

AbGradCon 2019
Science Communication Panel

1
00:00:00,240 --> 00:00:10,839

[Music]

2
00:00:17,540 --> 00:00:14,839

we're gonna start here with our science

3
00:00:19,460 --> 00:00:17,550

communication panel so we have these

4
00:00:21,920 --> 00:00:19,470

lovely four people sitting up front

5
00:00:24,050 --> 00:00:21,930

we're all involved in science community

6
00:00:25,970 --> 00:00:24,060

science communication in one way or

7
00:00:27,980 --> 00:00:25,980

another and I've taken time out of their

8
00:00:30,530 --> 00:00:27,990

busy schedules to come and talk to you

9
00:00:32,720 --> 00:00:30,540

today so I hope you all have some really

10
00:00:33,979 --> 00:00:32,730

great questions for them this is gonna

11
00:00:38,689 --> 00:00:33,989

kind of be like an interactive

12
00:00:41,169 --> 00:00:38,699

discussion with these guys so feel free

13
00:00:46,099 --> 00:00:41,179

to ask them any questions you have and

14

00:00:50,060 --> 00:00:46,109

are interested in so starting here first

15

00:00:52,880 --> 00:00:50,070

we have Jamie Jamie is at the Great Salt

16

00:00:55,759 --> 00:00:52,890

Lake Institute she is a researcher and

17

00:00:59,739 --> 00:00:55,769

educator and then we have Aubree who is

18

00:01:03,860 --> 00:00:59,749

a genetic counselor Gary sorry Audrey

19

00:01:08,000 --> 00:01:03,870

hey it's the old it's an older name now

20

00:01:09,320 --> 00:01:08,010

Aubrey's cool but um she's a genetic

21

00:01:11,990 --> 00:01:09,330

counselor here at the University of Utah

22

00:01:14,270 --> 00:01:12,000

and created science on tap which is a

23

00:01:17,390 --> 00:01:14,280

really cool local program where she

24

00:01:20,900 --> 00:01:17,400

reaches out to scientists and they come

25

00:01:23,210 --> 00:01:20,910

in and they speak at a local bar and

26
00:01:26,030 --> 00:01:23,220
then we have Danielle who is a science

27
00:01:28,280 --> 00:01:26,040
writer and Carrie Shaw who's a

28
00:01:31,640 --> 00:01:28,290
correctional officer who's involved with

29
00:01:35,180 --> 00:01:31,650
the inspire program which that nei is

30
00:01:37,010 --> 00:01:35,190
involved in a little bit and it's this

31
00:01:39,320 --> 00:01:37,020
really neat program that was developed

32
00:01:43,970 --> 00:01:39,330
by a professor here at the University of

33
00:01:46,760 --> 00:01:43,980
Utah and what that program does is bring

34
00:01:48,500 --> 00:01:46,770
a researcher into some of the local

35
00:01:50,780 --> 00:01:48,510
jails and they give a talk about their

36
00:01:53,810 --> 00:01:50,790
research to the inmates and I think it's

37
00:01:57,170 --> 00:01:53,820
a really unique interesting program okay

38
00:02:21,820 --> 00:01:57,180

so I'm gonna hand this microphone off

39

00:02:25,010 --> 00:02:21,830

then okay okay can y'all hear me I love

40

00:02:27,050 --> 00:02:25,020

meeting new people so I hang out with a

41

00:02:28,580 --> 00:02:27,060

lot of undergraduate students at

42

00:02:32,510 --> 00:02:28,590

Westminster College that's where Great

43

00:02:35,480 --> 00:02:32,520

Salt Lake Institute is based and do you

44

00:02:39,890 --> 00:02:35,490

know novel science communication like in

45

00:02:41,150 --> 00:02:39,900

bars or in schools I get to talk to so

46

00:02:43,430 --> 00:02:41,160

many different people with so many

47

00:02:46,880 --> 00:02:43,440

different perspectives that kind of

48

00:02:49,550 --> 00:02:46,890

helps like widen my scope of like why

49

00:02:53,320 --> 00:02:49,560

I'm doing things and really what I'm

50

00:02:56,449 --> 00:02:53,330

doing so just I think that diversity

51
00:03:03,110 --> 00:02:56,459
yeah and to kind of piggyback off of

52
00:03:06,920 --> 00:03:03,120
that I am a genetics person genetics

53
00:03:09,199 --> 00:03:06,930
nerd of sorts but my day job is to talk

54
00:03:10,970 --> 00:03:09,209
to families who have children with

55
00:03:13,040 --> 00:03:10,980
genetic conditions and to try to

56
00:03:15,710 --> 00:03:13,050
communicate really important information

57
00:03:17,870 --> 00:03:15,720
to them but that's often really complex

58
00:03:23,479 --> 00:03:17,880
if you've ever tried to discuss

59
00:03:26,300 --> 00:03:23,489
methylation of a gene to a person who

60
00:03:28,100 --> 00:03:26,310
maybe hasn't even gone to college or

61
00:03:30,590 --> 00:03:28,110
graduated high school it's very

62
00:03:33,949 --> 00:03:30,600
difficult but very pertinent to their

63
00:03:36,710 --> 00:03:33,959

child's health and their care and so

64

00:03:38,300 --> 00:03:36,720

through my job I got really passionate

65

00:03:40,340 --> 00:03:38,310

about science communication because I

66

00:03:41,539 --> 00:03:40,350

could see the day-to-day effects of

67

00:03:43,130 --> 00:03:41,549

being able to communicate this

68

00:03:46,580 --> 00:03:43,140

information to people who otherwise

69

00:03:49,970 --> 00:03:46,590

don't have access and see how that

70

00:03:52,070 --> 00:03:49,980

impacts their lives and often it helps

71

00:03:54,729 --> 00:03:52,080

them make really important decisions in

72

00:03:58,070 --> 00:03:54,739

their lives so being able to communicate

73

00:04:00,470 --> 00:03:58,080

difficult or complex information to

74

00:04:03,110 --> 00:04:00,480

people who otherwise aren't invited to

75

00:04:04,550 --> 00:04:03,120

the party which it often feels like to

76

00:04:06,000 --> 00:04:04,560

the general public that they're not

77

00:04:08,910 --> 00:04:06,010

invited to the science

78

00:04:10,559 --> 00:04:08,920

it's kind of like we're kind of off you

79

00:04:14,339 --> 00:04:10,569

know in the clouds a little bit and

80

00:04:16,710 --> 00:04:14,349

they're mulling around down on earth and

81

00:04:23,790 --> 00:04:16,720

to kind of bring them invite them to the

82

00:04:30,659 --> 00:04:23,800

parties what I get excited about can

83

00:04:33,330 --> 00:04:30,669

y'all hear me yes okay yeah I would plus

84

00:04:38,879 --> 00:04:33,340

one I really like talking to strangers

85

00:04:40,290 --> 00:04:38,889

and that's a journalist that's a really

86

00:04:42,000 --> 00:04:40,300

good excuse and particularly with

87

00:04:43,860 --> 00:04:42,010

science writing you know as I started

88

00:04:45,659 --> 00:04:43,870

out as a general assignment reporter and

89

00:04:50,460 --> 00:04:45,669

realized science is a lot more fun to

90

00:04:53,460 --> 00:04:50,470

cover than the school board so for me

91

00:04:55,110 --> 00:04:53,470

you know so much of what y'all do is is

92

00:04:56,879 --> 00:04:55,120

really incremental and then I just get

93

00:04:59,850 --> 00:04:56,889

this whoop in right when something cool

94

00:05:04,469 --> 00:04:59,860

has been discovered and I hope not dumb

95

00:05:05,640 --> 00:05:04,479

it down but and I guess to the question

96

00:05:08,540 --> 00:05:05,650

of what I like about science

97

00:05:11,790 --> 00:05:08,550

communication it's that challenge of

98

00:05:13,980 --> 00:05:11,800

making the work that folks like y'all do

99

00:05:16,200 --> 00:05:13,990

accessible to a broader audience in a

100

00:05:18,810 --> 00:05:16,210

way that doesn't sabotage the nuance in

101

00:05:20,670 --> 00:05:18,820

the meaning of it which is forever a

102

00:05:23,250 --> 00:05:20,680

balancing accident I hope we can talk

103

00:05:24,659 --> 00:05:23,260

about that some of the next hour but for

104

00:05:28,770 --> 00:05:24,669

me it's it's something that I find

105

00:05:29,940 --> 00:05:28,780

really gratifying and particularly you

106

00:05:32,430 --> 00:05:29,950

know when I first learned about

107

00:05:35,219 --> 00:05:32,440

astrobiology I was at triple-a s just

108

00:05:36,719 --> 00:05:35,229

trying to find spots and a year before

109

00:05:38,580 --> 00:05:36,729

that I had literally been covering the

110

00:05:40,980 --> 00:05:38,590

school board and when you walk into a

111

00:05:43,770 --> 00:05:40,990

room where scientists are debating the

112

00:05:45,870 --> 00:05:43,780

ethics of shifting from 7-10 metier just

113

00:05:47,480 --> 00:05:45,880

like this is a legit conversation adults

114

00:05:53,210 --> 00:05:47,490

can have

115

00:05:57,770 --> 00:05:53,220

that melts your face so hopefully that

116

00:06:01,910 --> 00:05:57,780

answers the question and then the go to

117

00:06:02,510 --> 00:06:01,920

dumb it down he has reason why I work at

118

00:06:05,300 --> 00:06:02,520

the job

119

00:06:07,250 --> 00:06:05,310

no the colleague Tony Joe we try and

120

00:06:10,370 --> 00:06:07,260

integrate as many treatment programs as

121

00:06:12,770 --> 00:06:10,380

we possibly can for Wanda it helps them

122

00:06:16,340 --> 00:06:12,780

not be as bored we try and get them

123

00:06:17,960 --> 00:06:16,350

ready to step back outside and actually

124

00:06:21,230 --> 00:06:17,970

go places with their life instead of

125

00:06:23,300 --> 00:06:21,240

right back where they were I inspire

126

00:06:25,820 --> 00:06:23,310

program that we have is my one of my

127

00:06:32,270 --> 00:06:25,830

favorite the prisoners really light up

128

00:06:35,450 --> 00:06:32,280

and you can hear a pin drop I walked in

129

00:06:36,620 --> 00:06:35,460

and I was like you know wait wait

130

00:06:38,660 --> 00:06:36,630

alright we're gonna get a throat punch

131

00:06:40,100 --> 00:06:38,670

first they all just sat there very

132

00:06:42,530 --> 00:06:40,110

quietly and they listened and they had

133

00:06:45,320 --> 00:06:42,540

really good questions and they they

134

00:06:50,990 --> 00:06:45,330

really really enjoyed having that option

135

00:06:52,940 --> 00:06:51,000

to listen and learn to so anyways as far

136

00:06:55,220 --> 00:06:52,950

as as far as treatments and stuff there

137

00:06:58,580 --> 00:06:55,230

at the job we do try that's what I'm

138

00:07:01,300 --> 00:06:58,590

over I'm actually a sergeant so get a

139

00:07:06,080 --> 00:07:01,310

promotion I'm not sore anymore but

140

00:07:09,470 --> 00:07:06,090

that's what treatment and education so

141

00:07:12,440 --> 00:07:09,480

and we have a huge variety of options

142

00:07:18,410 --> 00:07:12,450

for them either court-ordered or they

143

00:07:26,850 --> 00:07:18,420

can volunteer to participate if we had

144

00:07:32,279 --> 00:07:30,869

hello okay hey where's now um so I

145

00:07:35,129 --> 00:07:32,289

consider a science communication

146

00:07:36,600 --> 00:07:35,139

probably my best technical skill so it's

147

00:07:38,700 --> 00:07:36,610

something that I'm constantly trying to

148

00:07:40,350 --> 00:07:38,710

make better because if you want to

149

00:07:43,409 --> 00:07:40,360

protect being at the top of that skill

150

00:07:44,969 --> 00:07:43,419

um besides just doing science

151

00:07:47,339 --> 00:07:44,979

communication do you have any tips for

152

00:07:50,339 --> 00:07:47,349

event like of course you took in

153

00:07:53,909 --> 00:07:50,349

particular or like doing something

154

00:07:59,459 --> 00:07:53,919

beyond actively do volunteering to

155

00:08:02,040 --> 00:07:59,469

schools yeah so what's your improvement

156

00:08:06,510 --> 00:08:02,050

tactically yeah and so I can kind of

157

00:08:09,179 --> 00:08:06,520

take the lead I had a lot of science

158

00:08:11,939 --> 00:08:09,189

communication luckily just because of my

159

00:08:14,399 --> 00:08:11,949

job I had a lot of science communication

160

00:08:16,350 --> 00:08:14,409

training but when I started science on

161

00:08:20,189 --> 00:08:16,360

top I wanted to kind of challenge myself

162

00:08:21,480 --> 00:08:20,199

and really put myself to the test so

163

00:08:23,869 --> 00:08:21,490

they have a science communication

164

00:08:26,580 --> 00:08:23,879

workshop at the Natural History Museum

165

00:08:31,200 --> 00:08:26,590

that I highly recommend that's actually

166

00:08:34,680 --> 00:08:31,210

a Julia and I know each other and that

167

00:08:38,550 --> 00:08:34,690

really gets challenges you to learn how

168

00:08:40,170 --> 00:08:38,560

to talk to the general public one thing

169

00:08:43,949 --> 00:08:40,180

I just want to say as someone who has

170

00:08:45,960 --> 00:08:43,959

been in the sciences you really are

171

00:08:49,170 --> 00:08:45,970

trained to just talk to other experts in

172

00:08:53,430 --> 00:08:49,180

your field and it's kind of poo-pooed to

173

00:08:55,350 --> 00:08:53,440

speaking any other way in your training and

174

00:08:58,800 --> 00:08:55,360

so in genetics I got really good at

175

00:09:03,300 --> 00:08:58,810

talking to other geneticists and that

176

00:09:05,819 --> 00:09:03,310

was almost you know beaten to me which

177

00:09:08,340 --> 00:09:05,829

is a strong word but you do experience a

178

00:09:10,800 --> 00:09:08,350

lot of shame if you say something that's

179

00:09:13,319 --> 00:09:10,810

not precise or not exactly right or you

180

00:09:15,240 --> 00:09:13,329

use a different term that's not you know

181

00:09:18,689 --> 00:09:15,250

technically correct or if you make a

182

00:09:21,660 --> 00:09:18,699

metaphor analogy that's not exactly what

183

00:09:23,939 --> 00:09:21,670

you know your science is you do get that

184

00:09:26,100 --> 00:09:23,949

shaming at least that was my experience

185

00:09:28,949 --> 00:09:26,110

and some other scientists I have talked

186

00:09:32,639 --> 00:09:28,959

to that's their experience as well and

187

00:09:36,300 --> 00:09:32,649

so when you come and into a situation

188

00:09:39,210 --> 00:09:36,310

where like with science on top we help

189

00:09:40,670 --> 00:09:39,220

the scientists talk to the general

190

00:09:42,889 --> 00:09:40,680

public so we're basically like

191

00:09:45,350 --> 00:09:42,899

grab your thesis get rid of all your

192

00:09:47,329 --> 00:09:45,360

graphs get rid of all your data and tell

193

00:09:50,060 --> 00:09:47,339

a story to the general public because

194

00:09:52,250 --> 00:09:50,070

your bar right now isn't to make someone

195

00:09:53,829 --> 00:09:52,260

an expert in your field the bar that you

196

00:09:56,750 --> 00:09:53,839

want to reach is to get someone excited

197

00:09:58,610 --> 00:09:56,760

about your field to get them to go home

198

00:10:01,280 --> 00:09:58,620

and Google something about your field

199

00:10:03,320 --> 00:10:01,290

which if you just did your thesis to the

200

00:10:06,970 --> 00:10:03,330

general public would not happen at all

201
00:10:09,170 --> 00:10:06,980
and in fact it you know can come off I

202
00:10:11,329 --> 00:10:09,180
don't know if the grading is the right

203
00:10:13,550 --> 00:10:11,339
word but it can come off like you're

204
00:10:16,010 --> 00:10:13,560
just in this place of power and you

205
00:10:18,260 --> 00:10:16,020
don't feel like you can really reach out

206
00:10:21,230 --> 00:10:18,270
to someone who doesn't have your

207
00:10:23,720 --> 00:10:21,240
insights or your intelligence and I'm

208
00:10:26,290 --> 00:10:23,730
certain that that's not our goal as

209
00:10:28,550 --> 00:10:26,300
scientists by any means but

210
00:10:32,420 --> 00:10:28,560
unfortunately we're just trained to be

211
00:10:34,340 --> 00:10:32,430
that way and so I think doing things you

212
00:10:36,019 --> 00:10:34,350
know activities like the science

213
00:10:38,060 --> 00:10:36,029

communication fellowship up at the

214

00:10:40,100 --> 00:10:38,070

Natural History Museum doing things like

215

00:10:42,290 --> 00:10:40,110

science on top where you're literally

216

00:10:44,540 --> 00:10:42,300

literally your goal is just to tell a

217

00:10:47,690 --> 00:10:44,550

story to the general public to get them

218

00:10:51,380 --> 00:10:47,700

interested in and your work those are

219

00:10:54,380 --> 00:10:51,390

ways to challenge yourself and get more

220

00:10:56,510 --> 00:10:54,390

information and experience with science

221

00:10:58,699 --> 00:10:56,520

communication and certainly I'm sure in

222

00:11:01,640 --> 00:10:58,709

your case going to schools and talking

223

00:11:04,310 --> 00:11:01,650

to to kids would get you there as well

224

00:11:07,360 --> 00:11:04,320

because you learn really fast what lands

225

00:11:10,670 --> 00:11:07,370

with the public and what doesn't and

226

00:11:12,620 --> 00:11:10,680

I've been on the I've been on the kind

227

00:11:16,100 --> 00:11:12,630

of science on tap side of things where

228

00:11:18,019 --> 00:11:16,110

people were coaching me so I like

229

00:11:20,630 --> 00:11:18,029

purposefully put myself in situations

230

00:11:23,390 --> 00:11:20,640

that make me very uncomfortable where I

231

00:11:26,120 --> 00:11:23,400

have to tell personal stories in order

232

00:11:30,079 --> 00:11:26,130

to like capture people in front of large

233

00:11:33,920 --> 00:11:30,089

audiences and I learn every time I do

234

00:11:36,079 --> 00:11:33,930

that I learn you know the the stories

235

00:11:38,870 --> 00:11:36,089

that capture people are kind of the

236

00:11:44,210 --> 00:11:38,880

kinds of stories that that capture

237

00:11:46,670 --> 00:11:44,220

people and so and and not just I never

238

00:11:49,430 --> 00:11:46,680

out holding myself into one kind of

239

00:11:50,249 --> 00:11:49,440

situation like I can work with teachers

240

00:11:52,259 --> 00:11:50,259

and I

241

00:11:56,069 --> 00:11:52,269

and build curriculum for our K through

242

00:11:59,009 --> 00:11:56,079

12 teachers but then I can go into a bar

243

00:12:02,609 --> 00:11:59,019

and I can tell a five-minute story that

244

00:12:05,699 --> 00:12:02,619

like has all of my science in it too of

245

00:12:07,769 --> 00:12:05,709

like my biology and so I mean really

246

00:12:09,299 --> 00:12:07,779

like to me putting yourself in

247

00:12:12,539 --> 00:12:09,309

situations that make you uncomfortable

248

00:12:14,789 --> 00:12:12,549

and kind of stretched like how you're

249

00:12:17,939 --> 00:12:14,799

telling your science story and being

250

00:12:20,069 --> 00:12:17,949

willing to take advice from other people

251

00:12:22,619 --> 00:12:20,079

that are better at it than I am er that

252

00:12:24,960 --> 00:12:22,629

have a different perspective is really

253

00:12:43,069 --> 00:12:24,970

important and she's being modest she was

254

00:12:45,599 --> 00:12:43,079

on Science Friday with iris hello so I

255

00:12:47,159 --> 00:12:45,609

know I'm like recently like I'm

256

00:12:49,379 --> 00:12:47,169

especially like in a lot of like

257

00:12:51,629 --> 00:12:49,389

journalism art news one of the ways that

258

00:12:53,819 --> 00:12:51,639

people have been like changing how they

259

00:12:56,069 --> 00:12:53,829

deliver it like with the increased

260

00:12:58,979 --> 00:12:56,079

popularity of TV shows like Billy show

261

00:13:01,139 --> 00:12:58,989

or perhaps Colbert Report and since

262

00:13:03,629 --> 00:13:01,149

science is still kind of like similar in

263

00:13:05,639 --> 00:13:03,639

the way that it's like communicating is

264

00:13:08,519 --> 00:13:05,649

trying to like convey an idea and

265

00:13:10,799 --> 00:13:08,529

information and like those ways do you

266

00:13:13,049 --> 00:13:10,809

see like any unique way communicating

267

00:13:14,639 --> 00:13:13,059

science is like starting to change like

268

00:13:17,989 --> 00:13:14,649

weather in that direction or probably

269

00:13:21,960 --> 00:13:17,999

like in a way that you need to itself I

270

00:13:24,210 --> 00:13:21,970

think the biggest change is it's so much

271

00:13:25,949 --> 00:13:24,220

easier for scientists to have direct

272

00:13:28,039 --> 00:13:25,959

relationships with mass audiences

273

00:13:32,519 --> 00:13:28,049

themselves and in venues like Twitter

274

00:13:33,449 --> 00:13:32,529

and other people may be able to speak to

275

00:13:35,460 --> 00:13:33,459

this better than I can

276

00:13:37,169 --> 00:13:35,470

my impression is historically that's

277

00:13:40,799 --> 00:13:37,179

been stigmatized to dealing with the

278

00:13:42,629 --> 00:13:40,809

public has been stigmatized and anymore

279

00:13:46,289 --> 00:13:42,639

I think it's sort of seen as part of the

280

00:13:51,659 --> 00:13:46,299

job I don't know if anybody would use

281

00:13:53,759 --> 00:13:51,669

the word duty exactly but the the other

282

00:13:59,639 --> 00:13:53,769

way that I can think of that it's sort

283

00:14:01,090 --> 00:13:59,649

of evolving is media are there's so much

284

00:14:04,930 --> 00:14:01,100

pressure to get clean

285

00:14:07,300 --> 00:14:04,940

and I think from a scientists point of

286

00:14:09,370 --> 00:14:07,310

view the danger is that something you're

287

00:14:13,330 --> 00:14:09,380

doing that's incremental or modest and

288

00:14:16,570 --> 00:14:13,340

scope gets overhyped and finding a way

289

00:14:18,760 --> 00:14:16,580

to control that narrative so that you

290

00:14:20,680 --> 00:14:18,770

know a reporter who thinks they kind of

291

00:14:21,930 --> 00:14:20,690

get what you're doing doesn't go back to

292

00:14:23,830 --> 00:14:21,940

their editor and end up with this

293

00:14:26,620 --> 00:14:23,840

sensational headline that you don't even

294

00:14:29,980 --> 00:14:26,630

recognize on your work I think that

295

00:14:31,810 --> 00:14:29,990

pressure to get attention to to do the

296

00:14:35,320 --> 00:14:31,820

most attention-grabbing version of the

297

00:14:37,030 --> 00:14:35,330

story possible oh I think that's part of

298

00:14:39,310 --> 00:14:37,040

the challenge for for science and

299

00:14:40,390 --> 00:14:39,320

science communication right now I don't

300

00:14:49,579 --> 00:14:40,400

know if that answered your question or

301
00:14:57,300 --> 00:14:54,360
this question is very sergeant cha does

302
00:14:59,519 --> 00:14:57,310
your program connect inmates with

303
00:15:02,759 --> 00:14:59,529
educational opportunities and is there

304
00:15:06,780 --> 00:15:02,769
any evidence to support that the program

305
00:15:11,870 --> 00:15:06,790
reduces recidivism we do we have a GED

306
00:15:17,280 --> 00:15:11,880
program in the facility a lot of people

307
00:15:22,050 --> 00:15:17,290
and I brought a report that was from was

308
00:15:23,910 --> 00:15:22,060
from 2014 we try and we're trying to get

309
00:15:32,280 --> 00:15:23,920
this back out so we have adult education

310
00:15:37,319 --> 00:15:32,290
through granite peaks and so in 2013 GED

311
00:15:39,949 --> 00:15:37,329
graduates increased by 60% though that

312
00:15:43,740 --> 00:15:39,959
was an increase from the prior year of

313
00:15:45,660 --> 00:15:43,750

326 percent so it's pretty astounding

314

00:15:50,030 --> 00:15:45,670

now it seems like once they put their

315

00:15:53,040 --> 00:15:50,040

minds to it they they can really achieve

316

00:15:56,250 --> 00:15:53,050

this year I believe we're higher than

317

00:15:59,180 --> 00:15:56,260

that lots of adult education we have

318

00:16:02,850 --> 00:15:59,190

it's called a cat's program so it's an

319

00:16:05,850 --> 00:16:02,860

addiction treatment services so that

320

00:16:07,710 --> 00:16:05,860

that's court-ordered in that they learn

321

00:16:11,280 --> 00:16:07,720

it's a 90 day program they learn all

322

00:16:14,610 --> 00:16:11,290

sorts of life skills basically to get

323

00:16:18,629 --> 00:16:14,620

back out there and people actually hire

324

00:16:20,490 --> 00:16:18,639

from within that so sorry I don't have

325

00:16:26,519 --> 00:16:20,500

an exact number for this year but we're

326

00:16:30,059 --> 00:16:26,529

still working on this year Oh for this

327

00:16:31,379 --> 00:16:30,069

one for the whole panel and as a

328

00:16:33,509 --> 00:16:31,389

graduate student I feel like I've gotten

329

00:16:35,430 --> 00:16:33,519

a lot of advice of how to do science

330

00:16:39,750 --> 00:16:35,440

communication they make a twitter make a

331

00:16:42,090 --> 00:16:39,760

website write things it's definitely a

332

00:16:43,530 --> 00:16:42,100

lot so what's your opinion on the

333

00:16:44,819 --> 00:16:43,540

balance between actually doing science

334

00:16:47,030 --> 00:16:44,829

active doing her job as a graduate

335

00:16:48,870 --> 00:16:47,040

student or undergrad her researcher and

336

00:16:51,389 --> 00:16:48,880

trying to get your work out and trying

337

00:16:55,079 --> 00:16:51,399

to get your name on a communication side

338

00:16:56,420 --> 00:16:55,089

of things I would love to start with

339

00:16:59,060 --> 00:16:56,430

that because

340

00:17:01,280 --> 00:16:59,070

it is this hard balance and you're like

341

00:17:04,280 --> 00:17:01,290

I want this whole program when I when we

342

00:17:05,480 --> 00:17:04,290

started like Institute like the world

343

00:17:08,570 --> 00:17:05,490

was in front of us

344

00:17:10,640 --> 00:17:08,580

and we had no expectations or like any

345

00:17:13,579 --> 00:17:10,650

overarching things we got to make that

346

00:17:15,470 --> 00:17:13,589

up and it was almost like it was almost

347

00:17:18,230 --> 00:17:15,480

over well it was it was very

348

00:17:21,590 --> 00:17:18,240

overwhelming and we just had to start at

349

00:17:23,960 --> 00:17:21,600

one spot and I would recommend starting

350

00:17:26,410 --> 00:17:23,970

in a spot where you can like be

351

00:17:29,660 --> 00:17:26,420

efficient like take your research and

352

00:17:31,670 --> 00:17:29,670

and look at it and see what makes sense

353

00:17:35,330 --> 00:17:31,680

for you to do that and I'll give you an

354

00:17:37,550 --> 00:17:35,340

example you know probably a lot of you

355

00:17:41,180 --> 00:17:37,560

have read dr. Barney Baxter's research

356

00:17:44,000 --> 00:17:41,190

and she you know is a frequent presenter

357

00:17:45,650 --> 00:17:44,010

and apps icon I don't hit has anybody

358

00:17:47,390 --> 00:17:45,660

heard of Bonnie you're probably

359

00:17:49,880 --> 00:17:47,400

disappointed it is like see me here

360

00:17:51,470 --> 00:17:49,890

because she couldn't come today I'll

361

00:17:55,250 --> 00:17:51,480

give you an example though you know we

362

00:17:57,770 --> 00:17:55,260

study we study microbes her lab does a

363

00:17:59,780 --> 00:17:57,780

lot of studying of microbes and we have

364

00:18:02,090 --> 00:17:59,790

undergraduates and different faculty

365

00:18:04,100 --> 00:18:02,100

members that work with us and sometimes

366

00:18:05,150 --> 00:18:04,110

we felt like we would talk to people in

367

00:18:07,150 --> 00:18:05,160

school as there were people in the

368

00:18:09,740 --> 00:18:07,160

community and they didn't understand

369

00:18:11,390 --> 00:18:09,750

microbes like it was this like dirty

370

00:18:16,610 --> 00:18:11,400

thing that you got on your hands and

371

00:18:18,650 --> 00:18:16,620

made you sick and so we start one of the

372

00:18:20,900 --> 00:18:18,660

examples of what we've started is our

373

00:18:24,020 --> 00:18:20,910

art night so microbial paint nights

374

00:18:26,630 --> 00:18:24,030

where our community comes in and our

375

00:18:28,880 --> 00:18:26,640

undergraduate students explain you know

376

00:18:30,860 --> 00:18:28,890

all about like sterile technique and

377

00:18:33,260 --> 00:18:30,870

what our microbes and oh by the way

378

00:18:35,660 --> 00:18:33,270

you're using all of these microbes that

379

00:18:37,610 --> 00:18:35,670

are cultured from Great Salt Lake plans

380

00:18:40,910 --> 00:18:37,620

or Great Salt Lake water and we're gonna

381

00:18:44,270 --> 00:18:40,920

color with those and it turns into this

382

00:18:46,790 --> 00:18:44,280

really exciting event where people pay

383

00:18:50,360 --> 00:18:46,800

you can't even see it in 48 hours you

384

00:18:52,910 --> 00:18:50,370

have this like art exhibit that you can

385

00:18:56,450 --> 00:18:52,920

put out that our community has made and

386

00:18:58,289 --> 00:18:56,460

so you know that's that's one example of

387

00:19:01,469 --> 00:18:58,299

where we could like put

388

00:19:03,479 --> 00:19:01,479

direct like research of like our

389

00:19:05,369 --> 00:19:03,489

students worked in the lab and we can

390

00:19:07,369 --> 00:19:05,379

have them pretty easily translate that

391

00:19:10,979 --> 00:19:07,379

into a PowerPoint and have this

392

00:19:13,349 --> 00:19:10,989

microbial paint night so start where

393

00:19:15,779 --> 00:19:13,359

you're at and it might feel it might not

394

00:19:17,489 --> 00:19:15,789

feel like science communication you know

395

00:19:22,310 --> 00:19:17,499

there's lots of different ways to do

396

00:19:25,109 --> 00:19:22,320

that mm-hmm and just to kind of I think

397

00:19:28,799 --> 00:19:25,119

you know these social media platforms

398

00:19:31,049 --> 00:19:28,809

are a nice way to reach people but I

399

00:19:32,969 --> 00:19:31,059

always recommend just going out into the

400

00:19:35,669 --> 00:19:32,979

community because you don't know how

401
00:19:38,009 --> 00:19:35,679
your information is landing on social

402
00:19:39,810 --> 00:19:38,019
media as well as when you're face to

403
00:19:42,989 --> 00:19:39,820
face with someone and trying to explain

404
00:19:45,680 --> 00:19:42,999
and get them interested in your topic so

405
00:19:48,709 --> 00:19:45,690
things like science on top things like

406
00:19:51,209 --> 00:19:48,719
activities like what Jamie described

407
00:19:53,310 --> 00:19:51,219
there's a lot or even the Natural

408
00:19:54,719 --> 00:19:53,320
History Museum has a lot of events that

409
00:20:00,359 --> 00:19:54,729
they put on that you could get involved

410
00:20:01,680 --> 00:20:00,369
with where you can kind of go hang out

411
00:20:06,180 --> 00:20:01,690
there and talk to the general public

412
00:20:07,709 --> 00:20:06,190
about your research so they do a lot of

413
00:20:09,569 --> 00:20:07,719

really cool things and I think getting

414

00:20:11,629 --> 00:20:09,579

out there and actually talking to people

415

00:20:15,209 --> 00:20:11,639

will give you a really good idea of

416

00:20:17,190 --> 00:20:15,219

where you're deficient because people

417

00:20:20,369 --> 00:20:17,200

will glaze over right away if you're not

418

00:20:22,019 --> 00:20:20,379

speaking to them or you can learn right

419

00:20:23,999 --> 00:20:22,029

away it's like no one asks you a

420

00:20:27,209 --> 00:20:24,009

question probably they're not

421

00:20:28,769 --> 00:20:27,219

understanding it so you can go out and

422

00:20:31,769 --> 00:20:28,779

kind of challenge yourself and see how

423

00:20:33,930 --> 00:20:31,779

you know engaged you can get someone in

424

00:20:35,639 --> 00:20:33,940

your topic and that will teach you so

425

00:20:39,629 --> 00:20:35,649

much more than I think Twitter or

426

00:20:41,339 --> 00:20:39,639

Facebook so I would recommend trying to

427

00:20:45,149 --> 00:20:41,349

do something like that if you start it

428

00:20:47,819 --> 00:20:45,159

yourself or if you join someone someone

429

00:20:49,619 --> 00:20:47,829

else's program to do it and that's all

430

00:20:52,319 --> 00:20:49,629

resume building - those are all things

431

00:20:56,129 --> 00:20:52,329

that you can that can kind of speak to

432

00:20:58,049 --> 00:20:56,139

your ability to communicate and I think

433

00:21:01,469 --> 00:20:58,059

Audrey brings up a really good point

434

00:21:03,200 --> 00:21:01,479

about partnerships so people are doing a

435

00:21:05,600 --> 00:21:03,210

lot of really interesting

436

00:21:08,930 --> 00:21:05,610

communication or work in the community

437

00:21:12,050 --> 00:21:08,940

partner you know with your very partner

438

00:21:14,240 --> 00:21:12,060

with the Natural History Museum and any

439

00:21:15,860 --> 00:21:14,250

of those partnerships and you might feel

440

00:21:21,170 --> 00:21:15,870

like they're whacky like they might be

441

00:21:23,240 --> 00:21:21,180

with the Utah State government I mean

442

00:21:25,490 --> 00:21:23,250

are they they're like all of these

443

00:21:28,460 --> 00:21:25,500

enthusiastic people that almost don't

444

00:21:31,520 --> 00:21:28,470

have a voice and you can find yourself

445

00:21:34,910 --> 00:21:31,530

being their voice by presenting research

446

00:21:40,040 --> 00:21:34,920

that you've worked with on them that was

447

00:21:42,170 --> 00:21:40,050

just another sight hi so I'm interested

448

00:21:43,910 --> 00:21:42,180

in your role as not just science

449

00:21:45,770 --> 00:21:43,920

communicators yourselves but as

450

00:21:48,140 --> 00:21:45,780

facilitators for science communication

451
00:21:51,130 --> 00:21:48,150
so putting other scientists and

452
00:21:53,900 --> 00:21:51,140
researchers in contact with members of

453
00:21:57,020 --> 00:21:53,910
different groups of people whether they

454
00:21:58,250 --> 00:21:57,030
be inmates children senior citizens so

455
00:21:59,990 --> 00:21:58,260
do you have any advice for people who

456
00:22:01,580 --> 00:22:00,000
are not just looking to expand their own

457
00:22:04,430 --> 00:22:01,590
skills as communicators we're also

458
00:22:05,900 --> 00:22:04,440
looking to start programming to share

459
00:22:10,150 --> 00:22:05,910
that experience with others and inspire

460
00:22:16,130 --> 00:22:14,030
start small like we've had a really good

461
00:22:18,470 --> 00:22:16,140
luck at Great Salt Lake Institute smart

462
00:22:21,680 --> 00:22:18,480
starting small and growing organically

463
00:22:24,710 --> 00:22:21,690

so we can like make adjustments to our

464

00:22:26,870 --> 00:22:24,720

programming as we need to and I mean

465

00:22:29,390 --> 00:22:26,880

also like there's a money factor behind

466

00:22:36,410 --> 00:22:29,400

it right that you have to have money and

467

00:22:40,940 --> 00:22:36,420

by starting small and we can kind of

468

00:22:43,190 --> 00:22:40,950

follow the money and and and we we can

469

00:22:45,260 --> 00:22:43,200

like adjust to money that we might find

470

00:22:47,480 --> 00:22:45,270

available that can enhance our programs

471

00:22:52,160 --> 00:22:47,490

but it can also like really build those

472

00:22:54,440 --> 00:22:52,170

programs that was kind of yeah yeah no I

473

00:22:55,730 --> 00:22:54,450

totally agree in like science on top has

474

00:22:58,310 --> 00:22:55,740

partnered with the Great Salt Lake

475

00:23:01,010 --> 00:22:58,320

Institute so they're much bigger than us

476
00:23:02,750 --> 00:23:01,020
and so they've been really helpful so to

477
00:23:05,330 --> 00:23:02,760
kind of go back to that partnership role

478
00:23:06,500 --> 00:23:05,340
like there's so many people like you

479
00:23:09,080 --> 00:23:06,510
know I have someone from the Natural

480
00:23:11,000 --> 00:23:09,090
History Museum on my team I'm at the

481
00:23:12,280 --> 00:23:11,010
University there's so many groups that

482
00:23:16,570 --> 00:23:12,290
are really passionate about

483
00:23:19,930 --> 00:23:16,580
projects and man the volunteers that you

484
00:23:21,910 --> 00:23:19,940
can get to help with this you know none

485
00:23:24,040 --> 00:23:21,920
of our scientists are paid to come talk

486
00:23:25,590 --> 00:23:24,050
at a bar although we do give them free

487
00:23:30,760 --> 00:23:25,600
beer

488
00:23:32,530 --> 00:23:30,770

wink wink but you know these are efforts

489

00:23:34,120 --> 00:23:32,540

that people are just volunteering their

490

00:23:37,450 --> 00:23:34,130

time because they feel so strongly about

491

00:23:40,570 --> 00:23:37,460

it and I think it's you know being here

492

00:23:43,330 --> 00:23:40,580

at the U or being at a university in

493

00:23:48,610 --> 00:23:43,340

general you'll have access to tap into

494

00:23:51,040 --> 00:23:48,620

to volunteers as well I live in a small

495

00:24:07,300 --> 00:23:51,050

college town and I've been trying to

496

00:24:10,840 --> 00:24:07,310

start it hard work man basically a lot

497

00:24:12,820 --> 00:24:10,850

of flyering I go around town before

498

00:24:15,820 --> 00:24:12,830

science on top events and just fly or

499

00:24:18,760 --> 00:24:15,830

different places because my goal isn't

500

00:24:20,920 --> 00:24:18,770

to isn't just to bring out scientists in

501
00:24:22,960 --> 00:24:20,930
fact you know it's an easy sell to

502
00:24:26,140 --> 00:24:22,970
scientist because it has science in the

503
00:24:28,420 --> 00:24:26,150
title and you might challenge yourself

504
00:24:33,930 --> 00:24:28,430
not to even put science in the title of

505
00:24:37,120 --> 00:24:33,940
yours just because I think you will get

506
00:24:39,910 --> 00:24:37,130
scientists at your event if you do and

507
00:24:42,700 --> 00:24:39,920
that's something I'm way too deep into

508
00:24:45,040 --> 00:24:42,710
it now but that's something I now I'm

509
00:24:46,540 --> 00:24:45,050
thinking about but if you're trying to

510
00:24:49,780 --> 00:24:46,550
reach out to the general public which I

511
00:24:52,480 --> 00:24:49,790
hope you do flyering getting a good

512
00:24:55,860 --> 00:24:52,490
graphic designer on your team who can

513
00:25:00,700 --> 00:24:55,870

really speak towards the general public

514

00:25:04,090 --> 00:25:00,710

is student it's 50% of your problem so

515

00:25:06,280 --> 00:25:04,100

it's advertising so if you can get

516

00:25:08,350 --> 00:25:06,290

someone and who can design something

517

00:25:12,760 --> 00:25:08,360

that's really accessible and not just

518

00:25:16,180 --> 00:25:12,770

like a microscope and you know some guy

519

00:25:18,640 --> 00:25:16,190

looking in it then you might have a

520

00:25:26,190 --> 00:25:18,650

better reach right like get something

521

00:25:33,280 --> 00:25:29,860

hi sorry one second

522

00:25:34,900 --> 00:25:33,290

just just ahead to that one way to grow

523

00:25:36,640 --> 00:25:34,910

your audience is to find people that

524

00:25:41,080 --> 00:25:36,650

already have audiences and sort of

525

00:25:42,700 --> 00:25:41,090

hijacked so if you if you're recruiting

526
00:25:44,650 --> 00:25:42,710
someone to give talks that already has

527
00:25:48,760 --> 00:25:44,660
an audience or if you can activate

528
00:25:51,190 --> 00:25:48,770
student media or just other sort of

529
00:25:52,720 --> 00:25:51,200
adjacent groups that aren't exactly in

530
00:25:55,720 --> 00:25:52,730
the science silo but that might be

531
00:25:58,300 --> 00:25:55,730
interested like when I did public radio

532
00:26:01,210 --> 00:25:58,310
in Nashville there is a very devoted

533
00:26:02,530 --> 00:26:01,220
maker group that was also interested in

534
00:26:04,120 --> 00:26:02,540
science and they didn't have the word

535
00:26:09,540 --> 00:26:04,130
science and a name but they would

536
00:26:13,900 --> 00:26:12,190
great so this is one of the things that

537
00:26:16,330 --> 00:26:13,910
has come up a lot as we're talking about

538
00:26:18,640 --> 00:26:16,340

this is we talk about science and we

539

00:26:20,830 --> 00:26:18,650

talk about scientists and the public and

540

00:26:22,780 --> 00:26:20,840

we make a distinction between the public

541

00:26:24,610 --> 00:26:22,790

and scientists and I guess I was just

542

00:26:26,770 --> 00:26:24,620

wondering what what your thoughts on

543

00:26:28,660 --> 00:26:26,780

that were cuz I think some of some of

544

00:26:30,310 --> 00:26:28,670

the distrust maybe of science and

545

00:26:33,010 --> 00:26:30,320

scientists is that they're very you know

546

00:26:34,270 --> 00:26:33,020

other and distinct and so you know

547

00:26:36,040 --> 00:26:34,280

scientists are people too but I'm not

548

00:26:37,750 --> 00:26:36,050

sure that everyone necessarily

549

00:26:40,120 --> 00:26:37,760

understands that so I was just wondering

550

00:26:42,730 --> 00:26:40,130

is there better phrasing we could be

551

00:26:45,760 --> 00:26:42,740

using versus like general public lay

552

00:26:47,040 --> 00:26:45,770

public that kind of thing just what are

553

00:26:51,190 --> 00:26:47,050

your thoughts on that distinction

554

00:26:54,550 --> 00:26:51,200

language is everything so absolutely

555

00:26:56,700 --> 00:26:54,560

saying things that seem derogatory like

556

00:27:01,060 --> 00:26:56,710

oh I have to dumb this down for you

557

00:27:01,420 --> 00:27:01,070

you're already saying that I'm smarter

558

00:27:03,130 --> 00:27:01,430

than you

559

00:27:06,540 --> 00:27:03,140

right like I'm up here and you're down

560

00:27:10,900 --> 00:27:06,550

here science has a long history of that

561

00:27:13,120 --> 00:27:10,910

and you know some of the best questions

562

00:27:17,380 --> 00:27:13,130

come from the general public come from

563

00:27:20,590 --> 00:27:17,390

people who are not in your field so I

564

00:27:24,340 --> 00:27:20,600

think making them partners in your

565

00:27:27,720 --> 00:27:24,350

effort rather than your student is a

566

00:27:30,240 --> 00:27:27,730

really good challenge for scientist

567

00:27:34,050 --> 00:27:30,250

community I think it needs to start in

568

00:27:36,480 --> 00:27:34,060

the university because I think we're

569

00:27:39,360 --> 00:27:36,490

training people just again to talk to

570

00:27:42,060 --> 00:27:39,370

their peers so even across the sciences

571

00:27:43,830 --> 00:27:42,070

like I'm in genetics but I might not be

572

00:27:46,740 --> 00:27:43,840

able to read one of your publications

573

00:27:51,080 --> 00:27:46,750

and its entirety right because I'm not

574

00:27:53,640 --> 00:27:51,090

trained in your language so I may have

575

00:27:55,710 --> 00:27:53,650

some skills that the general public

576

00:27:58,170 --> 00:27:55,720

doesn't have to be able to ask better or

577

00:28:01,410 --> 00:27:58,180

you know ask questions and get to the

578

00:28:03,360 --> 00:28:01,420

point but we have problems even across

579

00:28:07,710 --> 00:28:03,370

the disciplines communicating with each

580

00:28:09,570 --> 00:28:07,720

other so I think you know it needs to

581

00:28:10,830 --> 00:28:09,580

start with how we're talking about it

582

00:28:13,670 --> 00:28:10,840

like we don't want to say we're dumbing

583

00:28:17,180 --> 00:28:13,680

things down to people we don't want to

584

00:28:20,700 --> 00:28:17,190

come in like they're our student now

585

00:28:22,260 --> 00:28:20,710

when we're talking to them come in like

586

00:28:23,640 --> 00:28:22,270

your partner is you just happen to know

587

00:28:27,180 --> 00:28:23,650

a little bit more about this subject

588

00:28:29,250 --> 00:28:27,190

right and so but kind of bring them up

589

00:28:30,630 --> 00:28:29,260

to your level bring them in as partners

590

00:28:32,130 --> 00:28:30,640

you just might have to change your

591

00:28:36,510 --> 00:28:32,140

language and how you're discussing that

592

00:28:38,460 --> 00:28:36,520

issue and then like programs where we're

593

00:28:40,260 --> 00:28:38,470

doing outreach up you know my program

594

00:28:42,720 --> 00:28:40,270

doing outreach up bar is the whole point

595

00:28:45,330 --> 00:28:42,730

is to show that scientists you know are

596

00:28:48,350 --> 00:28:45,340

human too right like we'll have a beer

597

00:28:50,750 --> 00:28:48,360

with you we'll take a shot with you well

598

00:28:54,180 --> 00:28:50,760

you know we're really smart about

599

00:28:57,300 --> 00:28:54,190

astrobiology but we I have no idea how

600

00:28:58,920 --> 00:28:57,310

to fix a car so tell me about that you

601
00:29:00,540 --> 00:28:58,930
know make them feel like experts in

602
00:29:04,590 --> 00:29:00,550
their lives too because they may know

603
00:29:06,600 --> 00:29:04,600
something more that you don't know and

604
00:29:08,820 --> 00:29:06,610
if you can kind of level that playing

605
00:29:10,470 --> 00:29:08,830
field with them by saying like hey I

606
00:29:12,120 --> 00:29:10,480
know a lot about this subject that you

607
00:29:14,670 --> 00:29:12,130
know a lot about this and be interested

608
00:29:17,400 --> 00:29:14,680
in what they're interested in you can

609
00:29:19,860 --> 00:29:17,410
bring them in as peers and as partners

610
00:29:23,340 --> 00:29:19,870
and in science which i think is super

611
00:29:27,030 --> 00:29:23,350
important like I said some of the best

612
00:29:29,070 --> 00:29:27,040
questions I get are from families about

613
00:29:31,230 --> 00:29:29,080

genetics in particular from like kids

614

00:29:34,590 --> 00:29:31,240

and families who are like well what is

615

00:29:35,570 --> 00:29:34,600

that and I'm like oh good question good

616

00:29:38,790 --> 00:29:35,580

question

617

00:29:40,320 --> 00:29:38,800

and I have to say I don't know a lot so

618

00:29:43,650 --> 00:29:40,330

I mean I think you mean there's a lot to

619

00:29:46,230 --> 00:29:43,660

be gained and I would say I use a lot of

620

00:29:48,690 --> 00:29:46,240

personal stories about my life because

621

00:29:50,970 --> 00:29:48,700

like Audrey said like you know like I

622

00:29:52,740 --> 00:29:50,980

was like shaking out my wrinkly clothes

623

00:29:54,510 --> 00:29:52,750

this morning and probably just like

624

00:29:56,490 --> 00:29:54,520

everybody else was trying to decide is

625

00:29:58,920 --> 00:29:56,500

this too wrinkly to wear in front of a

626

00:30:01,830 --> 00:29:58,930

panel I mean like we're all doing these

627

00:30:05,220 --> 00:30:01,840

same things and we can like be personal

628

00:30:12,660 --> 00:30:05,230

and maybe you study genetics because of

629

00:30:14,520 --> 00:30:12,670

a personal story here we did that or and

630

00:30:17,070 --> 00:30:14,530

we can tell those stories we don't have

631

00:30:26,100 --> 00:30:17,080

to like separate ourselves as a

632

00:30:28,850 --> 00:30:26,110

scientist from the rest of the world use

633

00:30:34,140 --> 00:30:28,860

your personal stories sorry

634

00:30:35,610 --> 00:30:34,150

don't yell at YouTube yell at people so

635

00:30:37,830 --> 00:30:35,620

this question sort of posted the entire

636

00:30:39,120 --> 00:30:37,840

panel one of the unfortunate side

637

00:30:40,620 --> 00:30:39,130

effects that I've noticed lately is

638

00:30:42,960 --> 00:30:40,630

science communication is that we end up

639

00:30:45,570 --> 00:30:42,970

preaching to our own echo chamber so

640

00:30:47,850 --> 00:30:45,580

whether it's events in a public sphere

641

00:30:49,500 --> 00:30:47,860

in reality or on Twitter or social media

642

00:30:50,760 --> 00:30:49,510

we tend to self-select and still

643

00:30:51,900 --> 00:30:50,770

communicate with the same people over

644

00:30:54,180 --> 00:30:51,910

and over and over again that probably

645

00:30:56,520 --> 00:30:54,190

don't need to be science communicated to

646

00:30:58,140 --> 00:30:56,530

so I'm kind of curious as to some

647

00:31:00,000 --> 00:30:58,150

strategies maybe from your experience

648

00:31:01,710 --> 00:31:00,010

that you may have deployed or you would

649

00:31:03,060 --> 00:31:01,720

like to see deployed to communicate to

650

00:31:06,150 --> 00:31:03,070

people that may not be comfortable

651
00:31:07,950 --> 00:31:06,160
showing up to science events for

652
00:31:11,970 --> 00:31:07,960
whatever reason cultural socio-economic

653
00:31:14,370 --> 00:31:11,980
whatever and kind of thoughts as to how

654
00:31:15,780 --> 00:31:14,380
do we continue sort of dispersing this a

655
00:31:19,290 --> 00:31:15,790
bedchambers or not just talking to the

656
00:31:20,700 --> 00:31:19,300
same people over and over again yeah I I

657
00:31:22,320 --> 00:31:20,710
think about this question a lot

658
00:31:25,700 --> 00:31:22,330
particularly in the context of climate

659
00:31:31,530 --> 00:31:25,710
change because I grew up in the south

660
00:31:34,779 --> 00:31:31,540
and the advice I've got now this which

661
00:31:39,159 --> 00:31:34,789
is harder to deployed since I live in

662
00:31:40,749 --> 00:31:39,169
is you have to start by listening and

663
00:31:44,919 --> 00:31:40,759

listen to where people are coming from

664

00:31:47,229 --> 00:31:44,929

and if you lecture and you don't make it

665

00:31:50,049 --> 00:31:47,239

a conversation people are going to get

666

00:31:52,959 --> 00:31:50,059

entrenched and there at second I feel

667

00:31:55,739 --> 00:31:52,969

like a conversation to them and in

668

00:31:58,539 --> 00:31:55,749

listening it helps to be listening to

669

00:32:00,070 --> 00:31:58,549

you know if if they have doubts about

670

00:32:02,799 --> 00:32:00,080

science or about an issue like climate

671

00:32:03,969 --> 00:32:02,809

change be trying to listen to where

672

00:32:07,180 --> 00:32:03,979

they're coming from or what their

673

00:32:08,889 --> 00:32:07,190

concern is and be empathetic and try to

674

00:32:11,619 --> 00:32:08,899

hear it from their point of view I think

675

00:32:12,999 --> 00:32:11,629

it's a lot easier for someone to listen

676

00:32:17,339 --> 00:32:13,009

when they feel like you're sort of on

677

00:32:19,930 --> 00:32:17,349

the same team the other question and

678

00:32:21,700 --> 00:32:19,940

this scene is just on loop forever in my

679

00:32:24,759 --> 00:32:21,710

mind that the context of science

680

00:32:26,619 --> 00:32:24,769

communication is this seems somewhere in

681

00:32:28,690 --> 00:32:26,629

the movie margin call where the CEO of

682

00:32:31,539 --> 00:32:28,700

an investment brokerage is trying to get

683

00:32:33,249 --> 00:32:31,549

the financier Wizkid former rocket

684

00:32:35,169 --> 00:32:33,259

science to explain to them like why

685

00:32:37,239 --> 00:32:35,179

their bank is on the verge of collapse

686

00:32:44,799 --> 00:32:37,249

and he says speak to me as you would a

687

00:32:46,209 --> 00:32:44,809

child or golden retriever and you know

688

00:32:49,869 --> 00:32:46,219

as a journalist I feel like part of my

689

00:32:51,700 --> 00:32:49,879

job is to not take it as condescending

690

00:32:53,039 --> 00:32:51,710

when a scientist explains it to me

691

00:32:57,159 --> 00:32:53,049

conversationally rather than

692

00:33:00,070 --> 00:32:57,169

paraphrasing their abstract I hope that

693

00:33:01,659 --> 00:33:00,080

pops to answer your question what and I

694

00:33:02,950 --> 00:33:01,669

would say just to kind of piggyback off

695

00:33:04,810 --> 00:33:02,960

of that because I totally agree I think

696

00:33:06,759 --> 00:33:04,820

it's really easy to get in these echo

697

00:33:10,719 --> 00:33:06,769

chambers and all kinds of areas right

698

00:33:14,349 --> 00:33:10,729

not just science with social media in

699

00:33:15,669 --> 00:33:14,359

particular but you know kind of going

700

00:33:17,440 --> 00:33:15,679

back to getting out in the community and

701
00:33:20,109 --> 00:33:17,450
really meeting people I think that's a

702
00:33:23,019 --> 00:33:20,119
big part of it and that's something I

703
00:33:24,940 --> 00:33:23,029
don't like the social medias is because

704
00:33:27,489 --> 00:33:24,950
I think you just end up in an echo

705
00:33:28,539 --> 00:33:27,499
chamber a lot of times but if you

706
00:33:30,399 --> 00:33:28,549
actually go out into your community

707
00:33:34,570 --> 00:33:30,409
you're kind of forced to deal with

708
00:33:37,779 --> 00:33:34,580
people and I always like to play the

709
00:33:39,669 --> 00:33:37,789
long game so my goal isn't to make

710
00:33:43,180 --> 00:33:39,679
someone expert in climate change but

711
00:33:44,210 --> 00:33:43,190
maybe make someone who's super who

712
00:33:45,980 --> 00:33:44,220
doesn't believe in kind

713
00:33:48,590 --> 00:33:45,990

change have a good experience with

714

00:33:50,480 --> 00:33:48,600

someone who does right because that's a

715

00:33:53,480 --> 00:33:50,490

big problem in our country right now and

716

00:33:57,799 --> 00:33:53,490

not to make this a bigger statement than

717

00:33:59,930 --> 00:33:57,809

I'm trying but is we start hating each

718

00:34:02,930 --> 00:33:59,940

other and you're never going to in

719

00:34:04,370 --> 00:34:02,940

arguing with each other instead of let's

720

00:34:06,950 --> 00:34:04,380

just have a pleasant experience with

721

00:34:10,070 --> 00:34:06,960

each other and realize that someone on

722

00:34:11,990 --> 00:34:10,080

two different spectrums can still have a

723

00:34:14,270 --> 00:34:12,000

pleasant experience so I always try to

724

00:34:18,379 --> 00:34:14,280

make that effort when I'm out and about

725

00:34:20,710 --> 00:34:18,389

in public even if someone's you know not

726

00:34:22,609 --> 00:34:20,720

in the science at all not into what I do

727

00:34:24,560 --> 00:34:22,619

certainly there's a lot of ethical

728

00:34:27,440 --> 00:34:24,570

issues and genetics that I can get into

729

00:34:29,030 --> 00:34:27,450

trouble with with people I just want

730

00:34:30,859 --> 00:34:29,040

people to have a good experience with me

731

00:34:40,460 --> 00:34:30,869

and kind of realize that that's

732

00:34:43,460 --> 00:34:40,470

available I'm gonna do this I really go

733

00:34:46,040 --> 00:34:43,470

back to like what is my audience who is

734

00:34:49,280 --> 00:34:46,050

the person that I am trying to reach and

735

00:34:51,409 --> 00:34:49,290

like you know what don't just think that

736

00:34:53,540 --> 00:34:51,419

you can like take a coloring sheet to

737

00:34:57,290 --> 00:34:53,550

like hang out with six-year-olds and

738

00:34:59,300 --> 00:34:57,300

talk about a sign should really be like

739

00:35:00,920 --> 00:34:59,310

I'm interactive and working with

740

00:35:08,450 --> 00:35:00,930

six-year-olds and getting their hands

741

00:35:10,490 --> 00:35:08,460

working and maybe with 80 year olds you

742

00:35:12,800 --> 00:35:10,500

want to talk about the history of Great

743

00:35:14,900 --> 00:35:12,810

Salt Lake and of like those old salt

744

00:35:17,420 --> 00:35:14,910

hair that people used to go dancing on

745

00:35:20,300 --> 00:35:17,430

so really like every time you start a

746

00:35:22,280 --> 00:35:20,310

project think about your audience and

747

00:35:26,089 --> 00:35:22,290

think about how you can modify what

748

00:35:28,220 --> 00:35:26,099

you're doing to reach that audience and

749

00:35:36,230 --> 00:35:28,230

today I would say connect instead of

750

00:35:38,300 --> 00:35:36,240

reach so I'm from the University of

751

00:35:40,010 --> 00:35:38,310

Missouri and I'm involved in this

752

00:35:42,440 --> 00:35:40,020

organization called science on wheels

753

00:35:44,150 --> 00:35:42,450

where we basically take a group of

754

00:35:45,470 --> 00:35:44,160

scientists who practice science

755

00:35:46,790 --> 00:35:45,480

communication and we go into rural

756

00:35:48,829 --> 00:35:46,800

communities where there's not great

757

00:35:51,800 --> 00:35:48,839

science programs and we talk to people

758

00:35:52,730 --> 00:35:51,810

of all ages and it's usually very

759

00:35:54,319 --> 00:35:52,740

hit-or-miss like

760

00:35:56,780 --> 00:35:54,329

the people that come always are very

761

00:35:58,099 --> 00:35:56,790

engaged and seem to ask a lot of

762

00:35:59,750 --> 00:35:58,109

questions to enjoy but one of the

763

00:36:01,640 --> 00:35:59,760

problems that were repeatedly having is

764

00:36:03,980 --> 00:36:01,650

kind of getting people to reliably

765

00:36:06,290 --> 00:36:03,990

reliably come and we are going to

766

00:36:07,970 --> 00:36:06,300

different counties so I guess my

767

00:36:09,770 --> 00:36:07,980

question is since we're constantly

768

00:36:12,650 --> 00:36:09,780

moving locations do you have any

769

00:36:16,190 --> 00:36:12,660

suggestions of how we could get a more

770

00:36:18,230 --> 00:36:16,200

reliable audience I think you should

771

00:36:21,650 --> 00:36:18,240

feed them I always feed them people

772

00:36:23,599 --> 00:36:21,660

always want food or like like being I

773

00:36:26,900 --> 00:36:23,609

mean it's silly to and I struggle with

774

00:36:30,049 --> 00:36:26,910

like buying plastic crap to like get

775

00:36:32,030 --> 00:36:30,059

people to come but food always works I

776

00:36:48,260 --> 00:36:32,040

mean with college students with young

777

00:36:52,099 --> 00:36:48,270

people with teachers it food way high um

778

00:36:54,589 --> 00:36:52,109

so it's part of the my master's thesis I

779

00:36:56,990 --> 00:36:54,599

had a lot of coding to do and I looked

780

00:36:58,940 --> 00:36:57,000

at the program thought I can't do this I

781

00:37:01,370 --> 00:36:58,950

don't have the skill so we launched a

782

00:37:04,339 --> 00:37:01,380

huge social media campaign to try and

783

00:37:06,049 --> 00:37:04,349

kind of educate people other scientists

784

00:37:07,700 --> 00:37:06,059

about the project and try and get people

785

00:37:10,160 --> 00:37:07,710

involved and volunteering to help us

786

00:37:12,230 --> 00:37:10,170

with the coding side that that none of

787

00:37:14,089 --> 00:37:12,240

us could do and although that was

788

00:37:16,039 --> 00:37:14,099

successful when we did find quite a few

789

00:37:19,190 --> 00:37:16,049

volunteers we also got quite a lot of

790

00:37:21,650 --> 00:37:19,200

negativity and negative like comments

791

00:37:23,660 --> 00:37:21,660

and tweets about kind of you know why

792

00:37:25,849 --> 00:37:23,670

can't you do this and why hasn't this

793

00:37:27,049 --> 00:37:25,859

been done before and so just my question

794

00:37:29,990 --> 00:37:27,059

judgment is like how do you deal with

795

00:37:32,690 --> 00:37:30,000

haters or like people who you know

796

00:37:32,990 --> 00:37:32,700

people like against kind of what you're

797

00:37:36,920 --> 00:37:33,000

doing

798

00:37:44,660 --> 00:37:36,930

Thanks I had a particular incident on

799

00:37:46,370 --> 00:37:44,670

sites on top where these big guys we're

800

00:37:52,400 --> 00:37:46,380

not happy to have signs in a bar and we

801

00:37:54,440 --> 00:37:52,410

purposely keep our topics as

802

00:37:57,170 --> 00:37:54,450

non-political as we can right like

803

00:38:00,950 --> 00:37:57,180

science has been politicized but we try

804

00:38:03,020 --> 00:38:00,960

really hard not to make it sound like

805

00:38:06,260 --> 00:38:03,030

it's leaning one way or another

806

00:38:09,560 --> 00:38:06,270

and they got very angry

807

00:38:11,829 --> 00:38:09,570

to science and a bar man it was not what

808

00:38:15,800 --> 00:38:11,839

they wanted they felt like it was

809

00:38:18,470 --> 00:38:15,810

disruptive to them and it really upset

810

00:38:23,030 --> 00:38:18,480

me at the end of the day and it was

811

00:38:27,079 --> 00:38:23,040

scary it was scary they were big guys

812

00:38:29,829 --> 00:38:27,089

and getting you know it was like yeah

813

00:38:36,200 --> 00:38:29,839

it's like online bullying in person um

814

00:38:37,910 --> 00:38:36,210

which is a thing so and you know it

815

00:38:40,070 --> 00:38:37,920

really upset me but at the end of the

816

00:38:41,750 --> 00:38:40,080

day and I don't know that I have a good

817

00:38:45,800 --> 00:38:41,760

resolution to that because it wasn't

818

00:38:49,339 --> 00:38:45,810

like I changed their mind about science

819

00:38:51,740 --> 00:38:49,349

and bars or about what I do and I think

820

00:38:54,410 --> 00:38:51,750

it's hard people have these ingrained

821

00:38:55,970 --> 00:38:54,420

feelings and emotions within them and I

822

00:38:58,430 --> 00:38:55,980

don't know that you can really change

823

00:39:00,980 --> 00:38:58,440

their mind on everything but I took it

824

00:39:04,250 --> 00:39:00,990

as a lesson like I almost took it as a

825

00:39:07,280 --> 00:39:04,260

badge of honor like I must be doing

826

00:39:09,920 --> 00:39:07,290

something then right because if I get to

827

00:39:14,030 --> 00:39:09,930

the point where I'm facing these people

828

00:39:16,730 --> 00:39:14,040

who are angry it means I'm reaching

829

00:39:20,710 --> 00:39:16,740

other audiences that wouldn't

830

00:39:23,480 --> 00:39:20,720

necessarily see science it means that I

831

00:39:27,079 --> 00:39:23,490

have been you know have a big enough

832

00:39:30,260 --> 00:39:27,089

audience that now I'm getting people to

833

00:39:32,900 --> 00:39:30,270

speak up that are angry about it

834

00:39:36,370 --> 00:39:32,910

and I think at the end of the day you

835

00:39:38,720 --> 00:39:36,380

just try to not engage you try to have

836

00:39:40,579 --> 00:39:38,730

again it goes back to the long game

837

00:39:43,160 --> 00:39:40,589

approach of just I just want them to

838

00:39:45,079 --> 00:39:43,170

have a good interaction but in that

839

00:39:46,670 --> 00:39:45,089

particular case that wasn't gonna happen

840

00:39:48,530 --> 00:39:46,680

they had a chip on their shoulder and

841

00:39:50,960 --> 00:39:48,540

there was no way that was going to be a

842

00:39:52,970 --> 00:39:50,970

good interaction or something that was

843

00:39:56,359 --> 00:39:52,980

going to be resolved so I think you just

844

00:39:58,820 --> 00:39:56,369

kind of have to realize that when you do

845

00:40:01,670 --> 00:39:58,830

things and when you reach a large

846

00:40:03,890 --> 00:40:01,680

audience that will happen and just kind

847

00:40:07,160 --> 00:40:03,900

of wear it as a badge of honor like you

848

00:40:10,190 --> 00:40:07,170

did something that was so big that there

849

00:40:11,900 --> 00:40:10,200

were some haters and the best I can say

850

00:40:14,900 --> 00:40:11,910

is just don't engage

851

00:40:17,990 --> 00:40:14,910

and try to always maintain the idea of

852

00:40:22,190 --> 00:40:18,000

like you know maybe if they had a good

853

00:40:24,499 --> 00:40:22,200

experience with with this at the end of

854

00:40:26,180 --> 00:40:24,509

the day they'll be a little softer on it

855

00:40:30,019 --> 00:40:26,190

but there's just people you're not gonna

856

00:40:31,970 --> 00:40:30,029

sway and I'm always glad to have the

857

00:40:36,890 --> 00:40:31,980

discussion because the discussion

858

00:40:39,589 --> 00:40:36,900

happens when that was so ok so I work to

859

00:40:42,740 --> 00:40:39,599

steward a lake that most of everybody in

860

00:40:44,779 --> 00:40:42,750

the Salt Lake Valley hates like I mean I

861

00:40:46,370 --> 00:40:44,789

joke around that my parents almost

862

00:40:49,190 --> 00:40:46,380

disowned me when I told them that I

863

00:40:51,380 --> 00:40:49,200

loved Great Salt Lake and people really

864

00:40:53,329 --> 00:40:51,390

have very negative feelings about the

865

00:40:55,700 --> 00:40:53,339

smell of the lake which hello it's

866

00:40:58,700 --> 00:40:55,710

microbes like transforming energy and

867

00:41:01,880 --> 00:40:58,710

metabolizing and when I can start

868

00:41:03,740 --> 00:41:01,890

talking about those things with people

869

00:41:05,720 --> 00:41:03,750

that hate Great Salt Lake like there's

870

00:41:09,259 --> 00:41:05,730

definitely an opening up and a

871

00:41:12,380 --> 00:41:09,269

conversation that happens where like I

872

00:41:14,329 --> 00:41:12,390

don't need to feel worried about you

873

00:41:16,940 --> 00:41:14,339

know it's giving somebody like some

874

00:41:18,740 --> 00:41:16,950

little facts about Great Salt Lake to

875

00:41:20,390 --> 00:41:18,750

maybe change their mind

876

00:41:37,910 --> 00:41:20,400

not everybody's always gonna like what

877

00:41:40,700 --> 00:41:37,920

you do I thought my job was hard hi

878

00:41:42,019 --> 00:41:40,710

so I was as you guys are introducing

879

00:41:43,999 --> 00:41:42,029

yourself I know that some of you said

880

00:41:45,980 --> 00:41:44,009

that you liked meeting in people and

881

00:41:49,789 --> 00:41:45,990

that you really excited about that but

882

00:41:51,200 --> 00:41:49,799

for me that's very scary um it's very

883

00:41:55,400 --> 00:41:51,210

scary to introduce myself and talk to

884

00:41:58,609 --> 00:41:55,410

people about science that may not have

885

00:42:02,390 --> 00:41:58,619

the same you know interest that I do and

886

00:42:05,140 --> 00:42:02,400

so I realized that there really is not a

887

00:42:08,509 --> 00:42:05,150

great substitution for that one-on-one

888

00:42:12,620 --> 00:42:08,519

personal interaction when you're trying

889

00:42:16,819 --> 00:42:12,630

to talk science to somebody but with

890

00:42:19,009 --> 00:42:16,829

that being said do you what what are

891

00:42:21,410 --> 00:42:19,019

your thoughts on the value of things

892

00:42:24,920 --> 00:42:21,420

like educational gaming or scientific

893

00:42:27,319 --> 00:42:24,930

games is a way to reach out to people

894

00:42:30,349 --> 00:42:27,329

who you may not even ever have the

895

00:42:32,839 --> 00:42:30,359

opportunity ever to meet in your life so

896

00:42:36,470 --> 00:42:32,849

we wrote a book recently that was

897

00:42:39,410 --> 00:42:36,480

published and I don't really have to

898

00:42:41,030 --> 00:42:39,420

talk to anybody to get this like you

899

00:42:43,849 --> 00:42:41,040

know my parents or grandparents are

900

00:42:46,670 --> 00:42:43,859

reading this book about the great great

901
00:42:50,089 --> 00:42:46,680
salt lake monster I don't have to talk

902
00:42:52,549 --> 00:42:50,099
to them at all and it is a really great

903
00:42:56,180 --> 00:42:52,559
way that that we've been able to get

904
00:42:58,010 --> 00:42:56,190
into the community and so I would say

905
00:43:00,170 --> 00:42:58,020
you know think about your superpowers

906
00:43:03,500 --> 00:43:00,180
right I mean you all have superpowers

907
00:43:06,319 --> 00:43:03,510
and figure out what those are and maybe

908
00:43:08,480 --> 00:43:06,329
it's you know writing a kid's story

909
00:43:10,579 --> 00:43:08,490
which really is harder than writing a

910
00:43:14,960 --> 00:43:10,589
scientific paper it took us five years

911
00:43:16,670 --> 00:43:14,970
to write this and it like our goal was

912
00:43:19,010 --> 00:43:16,680
to have it published before she

913
00:43:21,799 --> 00:43:19,020

graduated college and luckily like we

914

00:43:24,079 --> 00:43:21,809

had it done before that but we just held

915

00:43:26,270 --> 00:43:24,089

onto this little seed of like hey oh

916

00:43:27,829 --> 00:43:26,280

honey and I were moms and we've raised

917

00:43:29,539 --> 00:43:27,839

our kids at Great Salt Lake

918

00:43:31,490 --> 00:43:29,549

while we're educating our college

919

00:43:33,559 --> 00:43:31,500

students in our community about the lake

920

00:43:35,660 --> 00:43:33,569

and we've learned a lot from our kids

921

00:43:38,180 --> 00:43:35,670

about it so we're gonna put that into a

922

00:43:39,920 --> 00:43:38,190

book and so these kids they're looking

923

00:43:41,870 --> 00:43:39,930

for the Great Salt Lake monster and

924

00:43:44,089 --> 00:43:41,880

while they don't find the Great Salt

925

00:43:46,220 --> 00:43:44,099

Lake monster they do find lots of cool

926

00:43:48,049 --> 00:43:46,230

things about it like what birds are out

927

00:43:49,849 --> 00:43:48,059

there and that the microbes are

928

00:43:51,680 --> 00:43:49,859

transforming energy and that the lake

929

00:43:55,010 --> 00:43:51,690

doesn't stink it smells like science

930

00:43:58,819 --> 00:43:55,020

right and so I think that's a good way

931

00:44:00,380 --> 00:43:58,829

but also gaming and I'm and I'm not

932

00:44:03,289 --> 00:44:00,390

super familiar with that we do have

933

00:44:06,920 --> 00:44:03,299

college students that are analyzing we

934

00:44:09,079 --> 00:44:06,930

have like three hundred thousand images

935

00:44:12,200 --> 00:44:09,089

of breeding pelicans from a remote

936

00:44:14,720 --> 00:44:12,210

island in Great Salt Lake that we put on

937

00:44:17,230 --> 00:44:14,730

Zooniverse so xenoverse at work is

938

00:44:19,490 --> 00:44:17,240

people power and research and people

939

00:44:22,160 --> 00:44:19,500

3,000 people from all across the world

940

00:44:24,030 --> 00:44:22,170

are sitting at their computers counting

941

00:44:25,950 --> 00:44:24,040

how many pelicans are in the pink

942

00:44:28,530 --> 00:44:25,960

and they have eggs and if there are

943

00:44:31,230 --> 00:44:28,540

babies or if there are people are

944

00:44:35,130 --> 00:44:31,240

coyotes and they're learning about it at

945

00:44:37,530 --> 00:44:35,140

the same time and I would also say one

946

00:44:40,400 --> 00:44:37,540

of the biggest one of the biggest

947

00:44:44,190 --> 00:44:40,410

questions that in request that I get is

948

00:44:46,170 --> 00:44:44,200

firm teachers and how can I use Great

949

00:44:49,380 --> 00:44:46,180

Salt Lake in my classroom and what data

950

00:44:51,330 --> 00:44:49,390

do you have that I can work with and at

951
00:44:53,640 --> 00:44:51,340
first I tried to like reinvent the wheel

952
00:44:55,710 --> 00:44:53,650
and build curriculum and then I realized

953
00:44:58,620 --> 00:44:55,720
I was like really yeah and then I

954
00:45:00,330 --> 00:44:58,630
said that sorry for that and so instead

955
00:45:02,880 --> 00:45:00,340
of me trying to build curriculum I

956
00:45:06,960 --> 00:45:02,890
partner with people in public school

957
00:45:08,700 --> 00:45:06,970
districts that do so um that minimizes

958
00:45:10,800 --> 00:45:08,710
like the social time and you don't have

959
00:45:17,310 --> 00:45:10,810
to stand up in front of 300 people and

960
00:45:19,610 --> 00:45:17,320
like bury your science story so I'm

961
00:45:23,040 --> 00:45:19,620
gonna use my powers and a smile question

962
00:45:24,450 --> 00:45:23,050
but so I'm really curious because I mean

963
00:45:26,610 --> 00:45:24,460

as a chemist I think about things and

964

00:45:30,330 --> 00:45:26,620

like activation barriers and it's easy

965

00:45:31,890 --> 00:45:30,340

for me to go to a bar or elsewhere but

966

00:45:33,240 --> 00:45:31,900

I'm really curious about the process of

967

00:45:37,950 --> 00:45:33,250

like going to a correctional facility

968

00:45:38,940 --> 00:45:37,960

and working with people there and what

969

00:45:40,800 --> 00:45:38,950

does it look like getting in there

970

00:45:41,940 --> 00:45:40,810

because I think in my head it sounds

971

00:45:43,320 --> 00:45:41,950

like it's something that would be much

972

00:45:44,550 --> 00:45:43,330

more difficult and I'm guessing it's

973

00:45:47,430 --> 00:45:44,560

probably a little bit of my own

974

00:45:49,470 --> 00:45:47,440

misconception right we have lots of

975

00:45:51,630 --> 00:45:49,480

volunteers we have 400 volunteers that

976
00:45:54,170 --> 00:45:51,640
come and work at some capacity inside of

977
00:45:57,660 --> 00:45:54,180
our facility and at the Oxbow Joe

978
00:46:00,810 --> 00:45:57,670
Knoxville Joe is a lot smaller there are

979
00:46:03,570 --> 00:46:00,820
three pots in there that could be fully

980
00:46:07,380 --> 00:46:03,580
open we only have funding for two right

981
00:46:08,880 --> 00:46:07,390
now but yeah it's as simple as if you

982
00:46:11,850 --> 00:46:08,890
have something that you want to come in

983
00:46:14,310 --> 00:46:11,860
and teach or you know sure you could

984
00:46:16,680 --> 00:46:14,320
just put in for a volunteer they do a

985
00:46:21,300 --> 00:46:16,690
background check and then

986
00:46:23,340 --> 00:46:21,310
I set you up to teach in whatever area

987
00:46:26,250 --> 00:46:23,350
that I feel it's going to suit their

988
00:46:30,180 --> 00:46:26,260

needs or you could come in the back way

989

00:46:50,690 --> 00:46:30,190

find out yourself but I wouldn't suggest

990

00:46:55,040 --> 00:46:53,180

it's just word of mouth if there's

991

00:46:58,790 --> 00:46:55,050

something you think that you could bring

992

00:47:03,770 --> 00:46:58,800

to the table I would say just get in

993

00:47:06,560 --> 00:47:03,780

touch with with the facility and I know

994

00:47:08,870 --> 00:47:06,570

that we're above and beyond most gels

995

00:47:11,450 --> 00:47:08,880

throughout the country with what we

996

00:47:14,780 --> 00:47:11,460

offer we've always tried to be ahead of

997

00:47:17,630 --> 00:47:14,790

the curve and we do a lot of forward

998

00:47:20,060 --> 00:47:17,640

thinking with our facility we're usually

999

00:47:23,090 --> 00:47:20,070

the first at something you know we have

1000

00:47:24,890 --> 00:47:23,100

a very clean clean facility the first

1001
00:47:27,080 --> 00:47:24,900
time I had ever been inside of that

1002
00:47:30,590 --> 00:47:27,090
facility was when I started the Academy

1003
00:47:34,150 --> 00:47:30,600
and you know walking into that places

1004
00:47:39,140 --> 00:47:34,160
it's kind of scary it's really big and

1005
00:47:42,230 --> 00:47:39,150
there's near smell sometimes more more

1006
00:47:43,160 --> 00:47:42,240
sewing in other areas but um it's not

1007
00:47:44,990 --> 00:47:43,170
what you think so

1008
00:47:47,480 --> 00:47:45,000
you can always I think it's the third

1009
00:47:49,940 --> 00:47:47,490
Saturday of every month we do have tours

1010
00:47:52,370 --> 00:47:49,950
so if you wanted to ever come in and

1011
00:47:54,110 --> 00:47:52,380
tour our facility I would recommend that

1012
00:47:57,800 --> 00:47:54,120
it's a lot different than what you see

1013
00:48:00,710 --> 00:47:57,810

on TV I really enjoy it there though

1014

00:48:04,130 --> 00:48:00,720

I've been there 12 years so eight more

1015

00:48:10,820 --> 00:48:04,140

and I get to retire okay can i abused my

1016

00:48:13,670 --> 00:48:10,830

powers and ask a question what inspired

1017

00:48:20,270 --> 00:48:13,680

you to to be a part of this Academy into

1018

00:48:26,240 --> 00:48:20,280

crazy why did I start so I did rappel

1019

00:48:32,540 --> 00:48:26,250

for 16 years and I was always taking

1020

00:48:35,560 --> 00:48:32,550

down the bad guys 120-pound monk I'm

1021

00:48:43,190 --> 00:48:35,570

flying out an hour and takes out a

1022

00:48:48,920 --> 00:48:43,200

shoplifter but it's true so there was an

1023

00:48:51,050 --> 00:48:48,930

undercover person at our store and he

1024

00:48:54,850 --> 00:48:51,060

saw what I did one time this guy was

1025

00:48:57,540 --> 00:48:54,860

just huge and took out his lights but um

1026
00:48:59,730 --> 00:48:57,550
he says you need to come work with us

1027
00:49:02,700 --> 00:48:59,740
and I thought orders where's this and

1028
00:49:04,260 --> 00:49:02,710
he's at the gel and I said well I don't

1029
00:49:06,540 --> 00:49:04,270
want to work at the prison and he's like

1030
00:49:07,850 --> 00:49:06,550
it's not the prison the gel it's totally

1031
00:49:13,110 --> 00:49:07,860
different

1032
00:49:15,150 --> 00:49:13,120
okay my kids were five and seven I was

1033
00:49:17,520 --> 00:49:15,160
married at the time and I went home and

1034
00:49:20,220 --> 00:49:17,530
shared the story with my ex-husband now

1035
00:49:25,730 --> 00:49:20,230
and he said no you're not gonna work at

1036
00:49:29,850 --> 00:49:28,260
no it means that started the process and

1037
00:49:31,710 --> 00:49:29,860
six months later I was hired

1038
00:49:33,900 --> 00:49:31,720

it was quite this quite the ordeal I was

1039

00:49:34,290 --> 00:49:33,910

32 I hadn't taken a test since high

1040

00:49:37,110 --> 00:49:34,300

school

1041

00:49:40,830 --> 00:49:37,120

and I'm out there doing PT stuff and

1042

00:49:44,970 --> 00:49:40,840

being a mom it does nothing for your

1043

00:49:49,080 --> 00:49:44,980

bladder we'll just say that my pants a

1044

00:49:52,260 --> 00:49:49,090

little I know but I made it through 12

1045

00:49:53,610 --> 00:49:52,270

years later I'm in there I've I've had a

1046

00:49:56,160 --> 00:49:53,620

lot of opportunities within that

1047

00:50:00,150 --> 00:49:56,170

facility anything that I've put forth

1048

00:50:03,720 --> 00:50:00,160

I'd be able to achieve and honestly sky

1049

00:50:06,120 --> 00:50:03,730

is the limit and but it's I love that

1050

00:50:09,800 --> 00:50:06,130

place I love where I work they're my

1051

00:50:12,360 --> 00:50:09,810

family and it's we're not all bad guys

1052

00:50:14,250 --> 00:50:12,370

we want the prisoners to get out and not

1053

00:50:16,500 --> 00:50:14,260

come back you know when I say see you

1054

00:50:18,750 --> 00:50:16,510

next week that you know I might look for

1055

00:50:21,270 --> 00:50:18,760

there you know I'm not coming back and

1056

00:50:23,520 --> 00:50:21,280

then they come back I told her I said I

1057

00:50:26,220 --> 00:50:23,530

told you I'd punch you in the nose when

1058

00:50:30,360 --> 00:50:26,230

you came in so come here you know they

1059

00:50:32,970 --> 00:50:30,370

don't like that but for the most part I

1060

00:50:35,160 --> 00:50:32,980

think we do a really good job over there

1061

00:50:37,250 --> 00:50:35,170

we have a garden program although if you

1062

00:50:40,320 --> 00:50:37,260

guys go to the farmers market downtown

1063

00:50:44,370 --> 00:50:40,330

or at leave our farm we're there every

1064

00:50:47,550 --> 00:50:44,380

weekend and we have huge garden with

1065

00:50:50,930 --> 00:50:47,560

flowers and really yummy stuff so we're

1066

00:50:56,749 --> 00:50:53,890

I went off a lot in the field there so

1067

00:50:58,519 --> 00:50:56,759

I'm kind of laughing because sometimes I

1068

00:51:01,940 --> 00:50:58,529

talk about my college students the way

1069

00:51:22,849 --> 00:51:01,950

she talks about her prisoners I'm gonna

1070

00:51:24,589 --> 00:51:22,859

punch you in the nose okay the only

1071

00:51:28,370 --> 00:51:24,599

difference between the dowel in the

1072

00:51:35,749 --> 00:51:28,380

prison the prison has a lot of it long

1073

00:51:39,289 --> 00:51:35,759

term the gel we have it's pretrial

1074

00:51:40,910 --> 00:51:39,299

detainee so even within that once if

1075

00:51:42,710 --> 00:51:40,920

they've been sentenced to a year we

1076

00:51:45,589 --> 00:51:42,720

usually give them good time if they

1077

00:51:47,799 --> 00:51:45,599

participate in the programs so they

1078

00:51:50,569 --> 00:51:47,809

could knock off 15 days off of a

1079

00:51:52,430 --> 00:51:50,579

sentence so if they got since the 30

1080

00:51:55,249 --> 00:51:52,440

days then they're only never happened

1081

00:51:57,109 --> 00:51:55,259

that so but that's me that's the only

1082

00:52:00,019 --> 00:51:57,119

difference between the jail but the

1083

00:52:03,920 --> 00:52:00,029

prison and I don't know why the prison

1084

00:52:11,809 --> 00:52:03,930

is scary for me I don't know why we have

1085

00:52:13,730 --> 00:52:11,819

the same I guess the same population are

1086

00:52:15,140 --> 00:52:13,740

people they come in you know still with

1087

00:52:17,660 --> 00:52:15,150

blood on their hands from what they just

1088

00:52:22,730 --> 00:52:17,670

did and I don't know why the prison was

1089

00:52:25,900 --> 00:52:22,740

scariest something that she was talked

1090

00:52:30,109 --> 00:52:25,910

about kind of spurred this idea of like

1091

00:52:32,210 --> 00:52:30,119

give give your thing a name so when we

1092

00:52:34,549 --> 00:52:32,220

started at Great Salt Lake Institute we

1093

00:52:36,140 --> 00:52:34,559

didn't we didn't have anything it was

1094

00:52:38,240 --> 00:52:36,150

Westminster College we had biology

1095

00:52:40,579 --> 00:52:38,250

students who were doing research and

1096

00:52:42,040 --> 00:52:40,589

then we gave it the name great audience

1097

00:52:44,020 --> 00:52:42,050

to do and the

1098

00:52:45,610 --> 00:52:44,030

we got like a five hundred and sixty

1099

00:52:48,730 --> 00:52:45,620

thousand dollar grant from the

1100

00:52:52,330 --> 00:52:48,740

Department of Workforce Services to

1101
00:52:54,700 --> 00:52:52,340
interest kids in science and math and in

1102
00:52:57,340 --> 00:52:54,710
and over since that time we've raised

1103
00:52:59,620 --> 00:52:57,350
over two million dollars some of them

1104
00:53:02,980 --> 00:52:59,630
from NASA some of them from private

1105
00:53:06,580 --> 00:53:02,990
foundations some of them from I'm

1106
00:53:08,170 --> 00:53:06,590
forgetting all of it but giving your

1107
00:53:11,110 --> 00:53:08,180
thing and name and getting your

1108
00:53:13,450 --> 00:53:11,120
institution to buy into that I think is

1109
00:53:16,930 --> 00:53:13,460
super important if you go about it in a

1110
00:53:19,240 --> 00:53:16,940
way that like you can sustain that they

1111
00:53:21,220 --> 00:53:19,250
can be very very successful and I think

1112
00:53:23,350 --> 00:53:21,230
you know her prison program is one of

1113
00:53:25,510 --> 00:53:23,360

them the U of you has this Center for

1114

00:53:27,760 --> 00:53:25,520

science and math education and they're

1115

00:53:30,340 --> 00:53:27,770

also I think working in the prison and

1116

00:53:32,740 --> 00:53:30,350

having prison inmates doing things but

1117

00:53:37,650 --> 00:53:32,750

giving it that name and that home is

1118

00:53:55,360 --> 00:53:42,490

hey so more questions

1119

00:53:57,520 --> 00:53:55,370

sorry I'm not a true-crime and often

1120

00:54:02,260 --> 00:53:57,530

times these groupies convicted criminals

1121

00:54:05,940 --> 00:54:02,270

are overlooked people often forget that

1122

00:54:08,980 --> 00:54:05,950

they're gonna be released and this time

1123

00:54:10,840 --> 00:54:08,990

so I want to know more about like what

1124

00:54:12,190 --> 00:54:10,850

is the usual lecturer run like for you

1125

00:54:15,130 --> 00:54:12,200

guys I do you guys have a really big

1126
00:54:16,510 --> 00:54:15,140
turnout are there any and then what are

1127
00:54:18,220 --> 00:54:16,520
some of the challenges and then more

1128
00:54:22,630 --> 00:54:18,230
successes that you've had with this

1129
00:54:25,030 --> 00:54:22,640
program um the inspirer program so far

1130
00:54:26,770 --> 00:54:25,040
has just it's only been there I think it

1131
00:54:29,530 --> 00:54:26,780
started right before I came over so

1132
00:54:31,150 --> 00:54:29,540
probably six to seven months now so I

1133
00:54:33,640 --> 00:54:31,160
know I'm represent and they go into the

1134
00:54:38,080 --> 00:54:33,650
female units which is like herding cats

1135
00:54:40,750 --> 00:54:38,090
a half the time so but overall our

1136
00:54:44,650 --> 00:54:40,760
treatment program we have a it's really

1137
00:54:47,800 --> 00:54:44,660
successful our garden program there was

1138
00:54:49,580 --> 00:54:47,810

a gentleman who once he left he used the

1139

00:54:52,760 --> 00:54:49,590

tools in the trade that he has learned

1140

00:54:54,260 --> 00:54:52,770

because it's also a teaching aspect out

1141

00:54:57,650 --> 00:54:54,270

in the garden so they learn you know

1142

00:54:59,810 --> 00:54:57,660

different like botany and and what does

1143

00:55:02,120 --> 00:54:59,820

well and what and how to grow things and

1144

00:55:04,070 --> 00:55:02,130

the sowing of the seeds and all of that

1145

00:55:07,700 --> 00:55:04,080

so they actually take ownership of what

1146

00:55:09,800 --> 00:55:07,710

they're doing but he was hired right out

1147

00:55:13,280 --> 00:55:09,810

from that and they get their food

1148

00:55:17,030 --> 00:55:13,290

handler's permit as well and he started

1149

00:55:19,580 --> 00:55:17,040

out as a waiter as a waiter and now he

1150

00:55:21,620 --> 00:55:19,590

runs a restaurant and that was two years

1151
00:55:25,490 --> 00:55:21,630
so he's able to get married and have a

1152
00:55:28,430 --> 00:55:25,500
kid and start of a life for his family I

1153
00:55:30,590 --> 00:55:28,440
think that we have a lot more success

1154
00:55:32,750 --> 00:55:30,600
stories but I don't think that they

1155
00:55:34,610 --> 00:55:32,760
always come back and want to share their

1156
00:55:38,420 --> 00:55:34,620
like screw that place I'm never going

1157
00:55:40,220 --> 00:55:38,430
back you know but no I think that as far

1158
00:55:42,140 --> 00:55:40,230
as the treatments Pro treatment programs

1159
00:55:46,190 --> 00:55:42,150
there's some that it's hit miss it is

1160
00:55:47,540 --> 00:55:46,200
like a revolving door and and that's

1161
00:55:49,490 --> 00:55:47,550
really disappointing because literally

1162
00:55:53,300 --> 00:55:49,500
when I say I'll see you next week we do

1163
00:55:55,340 --> 00:55:53,310

if not that night you know which is very

1164

00:55:57,230 --> 00:55:55,350

unfortunate because the gel sucks and

1165

00:55:58,970 --> 00:55:57,240

then you like to complain about how

1166

00:56:00,740 --> 00:55:58,980

awful it is and I always say well then

1167

00:56:04,370 --> 00:56:00,750

quit coming back you know the food is

1168

00:56:06,710 --> 00:56:04,380

not gonna change bud but yeah I think

1169

00:56:10,420 --> 00:56:06,720

overall it's a really good program I'm I

1170

00:56:16,600 --> 00:56:10,430

wish I had more success stories for you

1171

00:56:20,720 --> 00:56:19,220

sorry I just have one more quick

1172

00:56:23,900 --> 00:56:20,730

question sort of well work well we're on

1173

00:56:26,750 --> 00:56:23,910

this so um it I I'm in Berkeley and so I

1174

00:56:28,970 --> 00:56:26,760

am a volunteer at San Quentin in this

1175

00:56:30,680 --> 00:56:28,980

really cool program that's um the prison

1176

00:56:33,080 --> 00:56:30,690

University project where it's an

1177

00:56:35,300 --> 00:56:33,090

in-person teaching and they get

1178

00:56:37,580 --> 00:56:35,310

associate's degrees at the end and so I

1179

00:56:39,560 --> 00:56:37,590

go in once a week and teach algebra and

1180

00:56:41,420 --> 00:56:39,570

one of the really great things I mean

1181

00:56:43,340 --> 00:56:41,430

being in a classroom with them they're

1182

00:56:45,260 --> 00:56:43,350

they're just like the most engaged

1183

00:56:47,570 --> 00:56:45,270

students I've ever really had because

1184

00:56:49,040 --> 00:56:47,580

they want to be there and they really

1185

00:56:51,320 --> 00:56:49,050

many of them haven't been in a classroom

1186

00:56:53,270 --> 00:56:51,330

for you know thirty years or something

1187

00:56:55,910 --> 00:56:53,280

like that but they're so excited to

1188

00:56:58,220 --> 00:56:55,920

learn you know how to graph an

1189

00:56:59,420 --> 00:56:58,230

inequality or you know whatever and you

1190

00:57:01,010 --> 00:56:59,430

don't always get that with college

1191

00:57:01,910 --> 00:57:01,020

students you know eighteen year olds who

1192

00:57:02,390 --> 00:57:01,920

don't really want to be in a general

1193

00:57:05,510 --> 00:57:02,400

campus

1194

00:57:06,680 --> 00:57:05,520

class and so I was wondering and maybe

1195

00:57:09,769 --> 00:57:06,690

with jail being a little bit more

1196

00:57:13,130 --> 00:57:09,779

short-term is there any like agency that

1197

00:57:14,900 --> 00:57:13,140

the inmates have to sort of bring in

1198

00:57:16,910 --> 00:57:14,910

outside speakers or like how the input

1199

00:57:18,319 --> 00:57:16,920

on who you bring in for inspire and

1200

00:57:20,299 --> 00:57:18,329

stuff like that because because that's

1201
00:57:22,940 --> 00:57:20,309
one of the great things but this project

1202
00:57:25,339 --> 00:57:22,950
is that it's it's somewhat in inmate

1203
00:57:27,289 --> 00:57:25,349
directed in terms of at least some of

1204
00:57:30,079 --> 00:57:27,299
the the interactions and the outside

1205
00:57:32,390 --> 00:57:30,089
speakers that they have yeah as of right

1206
00:57:35,299 --> 00:57:32,400
now no I'm it's actually a surprise for

1207
00:57:36,710 --> 00:57:35,309
me every time last time the class we

1208
00:57:38,660 --> 00:57:36,720
taught yesterday was on Parkinson's

1209
00:57:41,930 --> 00:57:38,670
disease which I thought was really

1210
00:57:44,779 --> 00:57:41,940
interesting so usually I get I get

1211
00:57:47,150 --> 00:57:44,789
excited with them but as of right now

1212
00:57:48,529 --> 00:57:47,160
they don't get to choose but that could

1213
00:57:49,130 --> 00:57:48,539

be something we could look at in the

1214

00:57:50,539 --> 00:57:49,140

future

1215

00:57:52,760 --> 00:57:50,549

and seeing if there's something that

1216

00:57:55,640 --> 00:57:52,770

they would like to learn I want to get

1217

00:57:59,589 --> 00:57:55,650

them more based on career opportunities

1218

00:58:01,849 --> 00:57:59,599

for them we had a computer code

1219

00:58:04,010 --> 00:58:01,859

instructor come in I don't know what

1220

00:58:06,710 --> 00:58:04,020

they're called it's like over my like

1221

00:58:08,269 --> 00:58:06,720

computer work but that was really

1222

00:58:11,599 --> 00:58:08,279

interesting and they were so engaged

1223

00:58:13,490 --> 00:58:11,609

because half of the the ladies either

1224

00:58:14,450 --> 00:58:13,500

knew what they were talking about or you

1225

00:58:16,099 --> 00:58:14,460

know hey that's something I could

1226
00:58:18,980 --> 00:58:16,109
totally do because he highlighted the

1227
00:58:21,289 --> 00:58:18,990
fact that anyone can do this and that

1228
00:58:23,900 --> 00:58:21,299
the main person he talked about was

1229
00:58:26,990 --> 00:58:23,910
actually a criminal now he makes lots of

1230
00:58:29,359 --> 00:58:27,000
money though rightly so yeah I'm trying

1231
00:58:31,130 --> 00:58:29,369
to get a more based on on some

1232
00:58:36,890 --> 00:58:31,140
opportunities for careers that when they

1233
00:58:37,970 --> 00:58:36,900
get up high so I'm sort of pivoting

1234
00:58:40,099 --> 00:58:37,980
sorry for that

1235
00:58:42,500 --> 00:58:40,109
so pivoting back to what you mentioned

1236
00:58:44,809 --> 00:58:42,510
at the very beginning about storytelling

1237
00:58:47,120 --> 00:58:44,819
and making that kind of pivotal to your

1238
00:58:48,890 --> 00:58:47,130

science communication any good story

1239

00:58:51,319 --> 00:58:48,900

involves conflicts whether that be

1240

00:58:53,329 --> 00:58:51,329

interpersonal or some other form is

1241

00:58:55,490 --> 00:58:53,339

there any form in particular that you

1242

00:58:57,680 --> 00:58:55,500

find to be more effective in conveying

1243

00:58:59,510 --> 00:58:57,690

your science or is it more story

1244

00:59:02,390 --> 00:58:59,520

dependent in terms of like what type of

1245

00:59:05,809 --> 00:59:02,400

science you want to convey I think it

1246

00:59:08,510 --> 00:59:05,819

really depends on you and like what your

1247

00:59:11,180 --> 00:59:08,520

personal experiences are because like if

1248

00:59:12,680 --> 00:59:11,190

you came up here and told me about how

1249

00:59:15,109 --> 00:59:12,690

when you were breastfeeding your

1250

00:59:19,760 --> 00:59:15,119

that a bomb went off in the West desert

1251

00:59:21,290 --> 00:59:19,770

I'd be like your dude right so like and

1252

00:59:23,690 --> 00:59:21,300

you're not gonna feel the same thing

1253

00:59:25,190 --> 00:59:23,700

that I felt when I was pumping my breast

1254

00:59:27,589 --> 00:59:25,200

milk in the middle of Great Salt Lake

1255

00:59:30,170 --> 00:59:27,599

and a bomb went off and I could see that

1256

00:59:32,660 --> 00:59:30,180

that you know out the window of the boat

1257

00:59:35,300 --> 00:59:32,670

that little like round portal that you

1258

00:59:38,210 --> 00:59:35,310

see I could see this like mushroom cloud

1259

00:59:40,099 --> 00:59:38,220

that was like going off in the West

1260

00:59:42,500 --> 00:59:40,109

desert and then I can start talking

1261

00:59:44,240 --> 00:59:42,510

about what might have been in that and

1262

00:59:46,640 --> 00:59:44,250

how it made me feel and it's much

1263

00:59:48,319 --> 00:59:46,650

different than it would be then if you

1264

00:59:50,329 --> 00:59:48,329

told this story so I think it's very

1265

00:59:52,370 --> 00:59:50,339

dependent on you and it's very dependent

1266

00:59:57,920 --> 00:59:52,380

on the story and what you're trying to

1267

01:00:03,200 --> 00:59:57,930

convey I think it's your question about

1268

01:00:04,640 --> 01:00:03,210

conflicts sometimes I think the the

1269

01:00:07,160 --> 01:00:04,650

thing that's a challenge from a

1270

01:00:09,170 --> 01:00:07,170

journalistic point of view is what is

1271

01:00:12,950 --> 01:00:09,180

the big question that you're trying to

1272

01:00:15,650 --> 01:00:12,960

chip away at and that's very rare if not

1273

01:00:18,170 --> 01:00:15,660

impossible to make scientific progress

1274

01:00:20,030 --> 01:00:18,180

that really answers one of the big

1275

01:00:22,280 --> 01:00:20,040

scientific questions that you know

1276

01:00:25,940 --> 01:00:22,290

generations before us have been you know

1277

01:00:28,339 --> 01:00:25,950

hit their heads against non-stop so I

1278

01:00:30,950 --> 01:00:28,349

think there's sort of two ways to get at

1279

01:00:32,599 --> 01:00:30,960

that one is the what is new about what

1280

01:00:35,809 --> 01:00:32,609

you're working on what is the small

1281

01:00:38,030 --> 01:00:35,819

incremental little turn and then how can

1282

01:00:39,559 --> 01:00:38,040

you zoom back and put that in context in

1283

01:00:42,680 --> 01:00:39,569

terms of chipping away at then being

1284

01:00:44,300 --> 01:00:42,690

questioned I was talking about someone

1285

01:00:46,309 --> 01:00:44,310

earlier you know we're probably never

1286

01:00:48,319 --> 01:00:46,319

going to wake up to headlines of just

1287

01:00:51,980 --> 01:00:48,329

like proof of life beyond Earth done

1288

01:00:54,559 --> 01:00:51,990

next item if the answerable may never

1289

01:00:57,170 --> 01:00:54,569

arrive that cleanly but if it if it is

1290

01:00:59,870 --> 01:00:57,180

you know coming incrementally being able

1291

01:01:03,770 --> 01:00:59,880

to talk about here's what the new you

1292

01:01:05,480 --> 01:01:03,780

know the latest drop is and then why

1293

01:01:11,059 --> 01:01:05,490

does that matter what is the bigger

1294

01:01:15,740 --> 01:01:11,069

question does that help yeah and I agree

1295

01:01:19,849 --> 01:01:15,750

with all of that I think - it's really

1296

01:01:21,560 --> 01:01:19,859

important - even if your topic is really

1297

01:01:24,890 --> 01:01:21,570

specific and

1298

01:01:26,810 --> 01:01:24,900

necessarily palatable to everyone it's

1299

01:01:28,670 --> 01:01:26,820

really important to get out why you got

1300

01:01:31,070 --> 01:01:28,680

passionate about that in the first place

1301

01:01:35,750 --> 01:01:31,080

because we all have that story rate of

1302

01:01:38,960 --> 01:01:35,760

how we got to being in a lab at midnight

1303

01:01:41,270 --> 01:01:38,970

you know pipetting something we have

1304

01:01:43,640 --> 01:01:41,280

that story of what led us there you know

1305

01:01:45,650 --> 01:01:43,650

and often that touches on the

1306

01:01:50,590 --> 01:01:45,660

overarching picture of what we're doing

1307

01:01:54,140 --> 01:01:50,600

so I think that really can reach people

1308

01:01:56,360 --> 01:01:54,150

if they see why you're passionate about

1309

01:02:00,880 --> 01:01:56,370

doing this thing that otherwise might

1310

01:02:04,100 --> 01:02:00,890

seem mundane or really specific and not

1311

01:02:07,070 --> 01:02:04,110

generalizable to everyone if they can

1312

01:02:10,190 --> 01:02:07,080

see what led you down that road to that

1313

01:02:13,190 --> 01:02:10,200

passion they can really get drawn in one

1314

01:02:15,740 --> 01:02:13,200

of the best science on top talks that we

1315

01:02:19,070 --> 01:02:15,750

had was about the spleen like who cares

1316

01:02:22,010 --> 01:02:19,080

about the spleen right and and she just

1317

01:02:24,410 --> 01:02:22,020

told this story in a way that made it

1318

01:02:26,270 --> 01:02:24,420

really fascinating and really engaging

1319

01:02:28,490 --> 01:02:26,280

she even brought an ultrasound machine

1320

01:02:31,280 --> 01:02:28,500

and everyone wanted to go get their

1321

01:02:33,770 --> 01:02:31,290

spleen looked at at the end and who even

1322

01:02:36,740 --> 01:02:33,780

want who even cares you know initially

1323

01:02:39,380 --> 01:02:36,750

going into a talk like that so find what

1324

01:02:41,540 --> 01:02:39,390

your passion is what story can you tell

1325

01:02:44,330 --> 01:02:41,550

that led you to this really specific

1326
01:02:47,600 --> 01:02:44,340
moment in time and that can kind of take

1327
01:02:50,270 --> 01:02:47,610
you out of your specialty and back into

1328
01:02:53,750 --> 01:02:50,280
the real world so we're going to take

1329
01:02:56,180 --> 01:02:53,760
one last question and I would say like

1330
01:02:57,770 --> 01:02:56,190
one thing I try to do a lot as I try at

1331
01:02:59,300 --> 01:02:57,780
the end of my talks or the end of my

1332
01:03:00,710 --> 01:02:59,310
story I mean it depends if it's a

1333
01:03:02,780 --> 01:03:00,720
five-minute story it's hard to do this

1334
01:03:04,910 --> 01:03:02,790
but if you're given an hour-long talk

1335
01:03:07,580 --> 01:03:04,920
and you just build people's brains with

1336
01:03:09,830 --> 01:03:07,590
like so many facts about Great Salt Lake

1337
01:03:12,470 --> 01:03:09,840
like I really try to boil it down to

1338
01:03:14,900 --> 01:03:12,480

like three very simple goals of that

1339

01:03:17,300 --> 01:03:14,910

talk like Great Salt Lake is important

1340

01:03:20,600 --> 01:03:17,310

it's important for birds and humans and

1341

01:03:22,910 --> 01:03:20,610

it has a big economic benefit to the

1342

01:03:25,760 --> 01:03:22,920

city like reiterating those things that

1343

01:03:27,530 --> 01:03:25,770

you told them through your talk to just

1344

01:03:29,230 --> 01:03:27,540

like focus or I'm like what they're

1345

01:03:35,670 --> 01:03:29,240

going to tell their friends or their

1346

01:03:38,920 --> 01:03:35,680

or whatever it is so given the rise of

1347

01:03:42,160 --> 01:03:38,930

not anti science but anti consensus

1348

01:03:46,180 --> 01:03:42,170

science groups like anti-vaxxers and

1349

01:03:49,600 --> 01:03:46,190

flat-earthers that use selective data

1350

01:03:53,020 --> 01:03:49,610

and are often driven by conspiratorial

1351

01:03:54,960 --> 01:03:53,030

thinking do you think there is a good

1352

01:03:58,570 --> 01:03:54,970

way to reach these populations which

1353

01:04:01,330 --> 01:03:58,580

generally fundamentally reject science

1354

01:04:03,340 --> 01:04:01,340

coming from sources of what would

1355

01:04:06,310 --> 01:04:03,350

generally consider be generally be

1356

01:04:09,310 --> 01:04:06,320

considered scientific Authority come

1357

01:04:12,600 --> 01:04:09,320

work in healthcare man I deal with

1358

01:04:15,190 --> 01:04:12,610

anti-vaxxers almost every day I think

1359

01:04:17,500 --> 01:04:15,200

but that's a population that comes to me

1360

01:04:21,580 --> 01:04:17,510

I don't deal with Flat Earth there's as

1361

01:04:24,750 --> 01:04:21,590

much to my knowledge at least they

1362

01:04:29,890 --> 01:04:24,760

haven't told me that to my face

1363

01:04:33,190 --> 01:04:29,900

but kind of reaching out on those groups

1364

01:04:35,200 --> 01:04:33,200

again I think it's hard to target those

1365

01:04:38,200 --> 01:04:35,210

groups in particular unless there's some

1366

01:04:42,460 --> 01:04:38,210

sort of Flat Earth convention like you

1367

01:04:44,770 --> 01:04:42,470

want to go to but just in everyday life

1368

01:04:47,410 --> 01:04:44,780

when they when I come across like an

1369

01:04:51,940 --> 01:04:47,420

aunt a boxer and the conversation goes

1370

01:04:53,200 --> 01:04:51,950

there again I kind of am just mindful of

1371

01:04:55,330 --> 01:04:53,210

like I want this to be a good

1372

01:04:58,720 --> 01:04:55,340

interaction but I'm not going to tell

1373

01:05:00,850 --> 01:04:58,730

them that they're great so it's a

1374

01:05:03,820 --> 01:05:00,860

balancing act of being like so I I'm

1375

01:05:06,160 --> 01:05:03,830

just a pretty straightforward person so

1376

01:05:07,990 --> 01:05:06,170

I'll just say you know in our worlds in

1377

01:05:11,260 --> 01:05:08,000

my in the world of healthcare there's

1378

01:05:13,900 --> 01:05:11,270

enough evidence to and enough studies

1379

01:05:17,380 --> 01:05:13,910

done to show that vaccinations don't

1380

01:05:19,990 --> 01:05:17,390

have this correlation with autism so we

1381

01:05:22,660 --> 01:05:20,000

don't see you know that perspective the

1382

01:05:24,640 --> 01:05:22,670

same way and just speaking to someone in

1383

01:05:27,180 --> 01:05:24,650

a really straightforward way but not in

1384

01:05:30,310 --> 01:05:27,190

a way that's like you're an idiot

1385

01:05:33,100 --> 01:05:30,320

vaccinate your kids or talking down to

1386

01:05:35,920 --> 01:05:33,110

them I think is really important and

1387

01:05:36,359 --> 01:05:35,930

I've never really had a blow-out from it

1388

01:05:37,920 --> 01:05:36,369

you know

1389

01:05:38,940 --> 01:05:37,930

no one's been really angry with me

1390

01:05:40,920 --> 01:05:38,950

they're just like oh that's really

1391

01:05:43,819 --> 01:05:40,930

interesting and they might still hold

1392

01:05:46,230 --> 01:05:43,829

their beliefs at the end of it or

1393

01:05:48,120 --> 01:05:46,240

continue to not vaccinate their children

1394

01:05:50,609 --> 01:05:48,130

but they've had a good interaction with

1395

01:05:52,920 --> 01:05:50,619

me I've told them my perspective and the

1396

01:05:54,960 --> 01:05:52,930

perspective of health care and now they

1397

01:05:56,819 --> 01:05:54,970

have a little bit more information to

1398

01:05:59,039 --> 01:05:56,829

start incorporating into their life and

1399

01:06:00,630 --> 01:05:59,049

maybe if they have ten more of those

1400

01:06:03,480 --> 01:06:00,640

interactions they'll start to come

1401

01:06:05,609 --> 01:06:03,490

around but I certainly just open the

1402

01:06:07,589 --> 01:06:05,619

floor to be able to have a discussion if

1403

01:06:10,259 --> 01:06:07,599

they want to go there but I'm not going

1404

01:06:13,529 --> 01:06:10,269

to put them down or get in an argument

1405

01:06:15,390 --> 01:06:13,539

with about them in an argument with them

1406

01:06:18,809 --> 01:06:15,400

about it and in fact there's a lot of

1407

01:06:21,720 --> 01:06:18,819

good research about arguing and the

1408

01:06:23,190 --> 01:06:21,730

benefits of our viewing and it's really

1409

01:06:25,739 --> 01:06:23,200

that there aren't any benefits of

1410

01:06:28,380 --> 01:06:25,749

arguing in most situations when you

1411

01:06:31,019 --> 01:06:28,390

argue with a person both people come out

1412

01:06:33,599 --> 01:06:31,029

more solidified in their own stance that

1413

01:06:37,650 --> 01:06:33,609

they went into that argument going in

1414

01:06:39,839 --> 01:06:37,660

going into that argument with so arguing

1415

01:06:42,479 --> 01:06:39,849

I would avoid at all costs it's just

1416

01:06:44,970 --> 01:06:42,489

going to make things make that person

1417

01:06:48,989 --> 01:06:44,980

believe their own perspective more and

1418

01:06:51,769 --> 01:06:48,999

you believe your perspective more yeah

1419

01:06:55,019 --> 01:06:51,779

just to follow up on that my instinct is

1420

01:06:57,180 --> 01:06:55,029

it's in terms of bang for the buck your

1421

01:06:58,950 --> 01:06:57,190

energy may be better spent finding

1422

01:07:00,839 --> 01:06:58,960

people who just haven't thought very

1423

01:07:01,859 --> 01:07:00,849

hard about this subject than picking a

1424

01:07:05,190 --> 01:07:01,869

fight with people who are really

1425

01:07:08,309 --> 01:07:05,200

entrenched you might make more headway

1426
01:07:09,630 --> 01:07:08,319
and you know feel better about your work

1427
01:07:13,650 --> 01:07:09,640
not arguing with strangers on the

1428
01:07:15,509 --> 01:07:13,660
Internet through that approach I I think

1429
01:07:17,249 --> 01:07:15,519
about climate change a lot which may be

1430
01:07:20,849 --> 01:07:17,259
you know it's like a little polarizing

1431
01:07:23,130 --> 01:07:20,859
great now and I have been pretty

1432
01:07:25,229 --> 01:07:23,140
successful not in changing people's mind

1433
01:07:28,470 --> 01:07:25,239
but in talking to people just using

1434
01:07:30,120 --> 01:07:28,480
humor so instead of like kind of beating

1435
01:07:31,109 --> 01:07:30,130
down these facts about climate change

1436
01:07:33,390 --> 01:07:31,119
and blah blah blah

1437
01:07:36,029 --> 01:07:33,400
I might start out by telling people that

1438
01:07:37,559 --> 01:07:36,039

branch room have two penises and that

1439

01:07:39,870 --> 01:07:37,569

these male brains sure but you know

1440

01:07:42,900 --> 01:07:39,880

brine shrimp have sex in Great Salt Lake

1441

01:07:45,539 --> 01:07:42,910

and they make all of these little cysts

1442

01:07:47,789 --> 01:07:45,549

that go into aquaculture and so like it

1443

01:07:48,800 --> 01:07:47,799

feeds us this is part of our human food

1444

01:07:51,650 --> 01:07:48,810

chain

1445

01:07:54,950 --> 01:07:51,660

and we can start talking about like the

1446

01:07:57,170 --> 01:07:54,960

repercussions of like water diversions

1447

01:07:59,930 --> 01:07:57,180

and a drying Great Salt Lake not just

1448

01:08:02,090 --> 01:07:59,940

for like our economy and it all can

1449

01:08:04,310 --> 01:08:02,100

start with did you know that a male

1450

01:08:06,320 --> 01:08:04,320

branch reminds two penises really it's

1451

01:08:08,810 --> 01:08:06,330

called the Hemi peen but that isn't

1452

01:08:12,680 --> 01:08:08,820

necessarily important so I use a lot of

1453

01:08:14,840 --> 01:08:12,690

humor to start conversations and then

1454

01:08:17,570 --> 01:08:14,850

kind of bring it back around to like

1455

01:08:19,340 --> 01:08:17,580

this does affect your economy this will

1456

01:08:21,980 --> 01:08:19,350

affect your help and kind of those

1457

01:08:24,440 --> 01:08:21,990

repercussions that are a little bit like

1458

01:08:27,200 --> 01:08:24,450

abstract too and colorizing when you can

1459

01:08:29,240 --> 01:08:27,210

turn your water on and you you don't

1460

01:08:38,510 --> 01:08:29,250

have to go to the well to collect it or