810
talk on some of our activities what's

33
00:01:26,030 --> 00:01:23,070
been planned and what we're doing and

34
00:01:27,170 --> 00:01:26,040
how you guys can get involved Carol and

35
00:01:30,319 --> 00:01:27,180
I are also going to be doing a lot of

36
00:01:33,050 --> 00:01:30,329
Hubble hangouts that our 25th specific

37
00:01:34,520 --> 00:01:33,060
you notice about certain topics that

38
00:01:37,249 --> 00:01:34,530

we'll be announcing also on our on our

39

00:01:38,480 --> 00:01:37,259

website so i guess amber let's let's

40

00:01:39,770 --> 00:01:38,490

talk a little bit about we know what are

41

00:01:42,469 --> 00:01:39,780

what are we trying to accomplish here

42

00:01:45,800 --> 00:01:42,479

and what are some of the activities we

43

00:01:46,940 --> 00:01:45,810

have planned well i guess you know

44

00:01:49,550 --> 00:01:46,950

generally what we're trying to

45

00:01:52,100 --> 00:01:49,560

accomplish is I mean Hubble is awesome

46

00:01:54,170 --> 00:01:52,110

everybody loves Hubble and 25th

47

00:01:56,030 --> 00:01:54,180

anniversary is a huge milestone and so

48

00:01:59,060 --> 00:01:56,040

we just want to use this unique

49

00:02:04,010 --> 00:01:59,070

opportunity in time to use this year

50

00:02:05,690 --> 00:02:04,020

2015 to celebrate hubble hubble has you

51
00:02:08,300 --> 00:02:05,700
know changed the way that we as

52
00:02:09,859 --> 00:02:08,310
scientists understand the universe

53
00:02:12,130 --> 00:02:09,869
but even more fundamentally than that

54
00:02:16,339 --> 00:02:12,140
Hubble has changed the way that people

55
00:02:18,170 --> 00:02:16,349
view space so it's had such a huge

56
00:02:21,170 --> 00:02:18,180
cultural impact that we want to

57
00:02:23,540 --> 00:02:21,180
celebrate that fact so so yeah we have a

58
00:02:27,400 --> 00:02:23,550
whole lot of things planned for this

59
00:02:31,000 --> 00:02:27,410
year a lot of it involves social media

60
00:02:33,650 --> 00:02:31,010
and in traditional media as well but

61
00:02:36,380 --> 00:02:33,660
we'll use social media as a platform to

62
00:02:39,170 --> 00:02:36,390
get all of you involved and then we also

63
00:02:43,160 --> 00:02:39,180

have lots of sort of specific you know

64

00:02:46,520 --> 00:02:43,170

events at specific places as well and we

65

00:02:49,130 --> 00:02:46,530

have tons of information on we have a

66

00:02:52,160 --> 00:02:49,140

brand new website Hubble 25th or Kabul

67

00:02:54,250 --> 00:02:52,170

25 th org and then on social media of

68

00:02:59,059 --> 00:02:54,260

course you can follow the hashtag

69

00:03:01,240 --> 00:02:59,069

hashtag Kabul 25 yeah um but then some

70

00:03:03,259 --> 00:03:01,250

so specific I'll just mention just a few

71

00:03:05,630 --> 00:03:03,269

events and things that we have plan

72

00:03:08,360 --> 00:03:05,640

because we have literally entire year of

73

00:03:10,789 --> 00:03:08,370

things planned so wow there's a lot

74

00:03:12,170 --> 00:03:10,799

going on but we're going to have a big

75

00:03:14,360 --> 00:03:12,180

event at the National Air and Space

76
00:03:17,479 --> 00:03:14,370
Museum on the launch anniversary april

77
00:03:20,210 --> 00:03:17,489
twenty fourth and this is going to be

78
00:03:22,190 --> 00:03:20,220
just a celebratory of it but of course

79
00:03:24,340 --> 00:03:22,200
not everybody lives in Washington DC so

80
00:03:27,590 --> 00:03:24,350
what we're going to do is we're going to

81
00:03:29,479 --> 00:03:27,600
webcast it on NASA TV and we're hoping

82
00:03:32,660 --> 00:03:29,489
that different science centers planetary

83
00:03:35,660 --> 00:03:32,670
I universities can can take the webcast

84
00:03:38,059 --> 00:03:35,670
and do their own sort of events and how

85
00:03:40,819 --> 00:03:38,069
bold birthday parties around around that

86
00:03:42,590 --> 00:03:40,829
webcast from the event in DC so that's

87
00:03:46,059 --> 00:03:42,600
one example one big thing we have

88
00:03:49,640 --> 00:03:46,069

planned and then we have things planned

89

00:03:51,110 --> 00:03:49,650

also at at at science centers and planet

90

00:03:53,449 --> 00:03:51,120

area across the country we have a

91

00:03:58,099 --> 00:03:53,459

traveling exhibit based on Hubble 25

92

00:04:02,090 --> 00:03:58,109

there's yes yes that's a big one and so

93

00:04:04,309 --> 00:04:02,100

if you haven't seen hubble 3d we're

94

00:04:09,830 --> 00:04:04,319

going to their imax is releasing it in

95

00:04:13,400 --> 00:04:09,840

in april of this year so right right

96

00:04:15,920 --> 00:04:13,410

exactly right almost everyone has seen

97

00:04:17,160 --> 00:04:15,930

it but if you haven't go see it again in

98

00:04:18,720 --> 00:04:17,170

april at your imax

99

00:04:21,960 --> 00:04:18,730

and they're they're going to release it

100

00:04:23,760 --> 00:04:21,970

so that's going to be awesome and um Wow

101
00:04:25,770 --> 00:04:23,770
yeah it's just it's almost overwhelming

102
00:04:28,470 --> 00:04:25,780
there's so much going on and there's

103
00:04:29,670 --> 00:04:28,480
yeah and we've got like it so we'll be

104
00:04:31,890 --> 00:04:29,680
announcing all of these things on

105
00:04:34,830 --> 00:04:31,900
Twitter using the Hubble 25 hashtag

106
00:04:36,660 --> 00:04:34,840
we'll also be posting on the Hubble 25th

107
00:04:41,480 --> 00:04:36,670
org side that's have to remember that

108
00:04:44,520 --> 00:04:41,490
part no yeah I guess Hubble 25 org

109
00:04:46,260 --> 00:04:44,530
anyway so that's where the the epicenter

110
00:04:48,540 --> 00:04:46,270
of all this information will be kept and

111
00:04:50,010 --> 00:04:48,550
we hope you'll join in I mean we were

112
00:04:51,270 --> 00:04:50,020
just talking before we started I guess

113
00:04:53,040 --> 00:04:51,280

you're going to be we're going to be

114

00:04:56,010 --> 00:04:53,050

asking for people who are like getting

115

00:04:57,540 --> 00:04:56,020

get you know celebrating their 25th

116

00:04:59,730 --> 00:04:57,550

wedding anniversary to get involved

117

00:05:02,820 --> 00:04:59,740

people who were born on the day of

118

00:05:07,530 --> 00:05:02,830

Hubble by now would be 25 years old

119

00:05:10,920 --> 00:05:07,540

right the the Hubble thank you I'm so

120

00:05:14,010 --> 00:05:10,930

glad I could do the math they would be

121

00:05:15,540 --> 00:05:14,020

25 and so I think what was that what was

122

00:05:19,320 --> 00:05:15,550

the thing about the graduate student

123

00:05:23,130 --> 00:05:19,330

somebody there was a suggestion that we

124

00:05:26,130 --> 00:05:23,140

hunt for an astronomy graduate student

125

00:05:27,270 --> 00:05:26,140

or post doc who was born on the day and

126

00:05:30,180 --> 00:05:27,280

so we're talking to NASA headquarters

127

00:05:32,010 --> 00:05:30,190

about how to celebrate that I also

128

00:05:34,710 --> 00:05:32,020

wanted to mention that we did a hangout

129

00:05:36,540 --> 00:05:34,720

from the intrepid museum and that's one

130

00:05:38,760 --> 00:05:36,550

of the places that has a great exhibit

131

00:05:41,460 --> 00:05:38,770

and if you'd like a sneak preview and

132

00:05:44,370 --> 00:05:41,470

see what Mike Massimino the astronaut

133

00:05:46,200 --> 00:05:44,380

says about it check our Hubble hangout

134

00:05:47,790 --> 00:05:46,210

archive because you'll get a little

135

00:05:49,620 --> 00:05:47,800

snippet and boy I'll tell you that

136

00:05:51,990 --> 00:05:49,630

convinced me I've got to go up there and

137

00:05:55,560 --> 00:05:52,000

see it so it's a really beautiful

138

00:05:57,690 --> 00:05:55,570

exhibit very well done so the the

139

00:05:59,130 --> 00:05:57,700

easiest way to see all of our Hubble

140

00:06:01,290 --> 00:05:59,140

hangouts is to go to our YouTube channel

141

00:06:02,790 --> 00:06:01,300

Hubble site channel and I there's a

142

00:06:04,350 --> 00:06:02,800

playlist I maintained with all of our

143

00:06:06,360 --> 00:06:04,360

hangouts on it and that was the one we

144

00:06:08,760 --> 00:06:06,370

did it was december it was middle to

145

00:06:10,830 --> 00:06:08,770

December right yeah it was just one of

146

00:06:12,060 --> 00:06:10,840

the one of them yeah it was the in fact

147

00:06:14,430 --> 00:06:12,070

it was the last one we did before we

148

00:06:15,930 --> 00:06:14,440

took our Christmas break so I definitely

149

00:06:18,180 --> 00:06:15,940

check that out and if you're in New York

150

00:06:20,310 --> 00:06:18,190

definitely go what about you Alberta how

151
00:06:21,750 --> 00:06:20,320
are you going to celebrate Hubble's 25th

152
00:06:23,790 --> 00:06:21,760
anniversary going to be in Baltimore

153
00:06:25,740 --> 00:06:23,800
right hopefully i will be in baltimore

154
00:06:28,380 --> 00:06:25,750
literally come on i'm gonna i'm going to

155
00:06:29,399 --> 00:06:28,390
be hunting down astronomers i get 100

156
00:06:33,229 --> 00:06:29,409
games how's that

157
00:06:36,629 --> 00:06:33,239
we do that no i'm just kidding no no no

158
00:06:38,609 --> 00:06:36,639
no no no I think we can all celebrate

159
00:06:40,379 --> 00:06:38,619
this it's a milestone for astronomy in

160
00:06:42,629 --> 00:06:40,389
general I think it's not just for you

161
00:06:44,309 --> 00:06:42,639
know for for Hubble I mean as amber said

162
00:06:46,079 --> 00:06:44,319
you know 25 years of revolutionary

163
00:06:47,249 --> 00:06:46,089

science we saw something today for

164

00:06:49,409 --> 00:06:47,259

example you know the first lens

165

00:06:50,519 --> 00:06:49,419

supernova for example we saw incredible

166

00:06:53,279 --> 00:06:50,529

things today so I think it's a

167

00:06:54,809 --> 00:06:53,289

celebration of in general of what our

168

00:06:56,939 --> 00:06:54,819

place in the cosmos if you will I think

169

00:06:58,290 --> 00:06:56,949

so it's going to be in tremendous set of

170

00:07:01,350 --> 00:06:58,300

events with amber I'm going to be in

171

00:07:05,549 --> 00:07:01,360

South by Southwest on a panel oh and

172

00:07:07,139 --> 00:07:05,559

Carol will be I will be there too as

173

00:07:08,969 --> 00:07:07,149

well have a big presence there so we're

174

00:07:11,459 --> 00:07:08,979

going to celebrate you know again in

175

00:07:13,439 --> 00:07:11,469

this almost consider this you know I

176
00:07:14,819 --> 00:07:13,449
know it was a few years ago perhaps the

177
00:07:16,709 --> 00:07:14,829
year of astronomy or something but this

178
00:07:19,439 --> 00:07:16,719
is a it's a grand year celebration I

179
00:07:21,509 --> 00:07:19,449
think a while we have you know become

180
00:07:22,979 --> 00:07:21,519
such a far you know so far and we have a

181
00:07:25,529 --> 00:07:22,989
demonstration on how far we come behind

182
00:07:27,029 --> 00:07:25,539
us right yeah we're sitting in fact a

183
00:07:28,350 --> 00:07:27,039
lot of people are saying their goodbyes

184
00:07:29,549 --> 00:07:28,360
in front of it you see people taking

185
00:07:31,169 --> 00:07:29,559
pictures and they're interviewing

186
00:07:33,809 --> 00:07:31,179
there's other interviews going on over

187
00:07:35,219 --> 00:07:33,819
there too but this is the fat image of

188
00:07:37,559 --> 00:07:35,229

the Andromeda galaxy that we showed you

189

00:07:40,889 --> 00:07:37,569

earlier in the week various yeah cuz it

190

00:07:42,629 --> 00:07:40,899

goes way way down the wall there but we

191

00:07:43,829 --> 00:07:42,639

took and that by the way that hangout

192

00:07:48,089 --> 00:07:43,839

got a lot of use a lot of people were

193

00:07:49,679 --> 00:07:48,099

watching so it's a really they would go

194

00:07:51,029 --> 00:07:49,689

into really good detail we had a

195

00:07:52,829 --> 00:07:51,039

microsoft touch screen where we could

196

00:07:55,379 --> 00:07:52,839

zoom in on it and everything else so it

197

00:07:57,119 --> 00:07:55,389

was really kind of nice so amber let's

198

00:07:58,919 --> 00:07:57,129

see you said all throughout the year is

199

00:08:00,809 --> 00:07:58,929

gonna come and culminate though on the

200

00:08:02,759 --> 00:08:00,819

twenty-fourth right right so that's

201
00:08:04,709 --> 00:08:02,769
that's sort of the apex of everything we

202
00:08:06,779 --> 00:08:04,719
have going on is April 24th because

203
00:08:08,159 --> 00:08:06,789
that's the launch anniversary but all

204
00:08:11,100 --> 00:08:08,169
through the year we're sort of going to

205
00:08:12,749 --> 00:08:11,110
be ramping up things up until up until

206
00:08:13,679 --> 00:08:12,759
that date and then throughout the rest

207
00:08:17,189 --> 00:08:13,689
of the year they're going to be things

208
00:08:18,839 --> 00:08:17,199
going on as well so yeah that April is

209
00:08:21,239 --> 00:08:18,849
definitely going to be the the busy fun

210
00:08:22,949 --> 00:08:21,249
month and then leading up to that and

211
00:08:24,779 --> 00:08:22,959
then following off from that as well

212
00:08:27,989 --> 00:08:24,789
well all year long there's going to be

213
00:08:29,219 --> 00:08:27,999

stuff going on help us celebrate it if

214

00:08:31,559 --> 00:08:29,229

you've got any ideas things you'd like

215

00:08:33,719 --> 00:08:31,569

to see tweet at us using Hubble 25 will

216

00:08:35,279 --> 00:08:33,729

be reading at amber and I monitor that

217

00:08:37,110 --> 00:08:35,289

hashtag all the time so definitely let

218

00:08:38,819 --> 00:08:37,120

us know and I was going to mention a

219

00:08:40,829 --> 00:08:38,829

couple of people at this meeting came to

220

00:08:42,380 --> 00:08:40,839

us and asked about the images we have

221

00:08:44,780 --> 00:08:42,390

besides this image we are

222

00:08:46,670 --> 00:08:44,790

number of images from Hubble displayed

223

00:08:48,620 --> 00:08:46,680

in the hallways in the conference center

224

00:08:50,960 --> 00:08:48,630

and they were asking if they could have

225

00:08:52,700 --> 00:08:50,970

those and we will have on the 25th

226

00:08:54,110 --> 00:08:52,710

anniversary website that Amber was

227

00:08:56,360 --> 00:08:54,120

talking about we're going to have

228

00:08:58,910 --> 00:08:56,370

instructions and the files how you can

229

00:09:01,400 --> 00:08:58,920

down you can make your own exhibit you

230

00:09:03,860 --> 00:09:01,410

can make one of these two but you can

231

00:09:05,630 --> 00:09:03,870

use some of the other Hubble in it it's

232

00:09:07,880 --> 00:09:05,640

not going to be that costly so it'll be

233

00:09:09,680 --> 00:09:07,890

it'll be nice if you want to go ahead

234

00:09:11,510 --> 00:09:09,690

and make your own exhibit in your in

235

00:09:14,510 --> 00:09:11,520

your own locale and that would be a

236

00:09:16,280 --> 00:09:14,520

great forum for doing some events with

237

00:09:18,500 --> 00:09:16,290

the web casting that will be going on

238

00:09:20,630 --> 00:09:18,510

and having a birthday party is amber

239

00:09:22,760 --> 00:09:20,640

said that's right so amber there's a

240

00:09:27,050 --> 00:09:22,770

question on YouTube for you hold on what

241

00:09:33,430 --> 00:09:27,060

what is it Elena from Christina Thomson

242

00:09:40,640 --> 00:09:33,440

hi Christina we know her we know her

243

00:09:42,020 --> 00:09:40,650

amber in your opinion what is the

244

00:09:44,050 --> 00:09:42,030

greatest contribution that Hubble is

245

00:09:46,310 --> 00:09:44,060

made to science in your opinion knob

246

00:09:53,180 --> 00:09:46,320

Christina that's all you really put her

247

00:09:55,820 --> 00:09:53,190

on yeah that's hard yeah that man that

248

00:09:58,880 --> 00:09:55,830

that is so that is difficult so I would

249

00:10:01,250 --> 00:09:58,890

say first of all from a cultural sense I

250

00:10:04,460 --> 00:10:01,260

think just the the impact that Hubble

251
00:10:07,910 --> 00:10:04,470
has had on culture on people that aren't

252
00:10:10,460 --> 00:10:07,920
scientists is for me probably the most

253
00:10:12,470 --> 00:10:10,470
impressive the most striking thing I

254
00:10:16,550 --> 00:10:12,480
mean the fact that you see hubble images

255
00:10:18,650 --> 00:10:16,560
and movies and you know in their books

256
00:10:21,500 --> 00:10:18,660
there's poetry and about Hubble and that

257
00:10:23,720 --> 00:10:21,510
you see hubble hubble images on on

258
00:10:26,450 --> 00:10:23,730
clothing on you know in fashion runways

259
00:10:28,070 --> 00:10:26,460
the Hubble is infiltrated sort of every

260
00:10:30,290 --> 00:10:28,080
corner of our culture and I think that's

261
00:10:34,430 --> 00:10:30,300
awesome and it just speaks to the

262
00:10:36,410 --> 00:10:34,440
significance of of the mission so I love

263
00:10:39,020 --> 00:10:36,420

that from a scientific standpoint that's

264

00:10:40,190 --> 00:10:39,030

tough if I had to pick my favourite

265

00:10:42,470 --> 00:10:40,200

Hubble image it will probably be the

266

00:10:44,450 --> 00:10:42,480

Hubble Ultra Deep Field and just I mean

267

00:10:45,860 --> 00:10:44,460

it's just well first of all that image

268

00:10:48,860 --> 00:10:45,870

came out the first version of it when I

269

00:10:51,440 --> 00:10:48,870

was in grad school so I did my I did my

270

00:10:54,420 --> 00:10:51,450

dissertation research on the Hubble

271

00:10:58,590 --> 00:10:54,430

Ultra Deep Field hahaha

272

00:11:00,720 --> 00:10:58,600

yeah but that that image is just it it

273

00:11:02,160 --> 00:11:00,730

it's a blow your mind kind of image

274

00:11:05,220 --> 00:11:02,170

because when you think about how tiny

275

00:11:07,410 --> 00:11:05,230

that piece of sky is on or the the piece

276

00:11:09,269 --> 00:11:07,420

the images on the sky it's just this

277

00:11:11,820 --> 00:11:09,279

teeny tiny little patch of sky and there

278

00:11:14,100 --> 00:11:11,830

you see 10,000 galaxies it's just it's

279

00:11:16,980 --> 00:11:14,110

wonderful it's beautiful it it makes you

280

00:11:21,120 --> 00:11:16,990

expand your mind so earlier this week

281

00:11:22,829 --> 00:11:21,130

when we did the m16 hang out one of the

282

00:11:25,290 --> 00:11:22,839

things that got tweeted while we were

283

00:11:28,260 --> 00:11:25,300

doing that hangout was a guy had a

284

00:11:32,220 --> 00:11:28,270

tattoo of the of the nebula on his arm

285

00:11:33,329 --> 00:11:32,230

and he that was the tweet that was that

286

00:11:35,010 --> 00:11:33,339

was what the tweet said he goes well I

287

00:11:36,780 --> 00:11:35,020

guess I have to change this now and he

288

00:11:38,760 --> 00:11:36,790

sent a picture of the tattoo I thought

289

00:11:42,720 --> 00:11:38,770

it was awesome so yeah it has really

290

00:11:46,680 --> 00:11:42,730

reached yeah so it has it yeah you

291

00:11:48,660 --> 00:11:46,690

definitely go so go ahead but so that's

292

00:11:50,400 --> 00:11:48,670

I guess that's you know pretty much it

293

00:11:51,930 --> 00:11:50,410

with the Hubble 25 stuff if you want

294

00:11:54,480 --> 00:11:51,940

like I said let us know your ideas and

295

00:11:56,040 --> 00:11:54,490

thoughts interact with us in with

296

00:11:57,300 --> 00:11:56,050

twitter or on facebook if you haven't

297

00:11:58,320 --> 00:11:57,310

subscribe to our youtube channel you

298

00:11:59,970 --> 00:11:58,330

better get that over there and do it

299

00:12:00,930 --> 00:11:59,980

because that's where all this stuff is

300

00:12:02,820 --> 00:12:00,940

going to get posted a lot of our

301
00:12:04,140 --> 00:12:02,830
activities are going to be seen so we

302
00:12:06,420 --> 00:12:04,150
hope that you'll subscribe to our

303
00:12:09,210 --> 00:12:06,430
YouTube Hubble site channel is what it

304
00:12:10,470 --> 00:12:09,220
is one thing which is actually it's kind

305
00:12:13,230 --> 00:12:10,480
of important I think to all of us which

306
00:12:15,300 --> 00:12:13,240
is that Hubble 25 the university would

307
00:12:17,760 --> 00:12:15,310
be an opportunity if you had never been

308
00:12:20,070 --> 00:12:17,770
exposed to something like this to Hubble

309
00:12:22,440 --> 00:12:20,080
to to do the recap obviously right but

310
00:12:24,810 --> 00:12:22,450
also to think about the future you know

311
00:12:26,430 --> 00:12:24,820
kind of other the unanswered questions

312
00:12:27,690 --> 00:12:26,440
the Hubble is but up at the last 25

313
00:12:29,400 --> 00:12:27,700

years you know so we're going to talk

314

00:12:31,740 --> 00:12:29,410

for sure the subway Southwest but across

315

00:12:32,790 --> 00:12:31,750

the year about his scientific successor

316

00:12:34,710 --> 00:12:32,800

the hell was the james webb space

317

00:12:36,870 --> 00:12:34,720

telescope but also talk about you know

318

00:12:39,210 --> 00:12:36,880

the really fundamental questions are

319

00:12:40,620 --> 00:12:39,220

still opening astronomy that you know we

320

00:12:43,340 --> 00:12:40,630

were ahead and we had a hanger with

321

00:12:47,010 --> 00:12:43,350

magarri earlier and we were thinking it

322

00:12:49,230 --> 00:12:47,020

was good yes where we thought what we

323

00:12:51,630 --> 00:12:49,240

thought you know that you know maybe in

324

00:12:52,560 --> 00:12:51,640

the 1990s we knew everything we wanted

325

00:12:53,850 --> 00:12:52,570

to know we were looking for the

326

00:12:55,980 --> 00:12:53,860

deceleration of universe there's a

327

00:12:58,019 --> 00:12:55,990

fossil day and so so there are lots of

328

00:13:00,240 --> 00:12:58,029

questions to Hubble as left an answer

329

00:13:03,090 --> 00:13:00,250

and I think the excitement to me is also

330

00:13:05,460 --> 00:13:03,100

to celebrate 25 years or incredible

331

00:13:07,170 --> 00:13:05,470

resources open new doors I think to what

332

00:13:07,600 --> 00:13:07,180

we will do over the over the next 25

333

00:13:10,120 --> 00:13:07,610

years

334

00:13:12,009 --> 00:13:10,130

right right and Ken Sandbach in the NASA

335

00:13:14,590 --> 00:13:12,019

tower in that Hubble Town Hall that we

336

00:13:15,940 --> 00:13:14,600

that he did earlier today and I'll that

337

00:13:17,829 --> 00:13:15,950

will be posted by the way next week on

338

00:13:20,199 --> 00:13:17,839

our youtube channel made a good made a

339

00:13:22,690 --> 00:13:20,209

point about reaching out to the

340

00:13:25,540 --> 00:13:22,700

scientific community to ask them what is

341

00:13:26,980 --> 00:13:25,550

the best way to use Hubble going forward

342

00:13:28,240 --> 00:13:26,990

what are the what are the kinds of

343

00:13:30,280 --> 00:13:28,250

things that we should be doing with

344

00:13:32,680 --> 00:13:30,290

Hubble because it does have a finite

345

00:13:34,750 --> 00:13:32,690

life and so that's something that I

346

00:13:36,100 --> 00:13:34,760

think looking forward and is it going to

347

00:13:37,900 --> 00:13:36,110

be doing obviously they want to keep

348

00:13:39,639 --> 00:13:37,910

overlap with James Webb when it launches

349

00:13:41,079 --> 00:13:39,649

to I was just gonna ask Carol actually

350

00:13:45,100 --> 00:13:41,089

if I may because kerala is being

351
00:13:47,259 --> 00:13:45,110
involved with this yeah she knows almost

352
00:13:48,790 --> 00:13:47,269
i mean i will have all so actually you

353
00:13:50,440 --> 00:13:48,800
know falling I don't wanna so now

354
00:13:52,569 --> 00:13:50,450
following something that is uh that

355
00:13:54,730 --> 00:13:52,579
fault fell from the question that we had

356
00:13:56,230 --> 00:13:54,740
for from Christina guess so what are the

357
00:13:58,090 --> 00:13:56,240
biggest changes you have seen in your

358
00:14:01,990 --> 00:13:58,100
career guests that have been brought by

359
00:14:04,329 --> 00:14:02,000
by Hubble I guess well a couple of

360
00:14:07,180 --> 00:14:04,339
things the first thing is it's pretty

361
00:14:10,660 --> 00:14:07,190
amazing to actually look at images like

362
00:14:13,930 --> 00:14:10,670
the m16 and other objects that were we

363
00:14:16,960 --> 00:14:13,940

were looking yesterday at some images

364

00:14:18,819 --> 00:14:16,970

that were taken around 1995-1996 of

365

00:14:22,060 --> 00:14:18,829

Saturn we thought they were like

366

00:14:24,730 --> 00:14:22,070

shockingly amazing and then now we're

367

00:14:26,829 --> 00:14:24,740

looking at the newer advanced camera for

368

00:14:28,480 --> 00:14:26,839

surveys images so it's it's just things

369

00:14:31,569 --> 00:14:28,490

like that how the instrumentation has

370

00:14:34,360 --> 00:14:31,579

changed the other thing about the Hubble

371

00:14:37,569 --> 00:14:34,370

Deep Field which I agree was very

372

00:14:39,699 --> 00:14:37,579

dramatic besides the fact that the data

373

00:14:42,579 --> 00:14:39,709

is so amazing it actually changed the

374

00:14:44,920 --> 00:14:42,589

way astronomers started to think about

375

00:14:47,380 --> 00:14:44,930

doing astronomy because that data was

376

00:14:49,540 --> 00:14:47,390

made public right away and then all of a

377

00:14:52,180 --> 00:14:49,550

sudden people were applying to use other

378

00:14:55,170 --> 00:14:52,190

ground and space-based telescopes to

379

00:14:57,880 --> 00:14:55,180

observe that field so the next time we

380

00:15:00,699 --> 00:14:57,890

announced a field like that people had

381

00:15:03,009 --> 00:15:00,709

already put in requests to get data and

382

00:15:05,500 --> 00:15:03,019

were prepared with data from other

383

00:15:08,740 --> 00:15:05,510

telescopes when the Hubble data arrived

384

00:15:11,650 --> 00:15:08,750

and so a lot of collaborations arose

385

00:15:13,090 --> 00:15:11,660

that ordinarily wouldn't have if that

386

00:15:16,840 --> 00:15:13,100

observation had below

387

00:15:19,090 --> 00:15:16,850

long to just one team so that's another

388

00:15:21,460 --> 00:15:19,100

thing which I think was not only our

389

00:15:23,260 --> 00:15:21,470

understanding of the universe and the

390

00:15:25,600 --> 00:15:23,270

idea that now we're doing this frontier

391

00:15:27,670 --> 00:15:25,610

fields I mean it kind of is a path to go

392

00:15:30,070 --> 00:15:27,680

there is that it changed a little bit

393

00:15:34,450 --> 00:15:30,080

the way astronomers started to interact

394

00:15:36,190 --> 00:15:34,460

about these big fields so I think that

395

00:15:38,800 --> 00:15:36,200

the change in the telescope the fact

396

00:15:40,630 --> 00:15:38,810

that the telescope is really we think

397

00:15:43,630 --> 00:15:40,640

that the telescope's only five years old

398

00:15:46,270 --> 00:15:43,640

because it had all this equipment and

399

00:15:49,900 --> 00:15:46,280

instrumentation put on it in 2009 and

400

00:15:52,510 --> 00:15:49,910

also we can see how it has changed over

401
00:15:55,030 --> 00:15:52,520
time and also how astronomers have

402
00:15:57,850 --> 00:15:55,040
changed the way they are using the data

403
00:16:00,400 --> 00:15:57,860
to understand like the acceleration of

404
00:16:03,550 --> 00:16:00,410
the universe in much greater detail so

405
00:16:07,360 --> 00:16:03,560
the it really shows the value of having

406
00:16:09,970 --> 00:16:07,370
the telescope stable improving it and

407
00:16:12,730 --> 00:16:09,980
then having it around for 25 years so

408
00:16:15,700 --> 00:16:12,740
several generations of people can use it

409
00:16:16,930 --> 00:16:15,710
for amazing research yeah and I like the

410
00:16:18,790 --> 00:16:16,940
things that are going on right now with

411
00:16:20,140 --> 00:16:18,800
Hubble are very exciting or like you

412
00:16:22,690 --> 00:16:20,150
said the frontier fields which is taking

413
00:16:24,370 --> 00:16:22,700

that concept of a deep field the deep

414

00:16:26,740 --> 00:16:24,380

what the Hubble Deep fields were and

415

00:16:28,270 --> 00:16:26,750

seeing asking the question is it like

416

00:16:30,730 --> 00:16:28,280

this everywhere they're looking at six

417

00:16:32,740 --> 00:16:30,740

other fields and trying to end doing the

418

00:16:34,390 --> 00:16:32,750

same thing really looking very very

419

00:16:36,310 --> 00:16:34,400

deeply back into the universe so I think

420

00:16:38,110 --> 00:16:36,320

with as far as what's going on right now

421

00:16:39,790 --> 00:16:38,120

Hubble is still added it sits at the top

422

00:16:41,560 --> 00:16:39,800

of its game and I Carol said it's only

423

00:16:43,030 --> 00:16:41,570

five years old as far as you know the

424

00:16:44,800 --> 00:16:43,040

stuff goes and it's don't it's a brand

425

00:16:48,820 --> 00:16:44,810

new telescope essentially so that's

426

00:16:52,380 --> 00:16:48,830

really cool so this meeting it's been

427

00:16:55,240 --> 00:16:52,390

amazing so what do you guys and

428

00:16:56,980 --> 00:16:55,250

exhausting very very tiring so we

429

00:16:58,690 --> 00:16:56,990

usually do a recap at the end of the day

430

00:16:59,890 --> 00:16:58,700

but we're because we have to pack up and

431

00:17:01,600 --> 00:16:59,900

leave and get it where it's going to go

432

00:17:03,070 --> 00:17:01,610

ahead and give it why don't you guys

433

00:17:04,570 --> 00:17:03,080

give a give your thoughts on what you

434

00:17:05,680 --> 00:17:04,580

thought the meeting was like and what

435

00:17:07,440 --> 00:17:05,690

you got out of it what are some of the

436

00:17:10,240 --> 00:17:07,450

highlights I'll start with you amber

437

00:17:13,390 --> 00:17:10,250

yeah it was it's this meeting is always

438

00:17:16,060 --> 00:17:13,400

so busy and their talks going on all day

439

00:17:18,640 --> 00:17:16,070

and too many talks going on at once you

440

00:17:20,740 --> 00:17:18,650

can't go to all of them so um it's it's

441

00:17:22,120 --> 00:17:20,750

great it's a it's a huge meeting it's

442

00:17:25,300 --> 00:17:22,130

the biggest meeting of astronomers that

443

00:17:26,069 --> 00:17:25,310

there is and so yeah it's been it's been

444

00:17:28,110 --> 00:17:26,079

a really good

445

00:17:32,850 --> 00:17:28,120

and there's been some really great

446

00:17:34,799 --> 00:17:32,860

science sessions and yeah just lots of

447

00:17:37,860 --> 00:17:34,809

seeing seeing old friends old colleagues

448

00:17:39,690 --> 00:17:37,870

and grad school buddies those sorts of

449

00:17:41,759 --> 00:17:39,700

things so yeah it's been a really great

450

00:17:43,560 --> 00:17:41,769

meeting and I think Hubble's had a

451
00:17:45,810 --> 00:17:43,570
pretty good representation here when you

452
00:17:48,389 --> 00:17:45,820
say Carl yeah absolutely very good

453
00:17:49,649 --> 00:17:48,399
representation lots of things that

454
00:17:52,440 --> 00:17:49,659
didn't show up of course and press

455
00:17:54,149 --> 00:17:52,450
releases posters talks all that kind of

456
00:17:55,889 --> 00:17:54,159
thing another thing I wanted to talk

457
00:18:00,360 --> 00:17:55,899
about a little bit is that thinking back

458
00:18:02,399 --> 00:18:00,370
to when I was a graduate student a

459
00:18:06,419 --> 00:18:02,409
million years ago and I know you were in

460
00:18:08,399 --> 00:18:06,429
kindergarten that went you know when you

461
00:18:10,740 --> 00:18:08,409
were looking for a job you came in Great

462
00:18:12,600 --> 00:18:10,750
Terror and your your advisor shoved you

463
00:18:14,789 --> 00:18:12,610

into a session and you gave a 10 minute

464

00:18:16,379 --> 00:18:14,799

talking you you you hoped that you

465

00:18:18,570 --> 00:18:16,389

didn't really totally screw it up so

466

00:18:20,639 --> 00:18:18,580

that someday you'd get a job I was

467

00:18:22,500 --> 00:18:20,649

really impressed with how much career

468

00:18:25,169 --> 00:18:22,510

advice there was at this meeting there

469

00:18:26,820 --> 00:18:25,179

were sessions all the time and there

470

00:18:28,680 --> 00:18:26,830

were people there's a job centre which

471

00:18:30,779 --> 00:18:28,690

we usually have but there were sessions

472

00:18:32,669 --> 00:18:30,789

every day talking about how you build

473

00:18:34,919 --> 00:18:32,679

your resume how do you do an interview

474

00:18:36,570 --> 00:18:34,929

just all kinds of things and I didn't

475

00:18:38,070 --> 00:18:36,580

get to go to any of those but every time

476

00:18:40,560 --> 00:18:38,080

I walked around the hall looked in the

477

00:18:42,690 --> 00:18:40,570

sessions you know there were people in

478

00:18:45,539 --> 00:18:42,700

industry helping we had a booth all

479

00:18:47,639 --> 00:18:45,549

kinds of career fair and job advice

480

00:18:49,860 --> 00:18:47,649

which i think is fabulous because it is

481

00:18:52,889 --> 00:18:49,870

a meeting like this is pretty terrifying

482

00:18:54,930 --> 00:18:52,899

if you're brand new and it's like oh my

483

00:18:58,200 --> 00:18:54,940

gosh what should i do so I was very very

484

00:18:59,970 --> 00:18:58,210

impressed with that that that effort was

485

00:19:02,639 --> 00:18:59,980

made yeah and I just want to say that

486

00:19:06,950 --> 00:19:02,649

I'm Alberto wins the meeting because he

487

00:19:10,700 --> 00:19:06,960

has the most he has the most yeah

488

00:19:12,320 --> 00:19:10,710

he's all those merit badges no I was I

489

00:19:14,419 --> 00:19:12,330

was going to actually say exactly what

490

00:19:16,909 --> 00:19:14,429

Carol pointed out I was involved in

491

00:19:18,889 --> 00:19:16,919

doing the career meaning it this was in

492

00:19:20,419 --> 00:19:18,899

two ways was quite remarkable one the

493

00:19:23,210 --> 00:19:20,429

amount of advice that were given to this

494

00:19:25,190 --> 00:19:23,220

young kids that can be frankly if we are

495

00:19:26,899 --> 00:19:25,200

they they are certainly overwhelmed by

496

00:19:28,700 --> 00:19:26,909

the entire meeting but then the second

497

00:19:30,950 --> 00:19:28,710

thing i was i saw this lightning talks

498

00:19:33,919 --> 00:19:30,960

this five-minute talks and i have to say

499

00:19:36,019 --> 00:19:33,929

the quality of the talks is unbelievably

500

00:19:38,240 --> 00:19:36,029

has grown unbelievably over the last few

501
00:19:39,980 --> 00:19:38,250
years and they're not smart but they

502
00:19:43,070 --> 00:19:39,990
present well they were there they're

503
00:19:44,180 --> 00:19:43,080
very articulate thoughts very well and I

504
00:19:46,279 --> 00:19:44,190
remember when I was a graduate student

505
00:19:48,440 --> 00:19:46,289
he not going you know presented to these

506
00:19:50,299 --> 00:19:48,450
meetings the hardest part there there's

507
00:19:51,710 --> 00:19:50,309
the thing I was thinking of you know

508
00:19:53,659 --> 00:19:51,720
what scared me the most was answering

509
00:19:55,250 --> 00:19:53,669
these questions and these guys are

510
00:19:56,930 --> 00:19:55,260
experts I was unbelievable to answer

511
00:19:58,549 --> 00:19:56,940
these squares are questions you know in

512
00:20:00,289 --> 00:19:58,559
a very very professional way and I think

513
00:20:03,680 --> 00:20:00,299

it shows that we're maturing as a field

514

00:20:06,260 --> 00:20:03,690

and it's beautiful to watch so it that

515

00:20:09,500 --> 00:20:06,270

with that I guess we'll call it will all

516

00:20:11,630 --> 00:20:09,510

end up in the Hangout i would like to i

517

00:20:12,980 --> 00:20:11,640

would like to get you guys as input on

518

00:20:14,950 --> 00:20:12,990

what you thought about these hangouts so

519

00:20:17,090 --> 00:20:14,960

would you please if you have some

520

00:20:18,350 --> 00:20:17,100

comments or that you'd like to give us

521

00:20:19,610 --> 00:20:18,360

her feedback on these hangouts did you

522

00:20:21,260 --> 00:20:19,620

get anything out did you like it would

523

00:20:25,430 --> 00:20:21,270

we do something more that we're not

524

00:20:26,810 --> 00:20:25,440

doing did you like Carol's jacket I do I

525

00:20:33,830 --> 00:20:26,820

think it's beautiful this is a great

526

00:20:35,570 --> 00:20:33,840

jacket and it's a giant punk and if you

527

00:20:37,190 --> 00:20:35,580

would do that via the Hubble hang out

528

00:20:39,320 --> 00:20:37,200

hashtag will see that on Twitter we're

529

00:20:41,330 --> 00:20:39,330

monitoring that all the time so if you

530

00:20:43,580 --> 00:20:41,340

if you tweet idiot anything you'd like

531

00:20:45,409 --> 00:20:43,590

to see differently or things that we're

532

00:20:47,990 --> 00:20:45,419

not doing that you'd like to see in the

533

00:20:49,730 --> 00:20:48,000

future let us know Carol and I will be

534

00:20:52,700 --> 00:20:49,740

doing our regular be back to our regular

535

00:20:56,539 --> 00:20:52,710

schedule next week on Thursdays at three

536

00:20:58,279 --> 00:20:56,549

o'clock eastern time and I think we're

537

00:21:01,639 --> 00:20:58,289

the next hangout we have scheduled us

538

00:21:03,889 --> 00:21:01,649

with Massimo Massimo Steve le right yes

539

00:21:06,200 --> 00:21:03,899

okay and he will be he will be talking

540

00:21:09,110 --> 00:21:06,210

about some of the science of jwst now I

541

00:21:10,490 --> 00:21:09,120

know it's a hubble hang out but we want

542

00:21:12,320 --> 00:21:10,500

to all where you need to we need to

543

00:21:15,320 --> 00:21:12,330

it'll be talk about science in general

544

00:21:16,460 --> 00:21:15,330

and how Hubble can also contribute to

545

00:21:18,289 --> 00:21:16,470

that as well so there'll be a Hubble

546

00:21:19,879 --> 00:21:18,299

component so that'll be next week we'll

547

00:21:20,630 --> 00:21:19,889

see you guys there thank you guys for

548

00:21:21,910 --> 00:21:20,640

watching and

549

00:21:24,500 --> 00:21:21,920

thank you guys for being a mai-mai

550

00:21:28,340 --> 00:21:24,510

hangouts for all these times and yeah

551

00:21:30,460 --> 00:21:28,350

and keep looking up okay so you took my

552

00:21:37,250 --> 00:21:30,470

tagline thank you guys for watching