

1
00:00:05,969 --> 00:00:12,379
welcome to the skeptic zone the podcast

2
00:00:09,119 --> 00:00:22,629
from Australia for science and reason

3
00:00:12,380 --> 00:00:26,020
[Music]

4
00:00:22,629 --> 00:00:30,439
yes it's the skeptic Zone episode number

5
00:00:26,019 --> 00:00:32,570
426 for the eighteenth of December 2016

6
00:00:30,440 --> 00:00:35,719
Richard Saunders here with you from the

7
00:00:32,570 --> 00:00:38,420
Bay Area the San Francisco Bay Area here

8
00:00:35,719 --> 00:00:41,929
in California where it is nice and

9
00:00:38,420 --> 00:00:45,770
chilly and cold well for me such a

10
00:00:41,929 --> 00:00:47,689
pleasant change after a very sticky hot

11
00:00:45,770 --> 00:00:50,659
muggy week in Sydney with a couple of

12
00:00:47,689 --> 00:00:52,579
cold days I don't know if its climate

13
00:00:50,658 --> 00:00:56,119
change or what's going on but crazy

14
00:00:52,579 --> 00:01:00,320
weather in Sydney but cool crisp sunny

15
00:00:56,119 --> 00:01:01,609
weather here in California but you don't

16
00:01:00,320 --> 00:01:03,228
want to know about the weather you can

17
00:01:01,609 --> 00:01:05,989
always listen to the weather podcasts

18
00:01:03,228 --> 00:01:08,090
for that is there such a thing I'll have

19
00:01:05,989 --> 00:01:12,379
to have a look coming up on this week's

20
00:01:08,090 --> 00:01:16,010
show a grain of salt Iran sir give get

21
00:01:12,379 --> 00:01:18,679
more from QED earlier in the year and

22
00:01:16,010 --> 00:01:21,469
the question explore discover convention

23
00:01:18,680 --> 00:01:24,259
in Manchester this week I run chats with

24
00:01:21,469 --> 00:01:27,519
Britt Hermes a former naturopathic

25
00:01:24,259 --> 00:01:30,289
doctor who shares the hard truths about

26
00:01:27,519 --> 00:01:34,250
naturopathic medicine to protect

27
00:01:30,289 --> 00:01:36,890
patients our messages please don't be

28
00:01:34,250 --> 00:01:39,618
fooled by natural and alternative

29

00:01:36,890 --> 00:01:41,239
medicine what an interesting interview

30
00:01:39,618 --> 00:01:45,319
this is my friends what an interesting

31
00:01:41,239 --> 00:01:47,560
interview with somebody from should we

32
00:01:45,319 --> 00:01:50,658
say or could we say the other side

33
00:01:47,560 --> 00:01:53,899
something like that so somebody who used

34
00:01:50,659 --> 00:01:58,100
to practice what we regard as a nonsense

35
00:01:53,899 --> 00:02:01,248
and it dawned upon her that it was in

36
00:01:58,099 --> 00:02:03,890
fact nonsense and now she's out to help

37
00:02:01,248 --> 00:02:06,078
expose quackery coming up at the top of

38
00:02:03,890 --> 00:02:08,389
the show an interesting interview not to

39
00:02:06,078 --> 00:02:11,719
be missed then after the brakes are more

40
00:02:08,389 --> 00:02:13,339
from my recent trip to a new zealand

41
00:02:11,719 --> 00:02:16,068
where I was a guest of the New Zealand

42
00:02:13,340 --> 00:02:18,349
skeptics this week i chat to susan go

43
00:02:16,068 --> 00:02:21,379

back an old friend from guerrilla

44

00:02:18,349 --> 00:02:23,419
skepticism on wikipedia what's the

45

00:02:21,379 --> 00:02:24,799
latest what's the latest with guerrilla

46

00:02:23,419 --> 00:02:27,379
skepticism what's a bit of the history

47

00:02:24,800 --> 00:02:31,160
of it and what can you do to help find

48

00:02:27,379 --> 00:02:32,509
out with my interview with Susan Kovac

49

00:02:31,159 --> 00:02:34,579
oh and don't forget to look at the show

50

00:02:32,509 --> 00:02:37,939
notes for this week's episode for a

51

00:02:34,580 --> 00:02:39,710
video of Susan at the famous puzzling

52

00:02:37,939 --> 00:02:43,159
world running around the optical

53

00:02:39,710 --> 00:02:46,969
illusions then after that it's brouhaha

54

00:02:43,159 --> 00:02:49,729
quick science segments this week with

55

00:02:46,969 --> 00:02:51,319
Casey Harrigan now case is going to be

56

00:02:49,729 --> 00:02:54,859
looking at some of the top science

57

00:02:51,319 --> 00:02:58,009
stories for 2016 also reviewing some

58
00:02:54,860 --> 00:03:02,420
science fiction movies and asking the

59
00:02:58,009 --> 00:03:06,229
big question can robots sweat that's

60
00:03:02,419 --> 00:03:08,149
brouhaha from Australia science TV Linda

61
00:03:06,229 --> 00:03:10,219
round off the show guest reporter Kevin

62
00:03:08,150 --> 00:03:12,950
Davies interviews professor Ross Hannon

63
00:03:10,219 --> 00:03:14,659
head of the department of cancer biology

64
00:03:12,949 --> 00:03:17,119
and therapeutics at the John Curtin

65
00:03:14,659 --> 00:03:18,560
school of medical research Australian

66
00:03:17,120 --> 00:03:21,319
national university college of medicine

67
00:03:18,560 --> 00:03:23,860
what a title that is what's the latest

68
00:03:21,319 --> 00:03:26,719
on cancer research in Australia and

69
00:03:23,860 --> 00:03:30,890
what's the link to Jackie Chan the

70
00:03:26,719 --> 00:03:33,439
famous actor / director in his a little

71
00:03:30,889 --> 00:03:36,469
bit of trivia I'm appearing in a Jackie

72
00:03:33,439 --> 00:03:41,439
Chan movie although very briefly coming

73
00:03:36,469 --> 00:03:43,849
up soon which was partly shot in Sydney

74
00:03:41,439 --> 00:03:46,310
blink and you'll miss me however there

75
00:03:43,849 --> 00:03:48,650
you go cancer research in Australia

76
00:03:46,310 --> 00:03:50,599
coming up at the end of the show now

77
00:03:48,650 --> 00:03:52,099
don't forget those people in California

78
00:03:50,599 --> 00:03:55,189
if you're in the bay area i'll be

79
00:03:52,099 --> 00:03:57,949
speaking on thursday december the 29th

80
00:03:55,189 --> 00:03:59,750
in berkeley and if you're in the orange

81
00:03:57,949 --> 00:04:04,069
county los angeles area i'll be speaking

82
00:03:59,750 --> 00:04:05,959
on friday the 30th of december at irvine

83
00:04:04,069 --> 00:04:07,459
but more information about that later on

84
00:04:05,959 --> 00:04:10,250
in the show or just look at the show

85
00:04:07,459 --> 00:04:12,620
notes for this week's episode well it's

86

00:04:10,250 --> 00:04:17,750
time for me to run upstairs now have

87
00:04:12,620 --> 00:04:20,090
some beef stew on a cold night that

88
00:04:17,750 --> 00:04:24,889
sounds like a good idea and contemplate

89
00:04:20,089 --> 00:04:27,739
the next few days of jet lag oh what fun

90
00:04:24,889 --> 00:04:30,709
it isn't if somebody can come up with a

91
00:04:27,740 --> 00:04:33,470
cure for jet lag well I do all that I

92
00:04:30,709 --> 00:04:47,338
hope you enjoy the skeptics earned

93
00:04:33,470 --> 00:04:47,339
[Music]

94
00:04:50,889 --> 00:05:02,600
let's all take this with a grain of salt

95
00:04:53,680 --> 00:05:06,410
he's around ticket i'm here with treat

96
00:05:02,600 --> 00:05:10,160
Henry's acuity in the bathroom so we'll

97
00:05:06,410 --> 00:05:13,039
try to speak quietly Briggs can you tell

98
00:05:10,160 --> 00:05:15,979
the listeners to the skeptic zone why

99
00:05:13,038 --> 00:05:18,439
I'm speaking to you I think you want to

100
00:05:15,978 --> 00:05:21,620

speak with me because I won the Occam

101

00:05:18,439 --> 00:05:24,500

award for best blog and that was a very

102

00:05:21,620 --> 00:05:26,600

exciting moment for me last night and

103

00:05:24,500 --> 00:05:29,839

you were sitting next to me at the table

104

00:05:26,600 --> 00:05:31,760

and dinner last night and applauded me

105

00:05:29,839 --> 00:05:34,399

as I nervously made my way up to the

106

00:05:31,759 --> 00:05:36,099

stage and fumbled my way through an

107

00:05:34,399 --> 00:05:39,589

acceptance speech very inspiring

108

00:05:36,100 --> 00:05:41,750

acceptance speech well um you know I've

109

00:05:39,589 --> 00:05:43,929

been so graciously welcomed into the

110

00:05:41,750 --> 00:05:49,009

skeptic community and this is my first

111

00:05:43,930 --> 00:05:51,168

QED con and it's been such a really cool

112

00:05:49,009 --> 00:05:53,598

experience to meet all of these Twitter

113

00:05:51,168 --> 00:05:58,959

personalities live and in the flesh

114

00:05:53,598 --> 00:06:01,579

they're not just cool characters and um

115
00:05:58,959 --> 00:06:06,259
it came it came from the heart I've been

116
00:06:01,579 --> 00:06:08,659
really overwhelmed by how kind and how

117
00:06:06,259 --> 00:06:10,728
cool everybody has been it's been a

118
00:06:08,660 --> 00:06:12,590
really incredible experience okay so

119
00:06:10,728 --> 00:06:15,259
let's backtrack a little bit okay so you

120
00:06:12,589 --> 00:06:18,679
gave a talk yesterday that told the

121
00:06:15,259 --> 00:06:22,038
audience about your journey so you were

122
00:06:18,680 --> 00:06:25,009
a natural path yes I was a practicing

123
00:06:22,038 --> 00:06:28,189
naturopathic air-quote doctor in the US

124
00:06:25,009 --> 00:06:30,288
for three years i graduated from bastyr

125
00:06:28,189 --> 00:06:32,089
university and then went into practice

126
00:06:30,288 --> 00:06:33,978
as a naturopath thinking that i was

127
00:06:32,089 --> 00:06:37,728
adequately trained to practice medicine

128
00:06:33,978 --> 00:06:39,829
and not just adequately trained to

129
00:06:37,728 --> 00:06:41,930
practice medicine but also that i had

130
00:06:39,829 --> 00:06:44,149
special knowledge about how the body

131
00:06:41,930 --> 00:06:47,030
worked about how herbal medicines work

132
00:06:44,149 --> 00:06:49,389
that homeopathy was real and that

133
00:06:47,029 --> 00:06:51,429
naturopathy was better than

134
00:06:49,389 --> 00:06:55,389
medicine that somehow naturopaths had

135
00:06:51,430 --> 00:06:57,910
this special sets of diagnosing tools to

136
00:06:55,389 --> 00:07:00,129
be able to find these so-called root

137
00:06:57,910 --> 00:07:02,560
causes of diseases that medical doctors

138
00:07:00,129 --> 00:07:04,600
were somehow missing in their amazing

139
00:07:02,560 --> 00:07:07,870
medical training and that I was getting

140
00:07:04,600 --> 00:07:10,240
in my pseudo pseudo medical training

141
00:07:07,870 --> 00:07:11,949
pseudo naturopathic training and then at

142
00:07:10,240 --> 00:07:14,139
some point I we obviously not going to

143

00:07:11,949 --> 00:07:15,250
repeat the entire 50-minute talk that

144
00:07:14,139 --> 00:07:17,349
you gave yesterday that at some point

145
00:07:15,250 --> 00:07:19,839
you basically realized that the evidence

146
00:07:17,350 --> 00:07:22,720
wasn't there so what happened what did

147
00:07:19,839 --> 00:07:24,459
you decide to do I I had a pretty

148
00:07:22,720 --> 00:07:26,890
terrible experience where basically my

149
00:07:24,459 --> 00:07:28,419
boss had been importing a medication the

150
00:07:26,889 --> 00:07:30,279
medication was not approved by the FDA

151
00:07:28,420 --> 00:07:32,530
which makes it illegal and I found

152
00:07:30,279 --> 00:07:34,419
myself in the middle of this mess and so

153
00:07:32,529 --> 00:07:37,089
I walked away from the profession

154
00:07:34,420 --> 00:07:39,850
feeling like the majority of naturopathy

155
00:07:37,089 --> 00:07:42,849
is unethical and that that I is a

156
00:07:39,850 --> 00:07:46,870
natural path was a fraud and I decided

157
00:07:42,850 --> 00:07:49,210

to expose that because as I started to

158

00:07:46,870 --> 00:07:51,310

look into what my education consisted of

159

00:07:49,209 --> 00:07:54,149

and how I was trained I realized that by

160

00:07:51,310 --> 00:07:56,709

default naturopaths are frauds and that

161

00:07:54,149 --> 00:07:58,509

sure people not robots are good people

162

00:07:56,709 --> 00:08:00,879

but we don't have adequate medical

163

00:07:58,509 --> 00:08:03,129

training in order to provide competent

164

00:08:00,879 --> 00:08:04,719

medical care and patience needed to know

165

00:08:03,129 --> 00:08:06,159

that this was not medicine and I felt

166

00:08:04,720 --> 00:08:09,940

ethically compelled to speak out about

167

00:08:06,160 --> 00:08:11,860

it and what were the repercussions for

168

00:08:09,939 --> 00:08:15,089

you because there were significant

169

00:08:11,860 --> 00:08:18,580

repercussions I well the loss of a

170

00:08:15,089 --> 00:08:22,929

community loss of my naturopath friends

171

00:08:18,579 --> 00:08:25,569

a lot of hate emails and the loss of

172
00:08:22,930 --> 00:08:27,519
time but more than loss of time was the

173
00:08:25,569 --> 00:08:30,610
loss of about a quarter of a million

174
00:08:27,519 --> 00:08:32,409
dollars i spent on naturopathy now

175
00:08:30,610 --> 00:08:35,800
trying to figure out how i was going to

176
00:08:32,409 --> 00:08:37,929
make any sort of a living not using this

177
00:08:35,799 --> 00:08:40,299
fake medical degree and to pay back my

178
00:08:37,929 --> 00:08:42,879
federal student loans i SAT through your

179
00:08:40,299 --> 00:08:45,009
talk yesterday and I must say that it

180
00:08:42,879 --> 00:08:47,169
was truly inspiring first of all your

181
00:08:45,009 --> 00:08:50,559
great speaker but there's something else

182
00:08:47,169 --> 00:08:52,809
that is that people find it very very

183
00:08:50,559 --> 00:08:54,219
difficult to give up something that

184
00:08:52,809 --> 00:08:55,919
they've invested a lot in other

185
00:08:54,220 --> 00:08:59,370
emotionally or financially or

186
00:08:55,919 --> 00:09:02,129
in terms of time what do you think it is

187
00:08:59,370 --> 00:09:04,049
that made you different because it is

188
00:09:02,129 --> 00:09:05,549
different most people will stick I mean

189
00:09:04,049 --> 00:09:08,909
you've actually mentioned through your

190
00:09:05,549 --> 00:09:11,879
talk several colleagues and friends who

191
00:09:08,909 --> 00:09:13,708
actually kind of know but it's fraud but

192
00:09:11,879 --> 00:09:14,970
they stick to it because as you said

193
00:09:13,708 --> 00:09:17,399
they have to make a living they have

194
00:09:14,970 --> 00:09:18,810
loans to pay and all of that what do you

195
00:09:17,399 --> 00:09:21,179
think it is that drove you to actually

196
00:09:18,809 --> 00:09:23,549
be different and make that huge

197
00:09:21,179 --> 00:09:25,198
sacrifice well I started to look at what

198
00:09:23,549 --> 00:09:28,319
natural rafts were doing because I was

199
00:09:25,198 --> 00:09:31,139
afraid basically so initially fear was a

200

00:09:28,320 --> 00:09:33,778
big motivating factor because I didn't

201
00:09:31,139 --> 00:09:37,528
really understand what I had done by

202
00:09:33,778 --> 00:09:41,278
helping to administer this non-approved

203
00:09:37,528 --> 00:09:43,169
cancer drug to patients so fear drove me

204
00:09:41,278 --> 00:09:46,169
to start to look at what the legal

205
00:09:43,169 --> 00:09:47,879
implications of that war and then after

206
00:09:46,169 --> 00:09:49,559
just sort of looking at it in a black

207
00:09:47,879 --> 00:09:52,620
and white way like what's legal what's

208
00:09:49,559 --> 00:09:56,309
illegal and instead to look at the the

209
00:09:52,620 --> 00:09:58,889
nuanced ethics of that and you know what

210
00:09:56,309 --> 00:10:01,528
does it mean to call yourself a doctor

211
00:09:58,889 --> 00:10:04,470
or a physician what kind of power comes

212
00:10:01,528 --> 00:10:06,120
with that you know is it ethical to

213
00:10:04,470 --> 00:10:08,610
charge money when you're knowingly

214
00:10:06,120 --> 00:10:10,889

giving an ineffective remedy even if you

215

00:10:08,610 --> 00:10:12,860

think maybe that's emotionally or

216

00:10:10,889 --> 00:10:16,528

psychologically helping the patient and

217

00:10:12,860 --> 00:10:19,289

I began to form some pretty strong

218

00:10:16,528 --> 00:10:21,208

opinions around that based on a huge

219

00:10:19,289 --> 00:10:23,969

body of knowledge that was already

220

00:10:21,208 --> 00:10:27,059

present so what really helped me was the

221

00:10:23,970 --> 00:10:28,290

fact that there were many sources for me

222

00:10:27,059 --> 00:10:30,629

to turn to of course there are the

223

00:10:28,289 --> 00:10:32,849

classics even Barrett's clockwatch which

224

00:10:30,629 --> 00:10:35,759

was really difficult to read I have to

225

00:10:32,850 --> 00:10:36,879

say science-based medicine blog and then

226

00:10:35,759 --> 00:10:40,059

some

227

00:10:36,879 --> 00:10:42,279

or neutral sources of information like

228

00:10:40,059 --> 00:10:43,659

from Simon Singh and as it earns their

229
00:10:42,279 --> 00:10:45,399
book trigger treatment alternative

230
00:10:43,659 --> 00:10:49,059
medicine on trial so I started to make

231
00:10:45,399 --> 00:10:51,759
my way through I tried try to form my

232
00:10:49,059 --> 00:10:53,859
own opinions now what I found was that

233
00:10:51,759 --> 00:10:56,889
my opinions already fit with the

234
00:10:53,860 --> 00:11:00,279
opinions of many scientists and skeptics

235
00:10:56,889 --> 00:11:02,949
and so sort of fitting my voice into

236
00:11:00,279 --> 00:11:05,769
their voice was a huge light bulb moment

237
00:11:02,950 --> 00:11:07,930
for me to realize that I couldn't I

238
00:11:05,769 --> 00:11:11,850
couldn't look at myself in the mirror

239
00:11:07,929 --> 00:11:14,529
and do this I couldn't do it so you know

240
00:11:11,850 --> 00:11:17,019
with your husband in Germany so and

241
00:11:14,529 --> 00:11:19,480
you're studying studying what I'm

242
00:11:17,019 --> 00:11:22,329
studying I'm pursuing a master of

243
00:11:19,480 --> 00:11:24,039
science and biomedical research which

244
00:11:22,330 --> 00:11:26,470
you wouldn't have thought so a few years

245
00:11:24,039 --> 00:11:28,389
ago but it's quite a departure from four

246
00:11:26,470 --> 00:11:29,620
more years to you would have thought at

247
00:11:28,389 --> 00:11:31,090
the time you would have thought that it

248
00:11:29,620 --> 00:11:32,679
was science what you were doing but now

249
00:11:31,090 --> 00:11:35,110
you realize that it's quite a departure

250
00:11:32,679 --> 00:11:37,120
right yeah I thought I knew what

251
00:11:35,110 --> 00:11:38,970
research was all about I had

252
00:11:37,120 --> 00:11:41,799
participated a little bit in

253
00:11:38,970 --> 00:11:43,620
naturopathic research and looking at the

254
00:11:41,799 --> 00:11:47,259
effectiveness of some herbal remedies I

255
00:11:43,620 --> 00:11:50,830
was not doing anything close to research

256
00:11:47,259 --> 00:11:53,439
then but I only know that because I have

257

00:11:50,830 --> 00:11:57,009
gone to great lengths to re-educate

258
00:11:53,440 --> 00:11:59,740
myself and to integrate myself into

259
00:11:57,009 --> 00:12:01,389
communities that strive to produce high

260
00:11:59,740 --> 00:12:04,180
quality research with a high set of

261
00:12:01,389 --> 00:12:06,189
ethics so I've become involved with

262
00:12:04,179 --> 00:12:10,289
sense about science all trials campaign

263
00:12:06,190 --> 00:12:13,690
for example and and wanting to

264
00:12:10,289 --> 00:12:17,500
understand all sides of the complexities

265
00:12:13,690 --> 00:12:19,840
of ethics around medicine so well you on

266
00:12:17,500 --> 00:12:21,850
the very well deserved welcome award

267
00:12:19,840 --> 00:12:23,560
last night for your blog so where is it

268
00:12:21,850 --> 00:12:25,420
where can people find your blog people

269
00:12:23,559 --> 00:12:27,219
can find me at naturopathic Diaries calm

270
00:12:25,419 --> 00:12:28,990
and you also write for science-based

271
00:12:27,220 --> 00:12:30,910

medicine or have written for sons best

272

00:12:28,990 --> 00:12:32,590

medicine I've written off and on over

273

00:12:30,909 --> 00:12:35,469

the past two years for science-based

274

00:12:32,590 --> 00:12:37,780

medicine calm I also write for science

275

00:12:35,470 --> 00:12:40,330

two point oh and I now write for forbes

276

00:12:37,779 --> 00:12:42,579

as well very nice well congratulations

277

00:12:40,330 --> 00:12:45,690

on the award and on doing the right

278

00:12:42,580 --> 00:13:00,509

thing thank you very much baby thank you

279

00:12:45,690 --> 00:13:02,970

oh do you think ink and you'll pass

280

00:13:00,509 --> 00:13:06,960

thinking the people who brought you dr.

281

00:13:02,970 --> 00:13:11,190

Neil deGrasse Tyson James Randi dr. Ben

282

00:13:06,960 --> 00:13:13,470

Goldacre dr. Lisa Randall sam Harris and

283

00:13:11,190 --> 00:13:17,190

many more are delighted to announce

284

00:13:13,470 --> 00:13:19,680

their annual pass for 2017 this pass

285

00:13:17,190 --> 00:13:21,360

allows access to all their events priced

286
00:13:19,679 --> 00:13:23,879
at just two hundred and ninety-nine

287
00:13:21,360 --> 00:13:26,639
dollars the average cost of two tickets

288
00:13:23,879 --> 00:13:30,179
the annual pass will include a VIP

289
00:13:26,639 --> 00:13:32,490
seating and a podcast and video versions

290
00:13:30,179 --> 00:13:34,979
of the event just in case you can't make

291
00:13:32,490 --> 00:13:37,379
it in person do you think ink and your

292
00:13:34,980 --> 00:13:40,139
past is a perfect way for regular

293
00:13:37,379 --> 00:13:42,629
figures to maximize their experience as

294
00:13:40,139 --> 00:13:45,509
well as a clever present for friends and

295
00:13:42,629 --> 00:13:48,179
family looking to explore smart answers

296
00:13:45,509 --> 00:13:50,939
to big questions a highlight of the

297
00:13:48,179 --> 00:13:54,659
coming season is none other than named

298
00:13:50,940 --> 00:13:58,890
Jane Goodall for more information and to

299
00:13:54,659 --> 00:14:02,449
get your annual pass visit pink inc dot

300
00:13:58,889 --> 00:14:02,449
org dot a you

301
00:14:10,639 --> 00:14:22,399
[Music]

302
00:14:22,440 --> 00:14:28,750
so let's talk about gsam yes let's do

303
00:14:27,250 --> 00:14:30,698
that let's that's all I want to talk

304
00:14:28,750 --> 00:14:34,089
about that's it here we are we're at the

305
00:14:30,698 --> 00:14:36,519
beautiful queenstown airport having a

306
00:14:34,089 --> 00:14:37,779
little snack the conference hasn't

307
00:14:36,519 --> 00:14:39,250
really started yet but we had a bit of

308
00:14:37,778 --> 00:14:42,490
free time and we're right next door

309
00:14:39,250 --> 00:14:43,750
we're right next oh yeah back when we're

310
00:14:42,490 --> 00:14:45,549
at the conference if we look out the

311
00:14:43,750 --> 00:14:48,159
window we can way that the people flying

312
00:14:45,549 --> 00:14:53,139
in or out there are venue is an

313
00:14:48,159 --> 00:14:55,000
ambulance company yeah so go figure it's

314

00:14:53,139 --> 00:14:57,579
lovely but it's a beautiful gift

315
00:14:55,000 --> 00:14:59,110
beautiful day of you I mean I'm my talks

316
00:14:57,578 --> 00:15:01,929
gonna be rubbish but at least people oh

317
00:14:59,110 --> 00:15:03,970
no no no no no no it's gonna be

318
00:15:01,929 --> 00:15:06,758
wonderful house Gorillaz kippis isn't

319
00:15:03,970 --> 00:15:11,500
going well how is guerrilla skepticism

320
00:15:06,759 --> 00:15:13,300
on wikipedia going it is I'm going yes

321
00:15:11,500 --> 00:15:15,759
it is going I'm so proud of the people

322
00:15:13,299 --> 00:15:18,729
who are working for me and we've

323
00:15:15,759 --> 00:15:22,360
released for new pages in the last 24

324
00:15:18,730 --> 00:15:27,149
hours what are they Wow well there are

325
00:15:22,360 --> 00:15:31,180
four speakers mark hanna and Mark Bryan

326
00:15:27,149 --> 00:15:32,948
Tanya and I'm sorry I put you on the

327
00:15:31,179 --> 00:15:34,958
spot but in other words what I'm trying

328
00:15:32,948 --> 00:15:36,609

to get the point is if there's this

329

00:15:34,958 --> 00:15:37,989

because he's a conference yet and so

330

00:15:36,610 --> 00:15:39,909

you're on the ball guerrilla skepticism

331

00:15:37,990 --> 00:15:42,100

what on Wikipedia on the ball and

332

00:15:39,909 --> 00:15:43,620

updating Wikipedia right and we're going

333

00:15:42,100 --> 00:15:46,509

to be doing a lot of photographs and

334

00:15:43,620 --> 00:15:49,990

have you know I as much as we are we're

335

00:15:46,509 --> 00:15:52,269

gonna get your smiling face on the

336

00:15:49,990 --> 00:15:53,948

picture of me at the moment which folks

337

00:15:52,269 --> 00:15:55,389

unless you know it you won't see because

338

00:15:53,948 --> 00:15:57,879

it's going to be replaced tomorrow or

339

00:15:55,389 --> 00:16:01,120

the next day I have is a picture of me

340

00:15:57,879 --> 00:16:03,278

taken oh I don't know 2007 with it from

341

00:16:01,120 --> 00:16:05,169

the Australian crew I mean the Alaskan

342

00:16:03,278 --> 00:16:08,588

cruise no the picture of me on Wikipedia

343
00:16:05,169 --> 00:16:10,899
is actually a picture of me dressed up

344
00:16:08,589 --> 00:16:13,389
as a psychiatric patient on a TV show oh

345
00:16:10,899 --> 00:16:16,480
no really yeah yeah oh maybe we should

346
00:16:13,389 --> 00:16:18,339
leave it that's why if you look

347
00:16:16,480 --> 00:16:20,829
carefully i'm wearing as a

348
00:16:18,339 --> 00:16:24,339
gown of a hospital gown I get that it's

349
00:16:20,828 --> 00:16:26,620
a scrub or something like that oh my

350
00:16:24,339 --> 00:16:29,350
gosh no maybes a little bit of trivia

351
00:16:26,620 --> 00:16:31,509
for you okay there you go I am but

352
00:16:29,350 --> 00:16:34,509
anyway with new photos we're going to

353
00:16:31,509 --> 00:16:36,459
get audio and there's a lot of stuff to

354
00:16:34,509 --> 00:16:40,269
do so we've got to get all these pages

355
00:16:36,458 --> 00:16:43,359
done I was working on a page for one of

356
00:16:40,269 --> 00:16:46,720
the founders of the New Zealand skeptics

357
00:16:43,360 --> 00:16:47,620
and you know pulling in the content one

358
00:16:46,720 --> 00:16:50,199
of the thing I'm going to be talking

359
00:16:47,620 --> 00:16:51,730
about at this conference is the

360
00:16:50,198 --> 00:16:53,469
importance of gathering the history

361
00:16:51,730 --> 00:16:54,999
collecting it and putting in a place

362
00:16:53,470 --> 00:16:56,439
where we can actually get to it because

363
00:16:54,999 --> 00:16:58,300
a lot of groups don't realize that

364
00:16:56,438 --> 00:17:00,338
they're going to be a thing someday so

365
00:16:58,299 --> 00:17:02,349
that so they don't they don't take the

366
00:17:00,339 --> 00:17:04,509
photos or they don't upload them

367
00:17:02,350 --> 00:17:07,120
someplace where they can be accessed by

368
00:17:04,509 --> 00:17:09,158
a historian because basically we're

369
00:17:07,119 --> 00:17:11,318
historians yeah we're historians at the

370
00:17:09,159 --> 00:17:13,120
skeptical community and we have to be able

371

00:17:11,318 --> 00:17:19,568
to find it you were so kind to give me

372
00:17:13,119 --> 00:17:23,168
wet four gigabytes of above information

373
00:17:19,568 --> 00:17:25,209
from your collection all right I don't

374
00:17:23,169 --> 00:17:27,549
have that I just used it for I pulled up

375
00:17:25,209 --> 00:17:30,220
a video firewalking video from the New

376
00:17:27,548 --> 00:17:32,109
Zealand skeptics oh yeah I looked at my

377
00:17:30,220 --> 00:17:34,509
archives just the other day because I

378
00:17:32,109 --> 00:17:36,428
was thinking about buying another hard

379
00:17:34,509 --> 00:17:41,349
drive to back them up I think it's

380
00:17:36,429 --> 00:17:45,159
running at the moment to 260 gigabytes I

381
00:17:41,349 --> 00:17:47,288
think Wow of archival material i have at

382
00:17:45,159 --> 00:17:51,090
the moment so i need to buy bigger

383
00:17:47,288 --> 00:17:53,220
drives to back it out it was upon

384
00:17:51,089 --> 00:17:56,079
thousands of hours and this is no

385
00:17:53,220 --> 00:17:59,170

exaggeration thousands of hours of

386

00:17:56,079 --> 00:18:01,960

videos i have on skeptical matters

387

00:17:59,170 --> 00:18:04,060

because when i joined the skeptics in

388

00:18:01,960 --> 00:18:06,549

australia many years ago one of the

389

00:18:04,059 --> 00:18:08,559

first things I did was i raided the

390

00:18:06,549 --> 00:18:10,059

video library of Barry Williams a

391

00:18:08,559 --> 00:18:13,329

longtime editor of the skeptic magazine

392

00:18:10,059 --> 00:18:17,559

who for years before had recorded

393

00:18:13,329 --> 00:18:19,809

skeptical things off the telly so that

394

00:18:17,559 --> 00:18:23,069

started me off in my video archiving it

395

00:18:19,809 --> 00:18:25,179

since then raiding youtube or just

396

00:18:23,069 --> 00:18:27,579

sources here and there I've got a lot of

397

00:18:25,180 --> 00:18:28,900

stuff oh yeah and we have to have that

398

00:18:27,579 --> 00:18:31,929

and we need to get it in places where

399

00:18:28,900 --> 00:18:35,650

somebody can access it for example Barry

400
00:18:31,930 --> 00:18:40,360
car the executive director of psych on

401
00:18:35,650 --> 00:18:42,940
sigh cop he has huge metal filing

402
00:18:40,359 --> 00:18:47,319
cabinets in his office many of them full

403
00:18:42,940 --> 00:18:50,410
of scrapbooked newspaper clippings well

404
00:18:47,319 --> 00:18:51,639
that's going to be archived and what is

405
00:18:50,410 --> 00:18:54,009
you need to be scanned it needs to be

406
00:18:51,640 --> 00:18:57,490
scanned and forget scanning that takes

407
00:18:54,009 --> 00:18:59,950
too long I'm no plug for Apple but i

408
00:18:57,490 --> 00:19:01,420
have an iphone 7 and my goodness me you

409
00:18:59,950 --> 00:19:03,309
put that in front of a document and take

410
00:19:01,420 --> 00:19:05,080
a picture oh that's true and be able to

411
00:19:03,309 --> 00:19:06,730
scan at you'd be able to search for it

412
00:19:05,079 --> 00:19:08,500
yeah yeah there's so much more you need

413
00:19:06,730 --> 00:19:11,230
conduct that pretty quickly into a PDF

414
00:19:08,500 --> 00:19:12,910
which I think can be searchable there's

415
00:19:11,230 --> 00:19:14,920
some technology that does it so yeah a

416
00:19:12,910 --> 00:19:17,519
lot of the material I have at home I do

417
00:19:14,920 --> 00:19:20,650
by taking photographs of documents and

418
00:19:17,519 --> 00:19:22,509
they're great Nick you can hi race and

419
00:19:20,650 --> 00:19:24,610
away you go and we need to have that

420
00:19:22,509 --> 00:19:26,500
done I you know if there's people out

421
00:19:24,609 --> 00:19:28,209
there who really want to help out the

422
00:19:26,500 --> 00:19:30,519
community help out to preserve our

423
00:19:28,210 --> 00:19:31,930
history that is one project that needs

424
00:19:30,519 --> 00:19:34,900
to be done and it would really support

425
00:19:31,930 --> 00:19:36,340
JSO w because we don't have the access

426
00:19:34,900 --> 00:19:37,840
to all those newspaper clippings we

427
00:19:36,339 --> 00:19:40,000
don't even know they exist you can't

428

00:19:37,839 --> 00:19:42,039
find him there are as i discovered

429
00:19:40,000 --> 00:19:44,470
recently in the skeptic zone fans will

430
00:19:42,039 --> 00:19:46,750
remember a few weeks ago I did a story

431
00:19:44,470 --> 00:19:49,509
about archiving I found lots of things

432
00:19:46,750 --> 00:19:51,400
on the web where newspapers have been

433
00:19:49,509 --> 00:19:53,170
archived there are lots in the world

434
00:19:51,400 --> 00:19:56,140
that haven't right and it needs to be

435
00:19:53,170 --> 00:19:57,490
done and in your right this sort of

436
00:19:56,140 --> 00:19:59,800
thing is invaluable for what you're

437
00:19:57,490 --> 00:20:01,870
doing we did the I rewrote the Wikipedia

438
00:19:59,799 --> 00:20:06,339
page for the New Zealand skeptics a few

439
00:20:01,869 --> 00:20:10,899
weeks ago I could not find photographs

440
00:20:06,339 --> 00:20:13,389
of the conference before 2010

441
00:20:10,900 --> 00:20:15,730
they're not there I know people had

442
00:20:13,390 --> 00:20:17,410

cameras I'm sure they're there somewhere

443

00:20:15,730 --> 00:20:20,980

but nobody can find him I can help you

444

00:20:17,410 --> 00:20:25,360

out oh because I last spoke at the New

445

00:20:20,980 --> 00:20:29,140

Zealand skeptics conference in 2003 oh I

446

00:20:25,359 --> 00:20:30,429

think and after this interview thanks to

447

00:20:29,140 --> 00:20:32,320

the wonders of the internet I can

448

00:20:30,430 --> 00:20:34,539

probably pull up photographs there you

449

00:20:32,319 --> 00:20:37,899

go we've been having conferences since

450

00:20:34,539 --> 00:20:40,450

1986 that i did not know that's

451

00:20:37,900 --> 00:20:42,820

impressive I had no idea myself I had to

452

00:20:40,450 --> 00:20:44,350

go back and search and the people here

453

00:20:42,819 --> 00:20:46,359

have been very very generous with their

454

00:20:44,349 --> 00:20:48,789

time helping me find these records but

455

00:20:46,359 --> 00:20:50,289

there's very few records to find we went

456

00:20:48,789 --> 00:20:53,069

through the archives of all the old

457
00:20:50,289 --> 00:20:55,750
magazines that they have they have

458
00:20:53,069 --> 00:20:57,549
written and we were able to get a little

459
00:20:55,750 --> 00:21:00,250
bit of information here they're like

460
00:20:57,549 --> 00:21:03,250
maybe you would say in our last

461
00:21:00,250 --> 00:21:05,680
conference in Wellington and I thought

462
00:21:03,250 --> 00:21:07,839
oh the conferences in Wellington that's

463
00:21:05,680 --> 00:21:10,360
all I know you know you know the year

464
00:21:07,839 --> 00:21:13,269
and in the city but that was all there's

465
00:21:10,359 --> 00:21:16,719
no flyer there's no photographs there's

466
00:21:13,269 --> 00:21:20,170
I don't who the speakers were yeah well

467
00:21:16,720 --> 00:21:23,140
i did so long now I don't I cannot

468
00:21:20,170 --> 00:21:26,350
remember who the speakers were on the

469
00:21:23,140 --> 00:21:29,259
conference that I went to I went with a

470
00:21:26,349 --> 00:21:30,879
Linda and we were some of the original

471
00:21:29,259 --> 00:21:33,339
members of the mr. investigated to show

472
00:21:30,880 --> 00:21:35,620
and we did a performance here in New

473
00:21:33,339 --> 00:21:37,149
Zealand it was a Christchurch yeah so we

474
00:21:35,619 --> 00:21:38,439
did a very early version of the mystery

475
00:21:37,150 --> 00:21:40,269
investigators show complete with the

476
00:21:38,440 --> 00:21:42,009
better nails because they had a bed of

477
00:21:40,269 --> 00:21:43,599
nails believe it or not I was going to

478
00:21:42,009 --> 00:21:45,940
ask how'd you get the bed of nails I had

479
00:21:43,599 --> 00:21:47,889
they had one and we did water divining

480
00:21:45,940 --> 00:21:52,360
in the hollow and you know what way and

481
00:21:47,890 --> 00:21:55,050
now we chat about it I have the video of

482
00:21:52,359 --> 00:21:57,909
it at home because I videoed that

483
00:21:55,049 --> 00:21:59,409
performance how about that well now I

484
00:21:57,910 --> 00:22:01,480
know what we're going to be doing later

485

00:21:59,410 --> 00:22:03,790
today we're good at well once you get

486
00:22:01,480 --> 00:22:05,230
back to when to get back to Australia

487
00:22:03,789 --> 00:22:07,720
and I get back to the United States but

488
00:22:05,230 --> 00:22:10,000
I know this stuff is out there yeah and

489
00:22:07,720 --> 00:22:11,829
I can't just take it off the web even if

490
00:22:10,000 --> 00:22:17,190
I found it I have to have the permission

491
00:22:11,829 --> 00:22:20,198
of the person who owns it to upload it

492
00:22:17,190 --> 00:22:22,149
you know it's just too important it is

493
00:22:20,199 --> 00:22:23,440
it is it's very important so what are

494
00:22:22,148 --> 00:22:26,858
some of the highlights over the last

495
00:22:23,440 --> 00:22:28,359
couple of years with your work so what

496
00:22:26,858 --> 00:22:29,648
we're trying to do is encouraging people

497
00:22:28,358 --> 00:22:31,598
out there to get really interesting

498
00:22:29,648 --> 00:22:33,488
Susan so what are the some of the

499
00:22:31,598 --> 00:22:35,558

highlights so one of the things we've

500

00:22:33,489 --> 00:22:37,979

done recently is we have completely

501

00:22:35,558 --> 00:22:42,808

changed how we train it is all

502

00:22:37,979 --> 00:22:45,999

self-paced I am the trainer and we are

503

00:22:42,808 --> 00:22:48,699

existing on facebook in a secret hidden

504

00:22:45,999 --> 00:22:51,848

group where we it's called the secret

505

00:22:48,699 --> 00:22:53,528

cabal and once you join our training

506

00:22:51,848 --> 00:22:55,898

program you're put in the secret cabal

507

00:22:53,528 --> 00:22:57,818

with all the other editors and we learn

508

00:22:55,898 --> 00:22:59,588

from each other we discuss what we're

509

00:22:57,818 --> 00:23:02,168

doing we proof read each other's

510

00:22:59,588 --> 00:23:04,358

articles we help train each other

511

00:23:02,169 --> 00:23:07,869

suggestions it's just incredible it's a

512

00:23:04,358 --> 00:23:11,318

very powerful friendly encouraging

513

00:23:07,868 --> 00:23:13,328

environment then as I said we've changed

514
00:23:11,318 --> 00:23:15,999
training so that it's we're using google

515
00:23:13,328 --> 00:23:18,038
documents it's self-paced people can do

516
00:23:15,999 --> 00:23:20,558
it at their own leisure and I will keep

517
00:23:18,038 --> 00:23:21,908
up with them as they edit so as they go

518
00:23:20,558 --> 00:23:23,019
through their assignments they report

519
00:23:21,909 --> 00:23:24,639
back to me and say I finish this

520
00:23:23,019 --> 00:23:26,798
assignment or whatever and I check it

521
00:23:24,638 --> 00:23:29,348
and we come we and we talked about it

522
00:23:26,798 --> 00:23:31,179
and we move on to the next one so you

523
00:23:29,348 --> 00:23:32,618
can watch all the videos and follow all

524
00:23:31,179 --> 00:23:34,809
the blogs and you can read everything

525
00:23:32,618 --> 00:23:36,368
you need to read and on your own time so

526
00:23:34,808 --> 00:23:39,638
it can take you weeks or months to

527
00:23:36,368 --> 00:23:42,608
finish and I think that the way we've

528
00:23:39,638 --> 00:23:45,778
set it up now is much less stress on me

529
00:23:42,608 --> 00:23:48,759
so you should assign everything yes and

530
00:23:45,778 --> 00:23:50,739
people are able to as I say do it in

531
00:23:48,759 --> 00:23:56,318
their own time and I this has been a

532
00:23:50,739 --> 00:23:58,568
skill this has been a boon we're putting

533
00:23:56,318 --> 00:24:04,328
more people through training now in a

534
00:23:58,568 --> 00:24:06,459
quicker way now do it to end up you've

535
00:24:04,328 --> 00:24:08,618
had your critics this what the guerrilla

536
00:24:06,459 --> 00:24:11,739
skepticism in wikipedia has had critics

537
00:24:08,618 --> 00:24:14,228
over the wall what's their beef the only

538
00:24:11,739 --> 00:24:16,568
critics we really have had are from the

539
00:24:14,229 --> 00:24:19,109
paranormal community they blame us for

540
00:24:16,568 --> 00:24:23,618
anything and everything that happens

541
00:24:19,108 --> 00:24:27,308
homeopaths the Brazil ski clinic Deepak

542

00:24:23,618 --> 00:24:29,919
Chopra Rupert sheldrick oh they hate us

543
00:24:27,308 --> 00:24:33,069
Oh natural news is written up Elise

544
00:24:29,920 --> 00:24:38,410
three articles on me saying that I on

545
00:24:33,069 --> 00:24:39,759
David Gorski are the bane of skepticism

546
00:24:38,410 --> 00:24:41,950
or something I don't know he they see

547
00:24:39,759 --> 00:24:44,589
they think he's in charge of the kurla

548
00:24:41,950 --> 00:24:50,410
skepticism oka PD project which is

549
00:24:44,589 --> 00:24:54,490
hilarious and uh and so yeah we're hated

550
00:24:50,410 --> 00:24:56,920
well I say we're endorsed by so many

551
00:24:54,490 --> 00:24:58,720
people because you know you're doing a

552
00:24:56,920 --> 00:25:01,060
darn good job whatever these people are

553
00:24:58,720 --> 00:25:02,980
attacking you and they really aren't

554
00:25:01,059 --> 00:25:05,769
even attacking us they write a blog they

555
00:25:02,980 --> 00:25:07,150
they get all huffed up about it and we

556
00:25:05,769 --> 00:25:09,160

haven't even done whatever it is they

557

00:25:07,150 --> 00:25:10,750

said they've done that we're doing that

558

00:25:09,160 --> 00:25:13,090

that's the most hilarious part that's

559

00:25:10,750 --> 00:25:14,349

not unusual they don't know how to check

560

00:25:13,089 --> 00:25:15,819

sources they don't know how to I mean

561

00:25:14,349 --> 00:25:18,699

everything is out there if they wanted

562

00:25:15,819 --> 00:25:20,529

to find out and really did really care

563

00:25:18,700 --> 00:25:21,940

they could find out it would take them

564

00:25:20,529 --> 00:25:25,329

maybe 20 minutes to figure this whole

565

00:25:21,940 --> 00:25:27,430

thing out who i am who everybody is what

566

00:25:25,329 --> 00:25:29,109

we're doing and they would be sadly

567

00:25:27,430 --> 00:25:30,820

disappointed because we really aren't

568

00:25:29,109 --> 00:25:32,169

doing the things that they think we are

569

00:25:30,819 --> 00:25:33,819

but we'll take the reputation because

570

00:25:32,170 --> 00:25:36,100

it's great well they'll be sadly

571
00:25:33,819 --> 00:25:37,480
disappointed when if they discover that

572
00:25:36,099 --> 00:25:39,159
we're not actually part of the

573
00:25:37,480 --> 00:25:42,370
Illuminati or the conspiracy and we're

574
00:25:39,160 --> 00:25:44,080
not funded by whatever X corporate a big

575
00:25:42,369 --> 00:25:48,219
farmer at least or whatever X

576
00:25:44,079 --> 00:25:52,269
corporation we're not and sometimes I

577
00:25:48,220 --> 00:25:54,370
think damn that when I totally agree if

578
00:25:52,269 --> 00:25:56,440
we could only have the power that they

579
00:25:54,369 --> 00:25:58,359
think we have then I would you know we

580
00:25:56,440 --> 00:26:01,000
would roll before you would make what

581
00:25:58,359 --> 00:26:03,039
changes with it well if you can judge

582
00:26:01,000 --> 00:26:05,079
somebody by the caliber of their enemies

583
00:26:03,039 --> 00:26:22,659
Susan and you're a formidable person

584
00:26:05,079 --> 00:26:25,359
indeed thank you Richard and now direct

585
00:26:22,660 --> 00:26:31,410
from the cafe at Australia's science

586
00:26:25,359 --> 00:26:31,409
channel its brouhaha with Casey Harrigan

587
00:26:32,019 --> 00:26:36,279
[Music]

588
00:26:33,390 --> 00:26:39,430
2016 we might not be able to set it on

589
00:26:36,279 --> 00:26:41,710
fire but boy are we glad it's over let's

590
00:26:39,430 --> 00:26:45,039
turn lemons into lemonade by looking to

591
00:26:41,710 --> 00:26:47,380
our one true love science here are our

592
00:26:45,039 --> 00:26:51,819
top three biggest science stories of

593
00:26:47,380 --> 00:26:54,160
2016 first up the Zika virus the disease

594
00:26:51,819 --> 00:26:56,470
has been around since the 40s but it was

595
00:26:54,160 --> 00:26:58,150
in February that the wh 0 declared a

596
00:26:56,470 --> 00:27:01,600
public health emergency of international

597
00:26:58,150 --> 00:27:04,360
concern between investigating sexual

598
00:27:01,599 --> 00:27:05,939
transmission and microcephaly and the

599

00:27:04,359 --> 00:27:08,379
risks associated with the Rio Olympics

600
00:27:05,940 --> 00:27:11,170
Zika was never going to stray far from

601
00:27:08,380 --> 00:27:13,270
the headlines but in a hobby update the

602
00:27:11,170 --> 00:27:15,490
virus was taken off the global emergency

603
00:27:13,269 --> 00:27:18,279
list last month and vaccine research is

604
00:27:15,490 --> 00:27:19,859
making headway and the second story that

605
00:27:18,279 --> 00:27:21,670
kept on catching our attention

606
00:27:19,859 --> 00:27:25,059
international cooperation on climate

607
00:27:21,670 --> 00:27:27,009
change exciting oh no but it really is

608
00:27:25,059 --> 00:27:29,829
amazing that the Paris agreement which

609
00:27:27,009 --> 00:27:32,769
was negotiated by 195 countries at the

610
00:27:29,829 --> 00:27:37,179
cop21 summer in 2015 came into effect in

611
00:27:32,769 --> 00:27:39,069
November and in October 197 countries

612
00:27:37,180 --> 00:27:41,519
agreed to update the Montreal Protocol

613
00:27:39,069 --> 00:27:43,960

banning emissions causing refrigerants

614

00:27:41,519 --> 00:27:46,420

let's finish up with flat out the

615

00:27:43,960 --> 00:27:49,240

universe is amazing and science rules

616

00:27:46,420 --> 00:27:52,120

news we found evidence of gravitational

617

00:27:49,240 --> 00:27:53,769

waves three cheers for everyone at LIGO

618

00:27:52,119 --> 00:27:56,939

for observing the chirp and the data

619

00:27:53,769 --> 00:27:59,799

that proved Einstein's 1916 prediction

620

00:27:56,940 --> 00:28:03,788

gravitation causes space-time to ripple

621

00:27:59,799 --> 00:28:06,220

at the speed of light so that was 2016

622

00:28:03,788 --> 00:28:08,648

after all the ups and all the downs all

623

00:28:06,220 --> 00:28:15,700

we can say is be excellent to each other

624

00:28:08,648 --> 00:28:17,798

and 2017 we can't wait to meet you movie

625

00:28:15,700 --> 00:28:20,169

nerds like me the warmer weather means

626

00:28:17,798 --> 00:28:22,569

blockbusters on Boxing Day and Oscar

627

00:28:20,169 --> 00:28:23,919

bait in the new year but until i'm

628
00:28:22,569 --> 00:28:25,689
watching Chris Pratt and Jennifer

629
00:28:23,919 --> 00:28:28,330
Lawrence wake up early from graduating

630
00:28:25,690 --> 00:28:30,038
sleep on a massive spaceship I'll just

631
00:28:28,329 --> 00:28:32,888
need to reflect on the year in movie

632
00:28:30,038 --> 00:28:35,558
science that was let's start with the

633
00:28:32,888 --> 00:28:38,858
award for most unrealistic portrayal of

634
00:28:35,558 --> 00:28:41,648
a stem career in a 2016 film and it's

635
00:28:38,858 --> 00:28:44,829
Margot Robbie as Harley Quinn in Suicide

636
00:28:41,648 --> 00:28:47,878
Squad look once that baseball bat start

637
00:28:44,829 --> 00:28:50,288
swinging she is are amazing

638
00:28:47,878 --> 00:28:52,028
unfortunately she hasn't been a

639
00:28:50,288 --> 00:28:54,460
psychiatrist long enough to build up the

640
00:28:52,028 --> 00:28:56,259
level of experience necessary to treat

641
00:28:54,460 --> 00:28:59,108
the severe issues that would land a

642
00:28:56,259 --> 00:29:01,389
patient in Arkham Asylum but the award

643
00:28:59,108 --> 00:29:04,778
for best scientist on screen in 2016

644
00:29:01,388 --> 00:29:06,969
goes to Amy Adams as dr. Louise thanks

645
00:29:04,778 --> 00:29:09,128
in a rival she doesn't just use her

646
00:29:06,970 --> 00:29:11,139
lingual skills to save the world she

647
00:29:09,128 --> 00:29:12,878
defends the scientific method and teams

648
00:29:11,138 --> 00:29:15,608
up with the theoretical physicist to

649
00:29:12,878 --> 00:29:18,278
talk to aliens she's come she's

650
00:29:15,608 --> 00:29:20,288
communicative and she works hard that's

651
00:29:18,278 --> 00:29:25,960
the kind of scientists I want to be when

652
00:29:20,288 --> 00:29:28,868
I grow up to quote the greatest human on

653
00:29:25,960 --> 00:29:31,358
the planet Beyonce da a little slate

654
00:29:28,868 --> 00:29:32,848
ain't never hurt nobody okay I never

655
00:29:31,358 --> 00:29:36,668
claimed she was the greatest of grammar

656

00:29:32,848 --> 00:29:38,739
anyway now nobody includes robots you

657
00:29:36,669 --> 00:29:41,379
see scientists in Japan we're building a

658
00:29:38,739 --> 00:29:43,419
humanoid robot named Hank or oh that was

659
00:29:41,378 --> 00:29:46,598
really bendy and flexible but also

660
00:29:43,419 --> 00:29:49,179
really strong this is taking a lot of

661
00:29:46,598 --> 00:29:50,888
motives which get really hot but don't

662
00:29:49,179 --> 00:29:53,548
leave much room for the usual cooling

663
00:29:50,888 --> 00:29:57,788
systems like fans or circulating coolant

664
00:29:53,548 --> 00:30:00,128
gamma hey but wait they thought you and

665
00:29:57,788 --> 00:30:02,319
I are really bendy and flexible and our

666
00:30:00,128 --> 00:30:05,618
muscles create heat which we reliev

667
00:30:02,319 --> 00:30:08,319
sweat Eureka they said and they all went

668
00:30:05,618 --> 00:30:10,808
out for sushi to celebrate okay probably

669
00:30:08,319 --> 00:30:13,298
not but they did met kangaroo a new

670
00:30:10,808 --> 00:30:15,269

porous aluminium frame using a process

671

00:30:13,298 --> 00:30:17,730

similar to 3d printing

672

00:30:15,269 --> 00:30:19,680

the spongy nature of this new skeleton

673

00:30:17,730 --> 00:30:22,740

allows water to seep onto its surface

674

00:30:19,680 --> 00:30:25,170

and evaporative cooling can go down so

675

00:30:22,740 --> 00:30:27,630

much that 11 minutes straight push ups

676

00:30:25,170 --> 00:30:31,640

is a breeze can't wait to see how many

677

00:30:27,630 --> 00:30:35,010

squats kangaroo can push out on leg day

678

00:30:31,640 --> 00:30:50,130

for more brouhaha and Australian science

679

00:30:35,009 --> 00:30:52,140

head for ww Australia science TV this

680

00:30:50,130 --> 00:30:54,420

December in California i'll be giving my

681

00:30:52,140 --> 00:30:58,560

talk strange energies and even stranger

682

00:30:54,420 --> 00:31:01,710

devices too good to be true on the 29th

683

00:30:58,559 --> 00:31:03,509

and the 30th of december the torque on

684

00:31:01,710 --> 00:31:07,019

the 29th december will be in berkeley

685
00:31:03,509 --> 00:31:08,879
and on the 30th in irvine my hosts for

686
00:31:07,019 --> 00:31:11,579
the berkeley event will be the bay area

687
00:31:08,880 --> 00:31:17,340
skeptics and my host in irvine will be

688
00:31:11,579 --> 00:31:19,289
the orange county science club for more

689
00:31:17,339 --> 00:31:22,019
information and to book your seat see

690
00:31:19,289 --> 00:31:26,069
the show notes linked to this episode of

691
00:31:22,019 --> 00:31:37,259
the skeptic zone i'm looking forward to

692
00:31:26,069 --> 00:31:39,990
seeing you in california i'm pleased to

693
00:31:37,259 --> 00:31:41,519
say that australia in many ways leads

694
00:31:39,990 --> 00:31:45,690
the world when it comes to things like

695
00:31:41,519 --> 00:31:47,910
cancer research now our guests reporter

696
00:31:45,690 --> 00:31:50,700
kevin davies interviews professor ross

697
00:31:47,910 --> 00:31:52,500
hannah head of the department of cancer

698
00:31:50,700 --> 00:31:56,470
biology and therapeutics at the John

699
00:31:52,500 --> 00:31:59,240
Curtin school of medical research

700
00:31:56,470 --> 00:32:01,100
i'm here at the John Curtin school of

701
00:31:59,240 --> 00:32:03,048
medical research at the anu and i'm

702
00:32:01,099 --> 00:32:05,689
speaking to professor ross henan

703
00:32:03,048 --> 00:32:07,339
pleasure to read it well tell us a

704
00:32:05,690 --> 00:32:09,528
little bit about the John Curtin school

705
00:32:07,339 --> 00:32:11,058
of medical research oh yes John Burns

706
00:32:09,528 --> 00:32:13,970
core medical research is one of the

707
00:32:11,058 --> 00:32:16,908
oldest research institutes dedicated

708
00:32:13,970 --> 00:32:19,190
just to experimental research that

709
00:32:16,909 --> 00:32:21,470
little teaching undergraduate a lot of

710
00:32:19,190 --> 00:32:25,548
postgraduate teaching and it was formed

711
00:32:21,470 --> 00:32:27,169
in 1946 to staff to the war obviously by

712
00:32:25,548 --> 00:32:29,538
john curtin lu that prime minister and

713

00:32:27,169 --> 00:32:31,100
was realized that we needed a day in

714
00:32:29,538 --> 00:32:33,499
advance medical research center in

715
00:32:31,099 --> 00:32:35,748
australia and tell us a little about

716
00:32:33,499 --> 00:32:37,460
yourself what do you research what is

717
00:32:35,749 --> 00:32:39,769
your area of expertise so my background

718
00:32:37,460 --> 00:32:41,298
I spent the last 15 years of the job had

719
00:32:39,769 --> 00:32:43,220
to pick maccallum cancer center in

720
00:32:41,298 --> 00:32:45,109
normal which is Australia's only

721
00:32:43,220 --> 00:32:47,990
dedicated cancer hospital and I ran our

722
00:32:45,109 --> 00:32:50,479
large group there and I moved from there

723
00:32:47,990 --> 00:32:52,548
to John Curtin early last year to set up

724
00:32:50,480 --> 00:32:55,278
what is the first department of cancer

725
00:32:52,548 --> 00:32:56,868
in any university in australia so the

726
00:32:55,278 --> 00:32:59,538
new department is the first leader found

727
00:32:56,868 --> 00:33:01,189

in john curtin and over 20 years solely

728

00:32:59,538 --> 00:33:03,138

dedicated to cancer research should have

729

00:33:01,190 --> 00:33:06,470

pretty excited to have that focus and a

730

00:33:03,138 --> 00:33:10,038

critical mask and on the tour earlier

731

00:33:06,470 --> 00:33:12,200

today i got to see a new laboratory that

732

00:33:10,038 --> 00:33:14,440

was under construction that dealing with

733

00:33:12,200 --> 00:33:17,629

targeted medicines would you be able to

734

00:33:14,440 --> 00:33:19,639

this is a new high throughput screening

735

00:33:17,628 --> 00:33:22,158

facility and the goal of the screening

736

00:33:19,638 --> 00:33:23,839

facility is to be able to reduce the

737

00:33:22,159 --> 00:33:26,269

impossible to the possible so this

738

00:33:23,839 --> 00:33:28,339

facility which is run by robots and high

739

00:33:26,269 --> 00:33:30,470

tech high throughput microscopes and

740

00:33:28,339 --> 00:33:34,009

other sorts of facts analyzers can

741

00:33:30,470 --> 00:33:36,919

basically screen millions of drugs to

742
00:33:34,009 --> 00:33:38,720
find new targets for new types of cancer

743
00:33:36,919 --> 00:33:40,399
and it can do this in a real-time within

744
00:33:38,720 --> 00:33:42,829
weeks as opposed to something it would

745
00:33:40,398 --> 00:33:44,388
be a possible to do and not only doing

746
00:33:42,829 --> 00:33:46,038
screams small molecules to find new

747
00:33:44,388 --> 00:33:48,349
drugs we can take advantage of some

748
00:33:46,038 --> 00:33:51,169
really neat technologies out there like

749
00:33:48,349 --> 00:33:54,558
gene editing so one of these gene

750
00:33:51,169 --> 00:33:56,530
editing processes is a new technology

751
00:33:54,558 --> 00:33:57,910
for deleting individually genes

752
00:33:56,529 --> 00:33:59,470
the genome but now we can do that in

753
00:33:57,910 --> 00:34:02,050
heitz report that we can individually

754
00:33:59,470 --> 00:34:03,519
delete every gene and the genome and ask

755
00:34:02,049 --> 00:34:05,829
how it affects a certain process

756
00:34:03,519 --> 00:34:07,389
functional genomics in other words and

757
00:34:05,829 --> 00:34:09,668
how long do you think we'll start seeing

758
00:34:07,390 --> 00:34:12,519
these sort of drugs entering the

759
00:34:09,668 --> 00:34:14,440
mainstream to be here so the normal time

760
00:34:12,519 --> 00:34:16,719
it takes to develop a drug in industry

761
00:34:14,440 --> 00:34:18,519
is about ten years but that's because

762
00:34:16,719 --> 00:34:20,529
there's a lot of constraints of Industry

763
00:34:18,519 --> 00:34:22,690
and how they do things in the university

764
00:34:20,530 --> 00:34:24,370
environment we can do that in three to

765
00:34:22,690 --> 00:34:26,349
five years we think it's a great

766
00:34:24,369 --> 00:34:28,889
environment for doing things cheaper and

767
00:34:26,349 --> 00:34:30,969
faster than what often that takes

768
00:34:28,889 --> 00:34:32,500
industry a long time so we hope the

769
00:34:30,969 --> 00:34:33,939
screening facility we built in the end

770

00:34:32,500 --> 00:34:35,918
of the year here's a couple of months

771
00:34:33,940 --> 00:34:37,720
time we'll start doing a first

772
00:34:35,918 --> 00:34:40,900
experiments next year we hope to be

773
00:34:37,719 --> 00:34:42,639
finding molecules for the cancer therapy

774
00:34:40,900 --> 00:34:44,650
paralysis of immune problems probably

775
00:34:42,639 --> 00:34:46,900
within three 3 four years that's

776
00:34:44,650 --> 00:34:50,139
excellent I really do wish you the best

777
00:34:46,900 --> 00:34:52,750
of luck as I said unfortunately my

778
00:34:50,139 --> 00:34:55,329
father died of cancer and so I want I

779
00:34:52,750 --> 00:34:57,369
want you to get those drugs out there

780
00:34:55,329 --> 00:34:58,690
yeah if that's the real reason we're

781
00:34:57,369 --> 00:35:01,089
doing this is but as well we've done

782
00:34:58,690 --> 00:35:02,470
really well in certain cancers instead

783
00:35:01,090 --> 00:35:04,390
in childhood cancers is eighty percent

784
00:35:02,469 --> 00:35:06,159

survival rate to certain cancers like

785

00:35:04,389 --> 00:35:08,739

lung cancer which father passed away

786

00:35:06,159 --> 00:35:10,899

from cancer by prostate cancer we've

787

00:35:08,739 --> 00:35:12,189

really not made any differences in the

788

00:35:10,900 --> 00:35:14,349

last 20 years and these are really

789

00:35:12,190 --> 00:35:15,940

difficult cancers and we need to use the

790

00:35:14,349 --> 00:35:17,889

latest technology these high throughput

791

00:35:15,940 --> 00:35:20,409

mass attack approaches to try and find

792

00:35:17,889 --> 00:35:23,440

new therapies why are these cancers so

793

00:35:20,409 --> 00:35:25,149

much more difficult it's hard to say but

794

00:35:23,440 --> 00:35:27,700

with lung cancer as a cancer which has a

795

00:35:25,150 --> 00:35:29,680

really massive mutation rate because

796

00:35:27,699 --> 00:35:31,750

often its associated with smoking not

797

00:35:29,679 --> 00:35:33,669

always and smoking causes lots of

798

00:35:31,750 --> 00:35:36,820

mutations so these cancers have a high

799
00:35:33,670 --> 00:35:38,710
burden of mutation and so that cancer is

800
00:35:36,820 --> 00:35:40,930
a clonal disease if you have a drug

801
00:35:38,710 --> 00:35:42,940
which treats ninety percent of the souls

802
00:35:40,929 --> 00:35:44,409
you have ten percent of the cells which

803
00:35:42,940 --> 00:35:45,940
are left over which have a different

804
00:35:44,409 --> 00:35:48,250
mutation and they are resistant to

805
00:35:45,940 --> 00:35:50,200
disease and so the disease comes back

806
00:35:48,250 --> 00:35:51,880
again and then he treated with another

807
00:35:50,199 --> 00:35:54,159
drug you killed ninety percent of those

808
00:35:51,880 --> 00:35:55,630
cells that you still have ten percent of

809
00:35:54,159 --> 00:35:57,519
the ten percent left or they grow back

810
00:35:55,630 --> 00:35:58,990
again so you keep on clonely selecting

811
00:35:57,519 --> 00:36:01,269
out these different mutations it's

812
00:35:58,989 --> 00:36:03,919
really difficult other cancers only have

813
00:36:01,269 --> 00:36:06,778
five or ten mutations

814
00:36:03,920 --> 00:36:09,509
lung cancer has some of most high sperm

815
00:36:06,778 --> 00:36:11,728
the mutations a bit like melanoma skin

816
00:36:09,509 --> 00:36:13,469
affected cancer we ever Sun causing

817
00:36:11,728 --> 00:36:16,169
these mutations once again melanoma is

818
00:36:13,469 --> 00:36:18,929
very difficult to treat now during the

819
00:36:16,170 --> 00:36:20,880
tour you mentioned that you were looking

820
00:36:18,929 --> 00:36:23,848
at safe places like the Great Barrier

821
00:36:20,880 --> 00:36:26,068
Reef for to try and find new drugs new

822
00:36:23,849 --> 00:36:27,719
compounds Keith please talk about that a

823
00:36:26,068 --> 00:36:29,278
little bit yeah look this is actually

824
00:36:27,719 --> 00:36:30,719
something which was tried many years ago

825
00:36:29,278 --> 00:36:32,309
by big drug companies and I didn't

826
00:36:30,719 --> 00:36:34,170
succeed very well this is taking natural

827

00:36:32,309 --> 00:36:35,309
compounds to find new drugs this is

828
00:36:34,170 --> 00:36:37,289
because they didn't have the right

829
00:36:35,309 --> 00:36:39,089
technology that I didn't have these

830
00:36:37,289 --> 00:36:40,799
functional screens that we have what we

831
00:36:39,088 --> 00:36:43,619
look at how a drug affects a process

832
00:36:40,798 --> 00:36:45,920
rather than individual molecule and so

833
00:36:43,619 --> 00:36:47,910
the idea of them is that nature produces

834
00:36:45,920 --> 00:36:50,579
millions and millions of different

835
00:36:47,909 --> 00:36:52,409
compounds and these evolved view of the

836
00:36:50,579 --> 00:36:54,809
organisms it could be a mosque it could

837
00:36:52,409 --> 00:36:56,748
be a spandrel could be a coral reef and

838
00:36:54,809 --> 00:36:58,979
so we know that these drugs have

839
00:36:56,748 --> 00:37:00,659
proteins and other factors they bind to

840
00:36:58,978 --> 00:37:01,798
you they have a function what we're

841
00:37:00,659 --> 00:37:02,699

trying to do is find out what their

842

00:37:01,798 --> 00:37:04,440
function is because it's like a

843

00:37:02,699 --> 00:37:06,150
lock-and-key they have been developed

844

00:37:04,440 --> 00:37:07,440
over these millions of years so they're

845

00:37:06,150 --> 00:37:08,940
highly efficient to binding these

846

00:37:07,440 --> 00:37:11,009
proteins so if we can pull these

847

00:37:08,940 --> 00:37:12,659
molecules out and find out what their

848

00:37:11,009 --> 00:37:14,969
function is we may find ones which you

849

00:37:12,659 --> 00:37:16,288
naturally say block cell growth or

850

00:37:14,969 --> 00:37:17,999
accelerate silver it's in the case of

851

00:37:16,289 --> 00:37:20,160
cancer some huge may block cell growth

852

00:37:17,998 --> 00:37:22,649
and so we want to go back and revisit

853

00:37:20,159 --> 00:37:24,328
Australia's key moments called so it's

854

00:37:22,650 --> 00:37:27,660
all these molecules which are produced

855

00:37:24,329 --> 00:37:30,180
by the bacteria by sponges are all sort

856
00:37:27,659 --> 00:37:31,828
of biological agents and we hope that we

857
00:37:30,179 --> 00:37:33,298
can go back and the advantage of these

858
00:37:31,829 --> 00:37:36,239
drugs as they're really complex

859
00:37:33,298 --> 00:37:37,619
molecules a lot of the libraries which

860
00:37:36,239 --> 00:37:39,269
people are terribly screening is

861
00:37:37,619 --> 00:37:41,608
synthetic libraries they're made by man

862
00:37:39,268 --> 00:37:43,169
they screen these man-made libraries to

863
00:37:41,608 --> 00:37:45,858
try and find a new small molecule that

864
00:37:43,170 --> 00:37:48,749
inhibit cancer because they're man-made

865
00:37:45,858 --> 00:37:51,778
they're simple it is very hard to make

866
00:37:48,748 --> 00:37:53,038
really complex molecules whereas these

867
00:37:51,778 --> 00:37:55,380
drugs which were isolated from

868
00:37:53,039 --> 00:37:57,359
Australia's key moment very complex and

869
00:37:55,380 --> 00:37:58,890
if you look at fifty percent of all

870
00:37:57,358 --> 00:38:00,420
dragons are used in cancer they've

871
00:37:58,889 --> 00:38:01,978
actually come from naturally occurring

872
00:38:00,420 --> 00:38:03,880
compounds everything is a good area to

873
00:38:01,978 --> 00:38:06,759
go back and harvest

874
00:38:03,880 --> 00:38:09,160
now how many researchers do you have in

875
00:38:06,759 --> 00:38:12,338
the school here so the John Curtin be

876
00:38:09,159 --> 00:38:14,460
about 380 to 400 people in total of that

877
00:38:12,338 --> 00:38:17,469
probably 300 those will be dedicated to

878
00:38:14,460 --> 00:38:18,970
research right through from basic

879
00:38:17,469 --> 00:38:21,730
fundamental research through T

880
00:38:18,969 --> 00:38:24,068
preclinical uneven clinical at work will

881
00:38:21,730 --> 00:38:25,869
be putting drugs into human beings now I

882
00:38:24,068 --> 00:38:28,088
noticed before we were in the Jackie

883
00:38:25,869 --> 00:38:30,068
Chan science center can you explain a

884

00:38:28,088 --> 00:38:32,108
little bit more about the link yes in

885
00:38:30,068 --> 00:38:33,818
the Jackie Chan I'm not completely over

886
00:38:32,108 --> 00:38:35,199
that one but i'm pretty sure that jackie

887
00:38:33,818 --> 00:38:36,730
chan's mother used to live here and she

888
00:38:35,199 --> 00:38:38,858
was treated in the local hospital and so

889
00:38:36,730 --> 00:38:41,429
that was a donation to long as they help

890
00:38:38,858 --> 00:38:44,288
the local people here gave his mother

891
00:38:41,429 --> 00:38:45,788
fantastic fantastic this is part of

892
00:38:44,289 --> 00:38:47,440
these donations from the people like

893
00:38:45,789 --> 00:38:49,839
that make the big difference nice having

894
00:38:47,440 --> 00:38:51,608
fantastic pieces of equipment well this

895
00:38:49,838 --> 00:38:54,338
is you know this is a big deal it's an

896
00:38:51,608 --> 00:38:56,139
arms race resist those people that have

897
00:38:54,338 --> 00:38:57,400
the best toys win that partners race and

898
00:38:56,139 --> 00:38:59,308

so we need to be able to compete with

899

00:38:57,400 --> 00:39:01,630

America with UK with the best equipment

900

00:38:59,309 --> 00:39:03,160

and so people that donate money like

901

00:39:01,630 --> 00:39:05,858

that as we can enable this device them

902

00:39:03,159 --> 00:39:07,719

as best equipment you're saying there's

903

00:39:05,858 --> 00:39:09,759

about a three year turnaround for

904

00:39:07,719 --> 00:39:11,439

technology is that getting shorter and

905

00:39:09,759 --> 00:39:13,630

shorter yeah it is we're finding that

906

00:39:11,440 --> 00:39:16,298

the new devices for sequencing genes to

907

00:39:13,630 --> 00:39:17,619

discover mutations right you know the

908

00:39:16,298 --> 00:39:20,018

machine that we've all three years ago

909

00:39:17,619 --> 00:39:22,150

as outdated is a much better machine now

910

00:39:20,018 --> 00:39:24,788

which can sequence faster figure reads

911

00:39:22,150 --> 00:39:27,160

and so you know you have to keep on

912

00:39:24,789 --> 00:39:28,390

finding the money to buy the new latest

913
00:39:27,159 --> 00:39:30,190
technologies that's where the new

914
00:39:28,389 --> 00:39:32,618
discoveries or comfortable sound with

915
00:39:30,190 --> 00:39:34,980
microscopes and the microscopes but the

916
00:39:32,619 --> 00:39:38,019
new technology for visualizing cells is

917
00:39:34,980 --> 00:39:39,429
accelerating all through 22 to physics

918
00:39:38,018 --> 00:39:42,879
and maths and then better sort of

919
00:39:39,429 --> 00:39:44,768
knowledge so it's clearly an area where

920
00:39:42,880 --> 00:39:46,450
you have to somehow compete with these

921
00:39:44,768 --> 00:39:48,219
products which go out of date very

922
00:39:46,449 --> 00:39:49,509
quickly this expensive business as you

923
00:39:48,219 --> 00:39:51,189
can imagine yeah I guess one of the

924
00:39:49,509 --> 00:39:53,949
really good things about particularly

925
00:39:51,190 --> 00:39:55,358
the ANU University it's a hub for people

926
00:39:53,949 --> 00:39:56,579
from all over the world so they come to

927
00:39:55,358 --> 00:39:58,980
and so

928
00:39:56,579 --> 00:40:01,409
laboratory about fifty percent of the

929
00:39:58,980 --> 00:40:05,150
staff but not born in Australia some

930
00:40:01,409 --> 00:40:09,599
have come out from Asia from UK Germany

931
00:40:05,150 --> 00:40:11,490
South America Canada to do maybe an

932
00:40:09,599 --> 00:40:12,750
undergraduate degree or to do a PhD here

933
00:40:11,489 --> 00:40:14,129
or some of the company to do their

934
00:40:12,750 --> 00:40:15,690
postdoctoral research because they're

935
00:40:14,130 --> 00:40:17,280
looking for a really good laboratory in

936
00:40:15,690 --> 00:40:19,200
this case it's a cancer research

937
00:40:17,280 --> 00:40:21,180
laboratory so we have a really diverse

938
00:40:19,199 --> 00:40:22,559
for the people which is I think it's

939
00:40:21,179 --> 00:40:23,669
fantastic because it people from

940
00:40:22,559 --> 00:40:25,440
different backgrounds have different

941

00:40:23,670 --> 00:40:26,720
ways of thinking to be surprising how

942
00:40:25,440 --> 00:40:28,349
different ways that you can actually

943
00:40:26,719 --> 00:40:31,409
synergize when they get them together

944
00:40:28,349 --> 00:40:33,539
little large bit okay thank you very

945
00:40:31,409 --> 00:40:51,569
much professor Ross Hannon my pleasure

946
00:40:33,539 --> 00:40:54,539
thank you amazing news for supporters of

947
00:40:51,570 --> 00:40:58,289
maynard calm today you and Maynard's

948
00:40:54,539 --> 00:41:03,150
podcasts you are entitled yes you you

949
00:40:58,289 --> 00:41:06,239
are entitled to download the 2017 main

950
00:41:03,150 --> 00:41:09,059
are the calendar be the first person on

951
00:41:06,239 --> 00:41:11,789
your block and your city perhaps even

952
00:41:09,059 --> 00:41:15,000
your country to own the 2017 maynard

953
00:41:11,789 --> 00:41:18,599
calendar yes spend every month with me

954
00:41:15,000 --> 00:41:22,079
nerd for more information visit [www a](http://www.a)

955
00:41:18,599 --> 00:41:26,029

calm day you and send may not a message

956

00:41:22,079 --> 00:41:29,009

asking about your 2017 maynard

957

00:41:26,030 --> 00:41:38,689

downloadable printable calendar

958

00:41:29,010 --> 00:41:38,689

[Music]

959

00:41:44,639 --> 00:41:48,788

thank you for listening to the skeptic

960

00:41:47,230 --> 00:41:52,358

zone next week the skeptic zone

961

00:41:48,789 --> 00:41:54,940

Christmas special well it's a skeptic

962

00:41:52,358 --> 00:41:57,548

zone on Christmas whether it's special

963

00:41:54,940 --> 00:41:59,470

or not I don't know I hope so I catch up

964

00:41:57,548 --> 00:42:01,900

with me nod and have a chat to him about

965

00:41:59,469 --> 00:42:04,088

Christmas more from the New Zealand

966

00:42:01,900 --> 00:42:07,358

convention where I catch up with my old

967

00:42:04,088 --> 00:42:10,480

friend Loretta Marin the jelly bean lady

968

00:42:07,358 --> 00:42:14,199

and she's going to be chatting about the

969

00:42:10,480 --> 00:42:16,329

ongoing success of friends of science in

970
00:42:14,199 --> 00:42:18,818
medicine what a wonderful outfit they

971
00:42:16,329 --> 00:42:22,000
are scoring victories for reason in

972
00:42:18,818 --> 00:42:25,538
Australia and inspiring people around

973
00:42:22,000 --> 00:42:28,000
the world I imagine we might have a an

974
00:42:25,539 --> 00:42:29,589
interview with a sea lion here in San

975
00:42:28,000 --> 00:42:32,139
Francisco or something like that I don't

976
00:42:29,588 --> 00:42:35,440
know I have to explore see what I can

977
00:42:32,139 --> 00:42:38,528
find and a big shout-out to Henrietta

978
00:42:35,440 --> 00:42:41,889
and more the skeptics own cats I hope

979
00:42:38,528 --> 00:42:43,869
you're doing okay in in Sydney and a big

980
00:42:41,889 --> 00:42:46,269
shout out to Mandrake the new skeptic

981
00:42:43,869 --> 00:42:48,220
zone kitten up there with Joe alabaster

982
00:42:46,269 --> 00:42:50,079
in the mountains and if you've got a

983
00:42:48,219 --> 00:42:52,389
little cat or kitten a big shout out to

984
00:42:50,079 --> 00:42:54,760
your cat or kitten they quite turn

985
00:42:52,389 --> 00:42:57,578
there's something about cats I used to

986
00:42:54,760 --> 00:42:59,619
be a dog person but now I cat person cat

987
00:42:57,579 --> 00:43:02,289
people will know what I mean enough

988
00:42:59,619 --> 00:43:04,809
about pets for this week this is Richard

989
00:43:02,289 --> 00:43:11,528
Saunders signing off from the Bay Area

990
00:43:04,809 --> 00:43:13,809
San Francisco you've been listening to

991
00:43:11,528 --> 00:43:17,349
the skeptics own podcast visit our

992
00:43:13,809 --> 00:43:19,930
website at wwc a petting zoo TV for

993
00:43:17,349 --> 00:43:23,980
contacts an archive of all episodes

994
00:43:19,929 --> 00:43:26,139
since 2008 and our online store please

995
00:43:23,980 --> 00:43:29,469
support the skeptic zone by following us

996
00:43:26,139 --> 00:43:32,460
on twitter at skeptic zone liking us on

997
00:43:29,469 --> 00:43:34,808
facebook and leaving a review on iTunes

998

00:43:32,460 --> 00:43:37,480
you can also show your support by

999
00:43:34,809 --> 00:43:40,599
subscribing via paypal for as little as

1000
00:43:37,480 --> 00:43:42,559
ninety-nine cents a week the skeptic

1001
00:43:40,599 --> 00:43:44,660
zone is an independent production

1002
00:43:42,559 --> 00:43:46,730
the views and opinions expressed on the

1003
00:43:44,659 --> 00:43:49,420
skeptic zone and not necessarily those

1004
00:43:46,730 --> 00:43:51,610
of Australian skeptically or any other

1005
00:43:49,420 --> 00:43:56,459
skeptical organization

1006
00:43:51,610 --> 00:43:56,459
[Music]