

The Skeptic Zone
Show 305 - 24 Aug 2014



Dr Rachie & Maynard

1
00:00:21,909 --> 00:00:09,080
welcome to the skeptic zone the podcast

2
00:00:31,089 --> 00:00:24,890
hello and welcome to the skeptic zone

3
00:00:35,209 --> 00:00:31,099
episode 305 for the 24th of August 2014

4
00:00:37,700 --> 00:00:35,219
happy birthday nephew Rory Richardson's

5
00:00:40,970 --> 00:00:37,710
here with you from Sydney Australia well

6
00:00:42,770 --> 00:00:40,980
this week shows I am out and about sort

7
00:00:47,620 --> 00:00:42,780
of show it's a live sort of experience

8
00:00:51,170 --> 00:00:47,630
show you'll understand by the end of it

9
00:00:53,560 --> 00:00:51,180
because I take you behind the scenes a

10
00:00:56,600 --> 00:00:53,570
little bit of the mystery investigators

11
00:00:58,760 --> 00:00:56,610
my friend Ian Bryce and I were

12
00:01:01,130 --> 00:00:58,770
performing this week at the Australian

13
00:01:02,990 --> 00:01:01,140

Museum for school groups doing our

14

00:01:05,870 --> 00:01:03,000

mystery investigators show bed of nails

15

00:01:08,630 --> 00:01:05,880

water divining power balance optical

16

00:01:10,550 --> 00:01:08,640

illusions big shout out and thank you to

17

00:01:13,850 --> 00:01:10,560

Richard Wiseman who gave me permission

18

00:01:15,440 --> 00:01:13,860

to use one of his videos in the live

19

00:01:18,050 --> 00:01:15,450

mystery investigators show about

20

00:01:21,140 --> 00:01:18,060

perceptions thank you Richard Eyre much

21

00:01:23,390 --> 00:01:21,150

appreciated and the students really got

22

00:01:25,219 --> 00:01:23,400

a kick out of it and thank you once

23

00:01:28,310 --> 00:01:25,229

again to the Australian Museum for

24

00:01:29,719 --> 00:01:28,320

booking the mystery investigators and

25

00:01:32,570 --> 00:01:29,729

after that it's a week in science from

26

00:01:36,109 --> 00:01:32,580

the Royal Institution of Australia w WR

27

00:01:39,980 --> 00:01:36,119

ia us or go today you and thank you too

28

00:01:44,510 --> 00:01:39,990

Paul Willis dr. Paul Willis he gave a

29

00:01:46,760 --> 00:01:44,520

talk in Canberra during the week and he

30

00:01:49,190 --> 00:01:46,770

and my dear friend Lauren Cochrane the

31

00:01:52,039 --> 00:01:49,200

president of the Canberra skeptics took

32

00:01:54,800 --> 00:01:52,049

the ice bucket challenge good on him

33

00:01:58,039 --> 00:01:54,810

poured cold water all over themselves on

34

00:02:00,440 --> 00:01:58,049

video and earlier in the week my good

35

00:02:02,749 --> 00:02:00,450

friend and skeptics own reporter dr.

36

00:02:05,120 --> 00:02:02,759

Rachel Dunlop also took the ice bucket

37

00:02:07,449 --> 00:02:05,130

challenge then to round off the show

38

00:02:11,420 --> 00:02:07,459

it's a long series of interviews with

39

00:02:14,449 --> 00:02:11,430

Maynard Maynard i went to just last

40

00:02:16,280 --> 00:02:14,459

night went to the powerhouse museum here

41

00:02:20,020 --> 00:02:16,290

in Sydney where they had a wonderful

42

00:02:22,040 --> 00:02:20,030

night of science had all sorts of

43

00:02:24,559 --> 00:02:22,050

scientists turn up to talk to the

44

00:02:27,860 --> 00:02:24,569

general public and they have a stage

45

00:02:30,010 --> 00:02:27,870

show featuring featuring the singing

46

00:02:32,800 --> 00:02:30,020

astronaut Chris had the

47

00:02:35,890 --> 00:02:32,810

and wow didn't the crowd loved his talk

48

00:02:37,540 --> 00:02:35,900

about going up into space and living on

49

00:02:39,670 --> 00:02:37,550

the space station what it's like to come

50

00:02:42,820 --> 00:02:39,680

back and his scientific outreach

51
00:02:44,560 --> 00:02:42,830
fantastic fantastic however I was there

52
00:02:47,980 --> 00:02:44,570
at the request of Frankie Lee at the

53
00:02:50,020 --> 00:02:47,990
powerhouse museum to well entertain the

54
00:02:53,230 --> 00:02:50,030
crowd sort of between sessions which I

55
00:02:56,410 --> 00:02:53,240
did with the spoon bending and we did

56
00:02:58,060 --> 00:02:56,420
water divining tests and demonstrated

57
00:03:02,500 --> 00:02:58,070
power balance sort of like a mini

58
00:03:04,180 --> 00:03:02,510
mystery investigators show and Maynard

59
00:03:06,700 --> 00:03:04,190
was there to do interviews and also take

60
00:03:09,640 --> 00:03:06,710
part in the show as well he's sort of

61
00:03:11,230 --> 00:03:09,650
the mystery investigator in training and

62
00:03:15,160 --> 00:03:11,240
we'll be doing some more live shows

63
00:03:17,080 --> 00:03:15,170

there in about a week's time so it may

64

00:03:19,540 --> 00:03:17,090

not church to all sorts of people at the

65

00:03:22,330 --> 00:03:19,550

big night of science at the powerhouse

66

00:03:24,790 --> 00:03:22,340

museum what a wonderful thing it was to

67

00:03:26,430 --> 00:03:24,800

what a what a great outreach program

68

00:03:30,100 --> 00:03:26,440

they have there at the powerhouse museum

69

00:03:32,410 --> 00:03:30,110

here in Sydney now a quick note from our

70

00:03:34,180 --> 00:03:32,420

friends in Melbourne i think i mentioned

71

00:03:37,030 --> 00:03:34,190

last week there's a dinner coming up

72

00:03:39,820 --> 00:03:37,040

with Lawrence Krauss Lawrence Krauss

73

00:03:45,190 --> 00:03:39,830

yeah dinner coming up dinner and a talk

74

00:03:47,530 --> 00:03:45,200

and it's almost sold out almost in fact

75

00:03:51,580 --> 00:03:47,540

as i'm recording this i believe there

76

00:03:52,900 --> 00:03:51,590

may be one or two tickets left now if

77

00:03:55,300 --> 00:03:52,910

you're in melbourne or you can be in

78

00:04:00,250 --> 00:03:55,310

melbourne on the twenty-ninth of august

79

00:04:01,680 --> 00:04:00,260

rush to vic skeptics wordpress com not

80

00:04:04,090 --> 00:04:01,690

only to find out more about the

81

00:04:05,590 --> 00:04:04,100

goings-on of the Victorian skeptics but

82

00:04:09,250 --> 00:04:05,600

to see if there are still tickets left

83

00:04:11,650 --> 00:04:09,260

for this dinner inquire try to get in

84

00:04:14,140 --> 00:04:11,660

see what they can do for you because the

85

00:04:16,449 --> 00:04:14,150

tickets our sales have to close on

86

00:04:18,909 --> 00:04:16,459

monday which is the day after this

87

00:04:22,420 --> 00:04:18,919

podcast goes outside be quick be quick

88

00:04:24,880 --> 00:04:22,430

and you might just sneak in now a big

89

00:04:28,320 --> 00:04:24,890

shout out in a very big thank you to a

90

00:04:32,650 --> 00:04:28,330

lovely lady i met at the amazing meeting

91

00:04:34,659 --> 00:04:32,660

celestia ward and she was just one of

92

00:04:37,120 --> 00:04:34,669

the fun people who go to the amazing

93

00:04:38,680 --> 00:04:37,130

meeting tam in las vegas and I really

94

00:04:42,310 --> 00:04:38,690

didn't know where I didn't twig where I

95

00:04:43,530 --> 00:04:42,320

was too busy to comprehend what she

96

00:04:45,990 --> 00:04:43,540

really and

97

00:04:48,360 --> 00:04:46,000

or does for a living she's an artist and

98

00:04:50,490 --> 00:04:48,370

a particularly good artist at that

99

00:04:52,860 --> 00:04:50,500

particularly fine doing caricatures

100

00:04:55,320 --> 00:04:52,870

amongst other things and I was until I

101
00:04:57,300 --> 00:04:55,330
got home and I was looking round

102
00:05:00,330 --> 00:04:57,310
facebook that i saw some examples of her

103
00:05:03,060 --> 00:05:00,340
her artwork and i was so impressed that

104
00:05:05,220 --> 00:05:03,070
I begged her I begged her with offers of

105
00:05:08,550 --> 00:05:05,230
origami earrings and all sorts of things

106
00:05:11,250 --> 00:05:08,560
for her to do a caricature of me which

107
00:05:13,560 --> 00:05:11,260
she did and I was completely blown away

108
00:05:16,350 --> 00:05:13,570
it was fantastic it's on my facebook

109
00:05:19,620 --> 00:05:16,360
page if you're interested wow what a

110
00:05:23,520 --> 00:05:19,630
great caricature it is so I am pleased

111
00:05:26,220 --> 00:05:23,530
to promote what she does because she is

112
00:05:32,460 --> 00:05:26,230
obviously very talented and you can head

113
00:05:37,350 --> 00:05:32,470

to www had studio scom that's a numeral

114

00:05:39,810 --> 00:05:37,360

two two heads studios com through to

115

00:05:42,900 --> 00:05:39,820

check out what she does she lives in Las

116

00:05:46,980 --> 00:05:42,910

Vegas and she does caricatures by

117

00:05:49,170 --> 00:05:46,990

Commission she'll turn up at events and

118

00:05:53,340 --> 00:05:49,180

things like that and I can personally

119

00:05:56,340 --> 00:05:53,350

recommend her she um not only because

120

00:05:59,010 --> 00:05:56,350

she sort of did it feel a very funny

121

00:06:01,380 --> 00:05:59,020

caricature of me but in the other ones

122

00:06:04,620 --> 00:06:01,390

I've seen she really captures the

123

00:06:06,780 --> 00:06:04,630

essence of people I think it's quite

124

00:06:08,790 --> 00:06:06,790

remarkable Thank You Celestia I really

125

00:06:10,140 --> 00:06:08,800

appreciate that and everybody else if

126

00:06:12,570 --> 00:06:10,150

you're looking for someone to do a

127

00:06:15,870 --> 00:06:12,580

caricature of you I can certainly

128

00:06:19,020 --> 00:06:15,880

recommend this fine artist and thank you

129

00:06:22,200 --> 00:06:19,030

also to spoon equine who I met at the

130

00:06:24,090 --> 00:06:22,210

amazing meeting another artist she drew

131

00:06:26,460 --> 00:06:24,100

a scene from the audio adventure solar

132

00:06:29,640 --> 00:06:26,470

flare and if you've heard so lovely you

133

00:06:31,920 --> 00:06:29,650

might remember the the part where the

134

00:06:34,340 --> 00:06:31,930

crew lands on the whoo class planet and

135

00:06:37,710 --> 00:06:34,350

we're all attacked by flying monkeys

136

00:06:39,840 --> 00:06:37,720

well Spooky actually drew that scene and

137

00:06:43,110 --> 00:06:39,850

she sent it to me in the post well how

138

00:06:44,880 --> 00:06:43,120

touching is it sir that's definitely

139

00:06:48,060 --> 00:06:44,890

going on a frame on the wall thank you

140

00:06:50,130 --> 00:06:48,070

Spoony it's very nice of you and just

141

00:06:51,570 --> 00:06:50,140

before we get stuck into the skeptics

142

00:06:54,630 --> 00:06:51,580

and a big thank you to all those people

143

00:06:56,780 --> 00:06:54,640

around the world who have been helping

144

00:06:59,130 --> 00:06:56,790

me out with sending in

145

00:07:01,440 --> 00:06:59,140

subtitles for the vaccination chronicles

146

00:07:04,200 --> 00:07:01,450

the little documentary I put up on

147

00:07:05,640 --> 00:07:04,210

YouTube that documentary now has

148

00:07:07,950 --> 00:07:05,650

subtitles in I wonder if I can remember

149

00:07:11,460 --> 00:07:07,960

them all english of course Russian

150

00:07:14,570 --> 00:07:11,470

Portuguese Danish German Italian and

151
00:07:20,190 --> 00:07:14,580
Dutch with more on the way including

152
00:07:22,890 --> 00:07:20,200
Turkish and well we'll see what what

153
00:07:24,480 --> 00:07:22,900
arrives fantastic work people around the

154
00:07:27,230 --> 00:07:24,490
world and thank you to susan goreck for

155
00:07:29,820 --> 00:07:27,240
helping put all that activity together

156
00:07:31,440 --> 00:07:29,830
but that's enough from me right now I'm

157
00:07:34,560 --> 00:07:31,450
going to run downstairs open up the

158
00:07:37,680 --> 00:07:34,570
cupboard see if I can find some couscous

159
00:07:45,090 --> 00:07:37,690
hmm Chris Chris with a little bit of

160
00:07:48,630 --> 00:07:45,100
chili sauce and tuna he was chili sauce

161
00:07:50,820 --> 00:07:48,640
and tuna hmm while I drift away thinking

162
00:08:14,210 --> 00:07:50,830
about that I hope you enjoy the skeptics

163
00:08:19,080 --> 00:08:16,830

it's time once again for the mystery

164

00:08:20,930 --> 00:08:19,090

investigators this week it's myself

165

00:08:23,430 --> 00:08:20,940

Richard Saunders in my friend Ian Bryce

166

00:08:26,250 --> 00:08:23,440

performing at the Australian Museum for

167

00:08:27,600 --> 00:08:26,260

groups of high school students the

168

00:08:30,240 --> 00:08:27,610

mystery investigators show has been

169

00:08:33,360 --> 00:08:30,250

going now for about 11 years we explore

170

00:08:35,279 --> 00:08:33,370

the strange the mysterious the spooky if

171

00:08:37,140 --> 00:08:35,289

you want to put it that way using

172

00:08:38,820 --> 00:08:37,150

science we do water divining we have a

173

00:08:41,610 --> 00:08:38,830

bed of nails we explain the tricks

174

00:08:45,000 --> 00:08:41,620

behind power balance I'm in the

175

00:08:46,890 --> 00:08:45,010

backstage area the backstage area and

176

00:08:49,470 --> 00:08:46,900

just on the other side of a very flimsy

177

00:08:51,630 --> 00:08:49,480

curtain is a whole Hall full of

178

00:08:53,940 --> 00:08:51,640

scientific exhibitions and stalls and

179

00:08:56,910 --> 00:08:53,950

things which you can probably hear

180

00:09:00,130 --> 00:08:56,920

jam-packed full of students I'm going to

181

00:09:04,970 --> 00:09:00,140

put my head around the corner here

182

00:09:06,800 --> 00:09:04,980

we have a robot large row button running

183

00:09:11,090 --> 00:09:06,810

around the floor here doesn't look like

184

00:09:14,830 --> 00:09:11,100

a robot but it is we have a display of

185

00:09:16,880 --> 00:09:14,840

physics here with one of those

186

00:09:19,520 --> 00:09:16,890

generators are static electricity

187

00:09:21,440 --> 00:09:19,530

generators we have all the Australian

188

00:09:22,970 --> 00:09:21,450

Defence Force ahir recruiting a career

189

00:09:26,690 --> 00:09:22,980

in science and the Defence Force that's

190

00:09:28,670 --> 00:09:26,700

a noble thing I think Sydney water is

191

00:09:30,860 --> 00:09:28,680

here we've got the university of

192

00:09:33,470 --> 00:09:30,870

technology sydney with their scientific

193

00:09:38,210 --> 00:09:33,480

outreach lots of students wandering past

194

00:09:40,240 --> 00:09:38,220

me at the moment sydney water is showing

195

00:09:42,470 --> 00:09:40,250

how they clean up the waterways

196

00:09:45,350 --> 00:09:42,480

university of new south wales chemistry

197

00:09:48,320 --> 00:09:45,360

department is here the jenolan caves

198

00:09:51,170 --> 00:09:48,330

which is a very famous natural k

199

00:09:53,510 --> 00:09:51,180

formation west of Sydney the victor

200

00:09:56,510 --> 00:09:53,520

chain cardiac research institute is also

201
00:09:59,300 --> 00:09:56,520
represented the age of fishes museum at

202
00:10:00,920 --> 00:09:59,310
caloundra New South Wales I went there

203
00:10:06,250 --> 00:10:00,930
once and I was in that area and I found

204
00:10:11,030 --> 00:10:06,260
some I found some fossilized

205
00:10:13,340 --> 00:10:11,040
trilobite which is very satisfying

206
00:10:16,129 --> 00:10:13,350
walking around the corner here so many

207
00:10:17,660 --> 00:10:16,139
students from so many schools here the

208
00:10:21,050 --> 00:10:17,670
australian museum itself has an

209
00:10:26,489 --> 00:10:21,060
exhibition which is good to see and stir

210
00:10:26,499 --> 00:10:29,860
demonstrating

211
00:10:36,130 --> 00:10:32,170
just walk around lots of kids it's great

212
00:10:38,140 --> 00:10:36,140
to see so many students have come in to

213
00:10:40,870 --> 00:10:38,150

experience all this interesting science

214

00:10:42,690 --> 00:10:40,880

and to ask questions and soon a lot of

215

00:10:45,850 --> 00:10:42,700

them will be coming into the theatre s

216

00:10:49,990 --> 00:10:45,860

to watch the mystery investigators show

217

00:10:50,000 --> 00:10:57,300

now 12 back now towards the back area

218

00:11:00,420 --> 00:10:59,070

the kids are trying out the static

219

00:11:03,690 --> 00:11:00,430

generator here they're all holding hands

220

00:11:06,960 --> 00:11:03,700

in a big circle i think they're getting

221

00:11:08,760 --> 00:11:06,970

to it they anticipated too much the idea

222

00:11:10,019 --> 00:11:08,770

is of course the electrical charge will

223

00:11:11,850 --> 00:11:10,029

go right around the whole circuit of

224

00:11:15,630 --> 00:11:11,860

students they're going to try it one

225

00:11:19,310 --> 00:11:15,640

more time here we go all holding hands

226

00:11:23,150 --> 00:11:21,590

every now and then from the backstage

227

00:11:24,910 --> 00:11:23,160

area we're hearing these shrieks of

228

00:11:28,880 --> 00:11:24,920

students which is quite good quite good

229

00:11:31,370 --> 00:11:28,890

well the time is now approaching the end

230

00:11:34,760 --> 00:11:31,380

of the current talk in the hafstrom

231

00:11:36,290 --> 00:11:34,770

theatre at the theatre and when that

232

00:11:39,260 --> 00:11:36,300

talks over the doors will be flung open

233

00:11:41,000 --> 00:11:39,270

on this side so in Bryce and I can set

234

00:11:43,730 --> 00:11:41,010

up our mystery investigators performance

235

00:11:47,600 --> 00:11:43,740

and of all the things I do in the

236

00:11:49,880 --> 00:11:47,610

skeptical realm I must keep a list one

237

00:11:51,860 --> 00:11:49,890

day I think the mystery investigators is

238

00:11:53,990 --> 00:11:51,870

probably one of the most satisfying it's

239

00:11:57,790 --> 00:11:54,000

a lot of fun it's good to perform for

240

00:12:01,550 --> 00:11:57,800

kids and after all these years I think a

241

00:12:03,880 --> 00:12:01,560

lot of students thousands I guess have

242

00:12:06,500 --> 00:12:03,890

learned about water divining and

243

00:12:11,960 --> 00:12:06,510

investigations and they're learnt that

244

00:12:17,840 --> 00:12:11,970

there are skeptical groups out there so

245

00:12:19,730 --> 00:12:17,850

on with the show it's ian brush high and

246

00:12:21,170 --> 00:12:19,740

we're here in the stage area in the

247

00:12:22,670 --> 00:12:21,180

theater area we've set up the mr.

248

00:12:24,410 --> 00:12:22,680

investigation show the water divining

249

00:12:26,420 --> 00:12:24,420

test is all set up we've got the

250

00:12:28,040 --> 00:12:26,430

juggling balls ready the bed of nails is

251

00:12:30,350 --> 00:12:28,050

over there gee it's doing well for 11

252

00:12:32,300 --> 00:12:30,360

years old absolutely looks like a great

253

00:12:33,889 --> 00:12:32,310

show and the students some students are

254

00:12:38,269 --> 00:12:33,899

coming in and hello everybody I'm in

255

00:12:44,749 --> 00:12:38,279

good morning hey this is the mystery

256

00:12:46,910 --> 00:12:44,759

investigators oh okay do you know what

257

00:12:51,590 --> 00:12:46,920

did the show as you see no oh well there

258

00:12:53,929 --> 00:12:51,600

you are Kim bus well that's the sort of

259

00:12:55,100 --> 00:12:53,939

a date is the IMP it now all's well I

260

00:12:56,629 --> 00:12:55,110

hope these students are with us cuz

261

00:12:58,579 --> 00:12:56,639

they're filing in look at them all come

262

00:13:06,079 --> 00:12:58,589

in now we'd hate my kids what school you

263

00:13:07,970 --> 00:13:06,089

from urban girls radio Radio yes if you

264

00:13:10,249 --> 00:13:07,980

want unless your teacher says no I think

265

00:13:13,759 --> 00:13:10,259

you can what school are you from open

266

00:13:15,650 --> 00:13:13,769

yours as well excellent well I better

267

00:13:18,350 --> 00:13:15,660

put this away now and get ready for the

268

00:13:19,910 --> 00:13:18,360

show well all the shows went very well I

269

00:13:22,100 --> 00:13:19,920

think with the kids joining in and all

270

00:13:24,759 --> 00:13:22,110

sorts of things and towards the end of

271

00:13:28,960 --> 00:13:24,769

each show we have the bed of nails and

272

00:13:32,299 --> 00:13:28,970

we pick up the action where I've just

273

00:13:35,030 --> 00:13:32,309

carefully lowered myself down onto the

274

00:14:05,460 --> 00:13:35,040

bed of nails and Ian Bryce is about to

275

00:14:05,470 --> 00:14:14,510

one way to thank you

276

00:14:14,520 --> 00:14:19,110

ah

277

00:14:29,790 --> 00:14:26,870

alright will be everything that much so

278

00:14:31,350 --> 00:14:29,800

how is that possible how on earth can I

279

00:14:35,880 --> 00:14:31,360

lie on a bed of nails in hobby engine

280

00:14:40,980 --> 00:14:35,890

have Ian Stannard like your hands all

281

00:14:43,860 --> 00:14:40,990

that's a that's a meeting those of you

282

00:14:46,740 --> 00:14:43,870

didn't hear my weight was distributed

283

00:14:49,019 --> 00:14:46,750

months or almost all the nails so every

284

00:14:51,960 --> 00:14:49,029

individual nails only carrying a tiny

285

00:14:54,060 --> 00:14:51,970

living away and so I really couldn't be

286

00:14:57,380 --> 00:14:54,070

buncha ready what happened what would

287

00:15:01,290 --> 00:14:57,390

happen if they were saying five nights I

288

00:15:03,390 --> 00:15:01,300

would ask everybody not just you want to

289

00:15:05,790 --> 00:15:03,400

work unclassified off but that's just

290

00:15:08,040 --> 00:15:05,800

physics because it's my wife being

291

00:15:10,320 --> 00:15:08,050

distributed evenly amongst many males

292

00:15:14,280 --> 00:15:10,330

but for many years when we heard about

293

00:15:16,820 --> 00:15:14,290

males about the better balance it was

294

00:15:19,710 --> 00:15:16,830

just didn't make sense I'm computer

295

00:15:20,560 --> 00:15:19,720

scientific way until we discovered the

296

00:15:23,500 --> 00:15:20,570

denial

297

00:15:25,390 --> 00:15:23,510

closer together and you don't have to be

298

00:15:27,990 --> 00:15:25,400

in a special mystical tracks in there

299

00:15:31,420 --> 00:15:28,000

after five or six years ago any of that

300

00:15:48,250 --> 00:15:31,430

anybody can really learn mystery that

301
00:15:50,590 --> 00:15:48,260
scientist I welcome to a week in science

302
00:15:53,050 --> 00:15:50,600
from Arya's bringing you the sides you

303
00:15:55,390 --> 00:15:53,060
need to know with features like parking

304
00:15:57,610 --> 00:15:55,400
assist automated breaking and adaptive

305
00:16:00,250 --> 00:15:57,620
cruise control we're already well on our

306
00:16:01,780 --> 00:16:00,260
way to having driverless cars in fact

307
00:16:12,820 --> 00:16:01,790
manufacturers say that they'll be in

308
00:16:18,290 --> 00:16:15,800
prototypes from listen volvo Audi and

309
00:16:20,270 --> 00:16:18,300
Google use a variety of sensors mounted

310
00:16:22,640 --> 00:16:20,280
on the car to build a detailed picture

311
00:16:24,800 --> 00:16:22,650
of its surroundings one of the main

312
00:16:27,590 --> 00:16:24,810
sensors is a type of laser called

313
00:16:29,810 --> 00:16:27,600

lighter it sends out rapid pulses of non

314

00:16:31,820 --> 00:16:29,820

visible light and measures the time they

315

00:16:33,830 --> 00:16:31,830

take to bounce off objects and return

316

00:16:36,410 --> 00:16:33,840

because light moves at a constant speed

317

00:16:39,080 --> 00:16:36,420

we can then calculate the cars distance

318

00:16:41,660 --> 00:16:39,090

from that object and build a 3d image of

319

00:16:43,790 --> 00:16:41,670

its environment the data from later is

320

00:16:45,740 --> 00:16:43,800

combined with video and radar sensor

321

00:16:47,810 --> 00:16:45,750

information and is processed by an

322

00:16:50,360 --> 00:16:47,820

on-board computer that makes decisions

323

00:16:53,210 --> 00:16:50,370

about steering braking and acceleration

324

00:16:55,520 --> 00:16:53,220

this sophisticated programming requires

325

00:16:57,590 --> 00:16:55,530

the computer to self learn so that it

326

00:17:02,420 --> 00:16:57,600

can still choose the correct action when

327

00:17:04,220 --> 00:17:02,430

it encounters unexpected scenarios I can

328

00:17:05,810 --> 00:17:04,230

see the appeal of a driverless car

329

00:17:07,400 --> 00:17:05,820

allowing you to better use your

330

00:17:09,020 --> 00:17:07,410

commuting time and providing

331

00:17:11,570 --> 00:17:09,030

independence to people who couldn't

332

00:17:14,000 --> 00:17:11,580

otherwise drive plus they could save

333

00:17:15,830 --> 00:17:14,010

thousands of lives by removing human

334

00:17:18,170 --> 00:17:15,840

driver error which accounts for over

335

00:17:20,060 --> 00:17:18,180

ninety percent of crashes they could

336

00:17:22,520 --> 00:17:20,070

also benefit the environment by reducing

337

00:17:24,560 --> 00:17:22,530

the number of cars on the road one

338

00:17:26,330 --> 00:17:24,570

vehicle could serve the whole family by

339

00:17:29,180 --> 00:17:26,340

driving itself between pickups and

340

00:17:31,310 --> 00:17:29,190

drop-offs or in a reimagined taxi

341

00:17:33,800 --> 00:17:31,320

service rather than owning a car at all

342

00:17:35,890 --> 00:17:33,810

you could lodge a transport request and

343

00:17:38,390 --> 00:17:35,900

whatever car is closest will pick you up

344

00:17:40,730 --> 00:17:38,400

smart braking and acceleration could

345

00:17:42,950 --> 00:17:40,740

potentially increase fuel efficiency by

346

00:17:44,870 --> 00:17:42,960

twenty-five percent and communication

347

00:17:47,060 --> 00:17:44,880

between cars will mean that road space

348

00:17:49,310 --> 00:17:47,070

is used better and commuting times

349

00:17:51,560 --> 00:17:49,320

become shorter but there are some

350

00:17:53,490 --> 00:17:51,570

concerns so let's take a look at the top

351

00:17:56,380 --> 00:17:53,500

four

352

00:17:58,810 --> 00:17:56,390

first our concerns about licensing and

353

00:18:01,840 --> 00:17:58,820

legal issues if your driver Lascar is in

354

00:18:03,789 --> 00:18:01,850

a crash who is liable viruses and

355

00:18:06,279 --> 00:18:03,799

malfunctions in the software are another

356

00:18:08,320 --> 00:18:06,289

worry if we can't have bug free internet

357

00:18:11,169 --> 00:18:08,330

browsers is it even possible to make a

358

00:18:13,210 --> 00:18:11,179

bug free car a third potential impact is

359

00:18:15,310 --> 00:18:13,220

that the technology will encourage urban

360

00:18:16,510 --> 00:18:15,320

sprawl with people tolerating long

361

00:18:19,600 --> 00:18:16,520

commutes when they're not actually

362

00:18:21,730 --> 00:18:19,610

driving and finally the idea of someone

363

00:18:24,190 --> 00:18:21,740

being able to remotely hack your car

364

00:18:26,889 --> 00:18:24,200

raises some scary safety and even

365

00:18:28,930 --> 00:18:26,899

terrorism concerns that's it for this

366

00:18:31,950 --> 00:18:28,940

week in science for more information on

367

00:18:35,350 --> 00:18:31,960

driverless cars go to the RAS website RI

368

00:18:38,529 --> 00:18:35,360

aus org dot a you follow us on twitter

369

00:18:51,230 --> 00:18:38,539

at rars and like us on Facebook I'm cure

370

00:18:55,320 --> 00:18:53,430

do you want to get in touch with nature

371

00:18:56,940 --> 00:18:55,330

without the fallacies come along to

372

00:18:59,370 --> 00:18:56,950

camping skeptically organized by the

373

00:19:00,960 --> 00:18:59,380

Brisbane skeptics society spend two

374

00:19:03,060 --> 00:19:00,970

nights at the tool burrow chalet in the

375

00:19:04,529 --> 00:19:03,070

picturesque ammonia mountain enjoy the

376

00:19:06,779 --> 00:19:04,539

company of fellow skeptics with bush

377

00:19:08,700 --> 00:19:06,789

walks barbecues and pseudoscience movie

378

00:19:10,500 --> 00:19:08,710

night along with a few drinks it's only

379

00:19:12,960 --> 00:19:10,510

sixty dollars for two nights September

380

00:19:14,940 --> 00:19:12,970

12 to the 14th places are strictly

381

00:19:29,390 --> 00:19:14,950

limited so go to Brisbane skeptic stud

382

00:19:34,870 --> 00:19:29,400

org for more details here's main art

383

00:19:39,040 --> 00:19:34,880

spooky action at the distance

384

00:19:40,540 --> 00:19:39,050

oh I'm surrounded by all these really

385

00:19:43,030 --> 00:19:40,550

old inventions and all these ancient

386

00:19:44,830 --> 00:19:43,040

artifacts and for once I'm not at home

387

00:19:46,150 --> 00:19:44,840

but here's an ancient artifact for you

388

00:19:48,220 --> 00:19:46,160

boys and girls out there it's Richard

389

00:19:49,750 --> 00:19:48,230

Saunders yeah I knew that line was

390

00:19:52,390 --> 00:19:49,760

coming Maynard we are we're surrounded

391

00:19:54,250 --> 00:19:52,400

by oh here's a it's not a rickshaw what

392

00:19:57,850 --> 00:19:54,260

is it it's a young oh this is one of the

393

00:19:59,140 --> 00:19:57,860

chairs that I believe Dick Smith used to

394

00:20:00,730 --> 00:19:59,150

get other various members of the

395

00:20:02,800 --> 00:20:00,740

skeptics Australia to carry a room

396

00:20:04,150 --> 00:20:02,810

around it we did we get sedan share this

397

00:20:05,740 --> 00:20:04,160

is you'd get in people would lift you

398

00:20:07,540 --> 00:20:05,750

and carry you around the dick smith

399

00:20:09,580 --> 00:20:07,550

actually circumnavigated the world in

400

00:20:11,590 --> 00:20:09,590

this sedan chair the four people who are

401
00:20:13,030 --> 00:20:11,600
carrying him unfortunately no one can

402
00:20:14,860 --> 00:20:13,040
remember then I am now we're in the

403
00:20:16,120 --> 00:20:14,870
talks are going on sort of in the other

404
00:20:20,440 --> 00:20:16,130
room you can probably hear them in the

405
00:20:21,790 --> 00:20:20,450
background note that ever ah Chris Chris

406
00:20:22,960 --> 00:20:21,800
Hadfield is there thank you I just

407
00:20:24,910 --> 00:20:22,970
trying to think he was looking at

408
00:20:26,800 --> 00:20:24,920
canadian national of course and i would

409
00:20:28,660 --> 00:20:26,810
love to ask him if I got a chance that

410
00:20:30,880 --> 00:20:28,670
i'm told that you're not really nasty

411
00:20:33,850 --> 00:20:30,890
naught until you've done a number two in

412
00:20:35,650 --> 00:20:33,860
a space toilet in space I'd probably

413
00:20:37,780 --> 00:20:35,660

have to agree with your main I that then

414

00:20:39,340 --> 00:20:37,790

you know it yeah then you know yeah okay

415

00:20:40,810 --> 00:20:39,350

yep now I've done everything you'd say

416

00:20:42,730 --> 00:20:40,820

after done that because it's not easy in

417

00:20:45,370 --> 00:20:42,740

zero gravity it easy but you're you're

418

00:20:46,960 --> 00:20:45,380

um you're the cub mystery investigators

419

00:20:49,180 --> 00:20:46,970

a nightmare and you're in training

420

00:20:51,940 --> 00:20:49,190

that's right I'm in training helping you

421

00:20:53,260 --> 00:20:51,950

at all people about the the ideomotor

422

00:20:54,280 --> 00:20:53,270

effect i believe is one of the things

423

00:20:56,380 --> 00:20:54,290

we're going to be talking about I

424

00:20:59,590 --> 00:20:56,390

thought it was the idiot motor effect

425

00:21:01,810 --> 00:20:59,600

and I had my old 1963 Volkswagen outside

426

00:21:02,860 --> 00:21:01,820

but that's completely things different

427

00:21:05,140 --> 00:21:02,870

idiot now you're going to be helping me

428

00:21:07,420 --> 00:21:05,150

with a water divining test the Power

429

00:21:09,520 --> 00:21:07,430

Balance demonstrations tonight and a bit

430

00:21:11,050 --> 00:21:09,530

of spoon bending at look and I'm going

431

00:21:12,610 --> 00:21:11,060

to be talking to a few people about the

432

00:21:14,290 --> 00:21:12,620

wisdom of Erich von Daniken as well I

433

00:21:15,670 --> 00:21:14,300

thought we might get a bit of really

434

00:21:16,840 --> 00:21:15,680

good alternative in there which is that

435

00:21:18,460 --> 00:21:16,850

what we're gonna be game about now we

436

00:21:21,190 --> 00:21:18,470

have to fill up the show somehow may not

437

00:21:22,420 --> 00:21:21,200

really and I had this I asked because

438

00:21:24,430 --> 00:21:22,430

all the scientists have got here like

439

00:21:25,840 --> 00:21:24,440

for example this science is here little

440

00:21:28,150 --> 00:21:25,850

area with all the sciences are going to

441

00:21:30,600 --> 00:21:28,160

sit and chat to people this is dr. olga

442

00:21:32,650 --> 00:21:30,610

Shimoni Chancellor postdoc your

443

00:21:34,690 --> 00:21:32,660

Chancellor's postdoctoral research

444

00:21:37,810 --> 00:21:34,700

fellow at UTS and you can ask her about

445

00:21:40,200 --> 00:21:37,820

nanotechnology and nano bots and as

446

00:21:42,700 --> 00:21:40,210

skeptics and listeners may remember Oh

447

00:21:44,790 --> 00:21:42,710

some months ago maybe almost a year ago

448

00:21:47,110 --> 00:21:44,800

I interviewed dr. Emma Johnston

449

00:21:48,880 --> 00:21:47,120

professor Emma Johnson

450

00:21:52,180 --> 00:21:48,890

university of new south wales marine

451
00:21:54,070 --> 00:21:52,190
ecologist XO toxicologist and TV

452
00:21:56,380 --> 00:21:54,080
presenter yeah i visited her at her

453
00:21:58,390 --> 00:21:56,390
research facility done on sydney harbour

454
00:21:59,860 --> 00:21:58,400
and we had a great interview down there

455
00:22:01,810 --> 00:21:59,870
so she's going to be here later on all

456
00:22:03,610 --> 00:22:01,820
these tables are set up around us Maino

457
00:22:04,900 --> 00:22:03,620
they're all got names on them a famous

458
00:22:07,000 --> 00:22:04,910
scientists with members of the public

459
00:22:08,860 --> 00:22:07,010
can come and chat to this is a great

460
00:22:10,780 --> 00:22:08,870
thing that the Powerhouse Museum of put

461
00:22:12,700 --> 00:22:10,790
on tonight well I was gonna get one to a

462
00:22:14,920 --> 00:22:12,710
table that said ask may not about

463
00:22:16,930 --> 00:22:14,930

anything because I won't know people go

464

00:22:19,150 --> 00:22:16,940

cuz I'll make stuff up that's the thing

465

00:22:20,799 --> 00:22:19,160

they should have a fake scientists and

466

00:22:23,590 --> 00:22:20,809

people could have tell which guy isn't

467

00:22:26,320 --> 00:22:23,600

that be me oh yes I believe that would

468

00:22:28,150 --> 00:22:26,330

be the square root of pie hang on a

469

00:22:30,280 --> 00:22:28,160

minute wait a minute tell me look it

470

00:22:34,450 --> 00:22:30,290

says UTS science here's a really weird

471

00:22:36,580 --> 00:22:34,460

son doctor doctor re right Rachel done

472

00:22:39,010 --> 00:22:36,590

dr. Rachel Dunlop oh that's got to be a

473

00:22:40,600 --> 00:22:39,020

for outlook that effect they'd odd

474

00:22:42,510 --> 00:22:40,610

this this is a put on this is a put-on

475

00:22:45,130 --> 00:22:42,520

dr. Rachel Dunlop I've directed

476
00:22:47,320 --> 00:22:45,140
post-doctorate research fellow mentions

477
00:22:49,330 --> 00:22:47,330
nothing about drinking rachel is also

478
00:22:52,060 --> 00:22:49,340
interested in the pseudoscience claims

479
00:22:53,470 --> 00:22:52,070
of anti-vaccination movement Rachel be

480
00:22:55,090 --> 00:22:53,480
here dr. Rachel be here to answer

481
00:22:56,680 --> 00:22:55,100
questions from the public tonight isn't

482
00:22:58,390 --> 00:22:56,690
that great yeah I got a few questions

483
00:23:00,280 --> 00:22:58,400
for like how come she didn't pay last

484
00:23:02,950 --> 00:23:00,290
months rent that's a good question

485
00:23:04,870 --> 00:23:02,960
that's right but it is all very exciting

486
00:23:06,490 --> 00:23:04,880
where washy on Tuesday night I got

487
00:23:08,260 --> 00:23:06,500
questions I got lots for her I wonder if

488
00:23:10,299 --> 00:23:08,270

she can see those questions may not mean

489

00:23:12,580 --> 00:23:10,309

well i hope i can do well because she

490

00:23:14,950 --> 00:23:12,590

normally helps you out here so tonight

491

00:23:16,990 --> 00:23:14,960

the part of dr. rate she will be played

492

00:23:18,070 --> 00:23:17,000

by Manor it's true she's on Judy's night

493

00:23:21,070 --> 00:23:18,080

she can't be doing a mystery

494

00:23:22,990 --> 00:23:21,080

investigators she's got her duties here

495

00:23:24,160 --> 00:23:23,000

at the table at the science table so

496

00:23:26,500 --> 00:23:24,170

you're going to have to put on a dress

497

00:23:27,490 --> 00:23:26,510

and be dr. Reggie tonight I pretty good

498

00:23:30,970 --> 00:23:27,500

i haven't got the legs but I'll give it

499

00:23:33,779 --> 00:23:30,980

a go tonight we'll be special oh it's

500

00:23:35,910 --> 00:23:33,789

the singing s or not can hear that

501
00:23:37,560 --> 00:23:35,920
we

502
00:23:40,110 --> 00:23:37,570
let's pop our heads around the corner

503
00:23:44,250 --> 00:23:40,120
and listen to the senior

504
00:23:52,370 --> 00:23:48,040
I

505
00:23:55,220 --> 00:23:52,380
Chris Hadfield do his talk what's your

506
00:23:56,180 --> 00:23:55,230
name little boy around segev hey haven't

507
00:23:58,460 --> 00:23:56,190
you got something to do with Australian

508
00:24:01,040 --> 00:23:58,470
skeptics I did yeah I think so because

509
00:24:02,540 --> 00:24:01,050
this shirt seems to skeptics honest I

510
00:24:04,400 --> 00:24:02,550
think so yeah I've heard of the

511
00:24:06,470 --> 00:24:04,410
organization how did you find Chris head

512
00:24:10,490 --> 00:24:06,480
fields talk pretty inspiring wasn't it

513
00:24:12,470 --> 00:24:10,500

he was it was I was awestruck I was just

514

00:24:15,200 --> 00:24:12,480

I mean it's not about the person it's

515

00:24:18,290 --> 00:24:15,210

just the way he talked that his attitude

516

00:24:21,230 --> 00:24:18,300

is just so inspirational that I spend i

517

00:24:23,030 --> 00:24:21,240

spent half my time through the talk with

518

00:24:25,670 --> 00:24:23,040

goosebumps and in with tears in my eyes

519

00:24:26,900 --> 00:24:25,680

he's just again it's not about being an

520

00:24:28,730 --> 00:24:26,910

astronaut it's not about being the

521

00:24:31,490 --> 00:24:28,740

commander as patient it's about he's

522

00:24:34,430 --> 00:24:31,500

attitude to following your dreams and to

523

00:24:36,410 --> 00:24:34,440

get it and not just about reaching the

524

00:24:39,920 --> 00:24:36,420

the end result what it is that you want

525

00:24:44,030 --> 00:24:39,930

to do but also why for this bein okay

526

00:24:46,340 --> 00:24:44,040

it's also about for the journey on your

527

00:24:48,080 --> 00:24:46,350

way to that goal what I liked was he

528

00:24:50,000 --> 00:24:48,090

said yes you think you might get there

529

00:24:51,380 --> 00:24:50,010

at some time but at the moment enjoy the

530

00:24:53,330 --> 00:24:51,390

time you're in enjoy what you're doing

531

00:24:55,880 --> 00:24:53,340

today enjoy going to the library enjoy

532

00:24:57,890 --> 00:24:55,890

the sunshine enjoy the little things on

533

00:25:00,350 --> 00:24:57,900

your way to perhaps going to where you

534

00:25:03,230 --> 00:25:00,360

might want to go it wasn't again it's

535

00:25:06,170 --> 00:25:03,240

not just about enjoying it's about it I

536

00:25:08,930 --> 00:25:06,180

think it's that combination of seeing

537

00:25:10,220 --> 00:25:08,940

your targets yes knowing that what

538

00:25:12,260 --> 00:25:10,230

you're doing is getting you to that

539

00:25:14,810 --> 00:25:12,270

target but that target is I think you

540

00:25:16,550 --> 00:25:14,820

say maybe one day I will get there so it

541

00:25:18,830 --> 00:25:16,560

was about yes enjoy what you're doing

542

00:25:20,810 --> 00:25:18,840

today and then have that vision have

543

00:25:24,890 --> 00:25:20,820

that goal in front of you at all times I

544

00:25:26,990 --> 00:25:24,900

think that's fantastic the we're just

545

00:25:28,490 --> 00:25:27,000

touching the velvet rope now and when

546

00:25:29,810 --> 00:25:28,500

you touch the velvet robe of course you

547

00:25:32,960 --> 00:25:29,820

meet a lot of people and who've we got

548

00:25:35,570 --> 00:25:32,970

here hi jack Isla Bureau I'm an

549

00:25:38,660 --> 00:25:35,580

ambassador for Space Camp USA and also

550

00:25:40,880 --> 00:25:38,670

an ambassador for Space Camp turkey this

551
00:25:43,130 --> 00:25:40,890
year I've been made the honeywell

552
00:25:45,470 --> 00:25:43,140
international ambassador for their

553
00:25:47,690 --> 00:25:45,480
educator at space Academy program in

554
00:25:48,980 --> 00:25:47,700
Huntsville Alabama and how many people

555
00:25:51,410 --> 00:25:48,990
from Australia are going to space camp

556
00:25:53,690 --> 00:25:51,420
this year this year I'm taking a group

557
00:25:55,910 --> 00:25:53,700
of 31 high school students and a few

558
00:25:58,100 --> 00:25:55,920
adults and a couple of teachers and we

559
00:25:59,660 --> 00:25:58,110
leave on the twenty-fifth September it

560
00:26:03,260 --> 00:25:59,670
was a rough idea what goes on a space

561
00:26:04,790 --> 00:26:03,270
cap space camp is about 70 simulators

562
00:26:07,670 --> 00:26:04,800
that simulate different astronaut

563
00:26:10,010 --> 00:26:07,680

activities you do missions you're in

564

00:26:12,620 --> 00:26:10,020

terms of 16 you do sir Bauer weightless

565

00:26:14,990 --> 00:26:12,630

environment construction you have NASA

566

00:26:17,030 --> 00:26:15,000

astronauts come and have a talk so it's

567

00:26:20,180 --> 00:26:17,040

basically six days of astronaut training

568

00:26:22,520 --> 00:26:20,190

for everyone from 92 99 but I focus on

569

00:26:24,110 --> 00:26:22,530

young children and young high school

570

00:26:25,190 --> 00:26:24,120

what's your favorite activity do they

571

00:26:26,930 --> 00:26:25,200

have that had the moment they have the

572

00:26:28,640 --> 00:26:26,940

really deep pool where they do the stuff

573

00:26:30,740 --> 00:26:28,650

in the deep pool what's that like yeah

574

00:26:32,570 --> 00:26:30,750

well the scoop is great you do get

575

00:26:34,280 --> 00:26:32,580

pyramid construction and stuff on the

576

00:26:36,710 --> 00:26:34,290

bottom of the scuba tank but I think my

577

00:26:38,420 --> 00:26:36,720

favorite activity was either climbing

578

00:26:40,220 --> 00:26:38,430

the 50-foot rock wall and jumping off

579

00:26:42,140 --> 00:26:40,230

with a zip line on your back or climbing

580

00:26:44,240 --> 00:26:42,150

the 38-foot pamper Pole or leaping off

581

00:26:46,040 --> 00:26:44,250

like Superman but I'm terrified of

582

00:26:48,920 --> 00:26:46,050

heights oh I kind of don't get those

583

00:26:51,140 --> 00:26:48,930

down perfectly but I think truly it's

584

00:26:54,140 --> 00:26:51,150

just an awesome place I love going there

585

00:26:55,700 --> 00:26:54,150

at some I would highly recommend it to

586

00:26:58,250 --> 00:26:55,710

everyone they even have visually

587

00:27:00,110 --> 00:26:58,260

impaired camp for blind children so

588

00:27:02,180 --> 00:27:00,120

three times a year they close the camp

589

00:27:05,510 --> 00:27:02,190

and they do Braille and I put the camp

590

00:27:07,430 --> 00:27:05,520

out in Braille so everybody if you have

591

00:27:10,070 --> 00:27:07,440

a dream if you want to go to Space Camp

592

00:27:12,110 --> 00:27:10,080

you should go and Kara dougherty from

593

00:27:14,090 --> 00:27:12,120

here is listed in the walk top one I

594

00:27:16,240 --> 00:27:14,100

think its first or second top places

595

00:27:18,260 --> 00:27:16,250

that she wants to be sit on the planet

596

00:27:20,330 --> 00:27:18,270

what's that website if you want to get a

597

00:27:22,220 --> 00:27:20,340

look at it serious like that and website

598

00:27:24,200 --> 00:27:22,230

is easy Space Camp doc home not that

599

00:27:26,930 --> 00:27:24,210

easy yeah that's very easy but also too

600

00:27:28,490 --> 00:27:26,940

I mean by your program if you want to

601
00:27:30,440 --> 00:27:28,500
get in contact with me I'll give these

602
00:27:32,600 --> 00:27:30,450
guys the card and you want to talk about

603
00:27:34,160 --> 00:27:32,610
it it's great it's the most awesome

604
00:27:36,790 --> 00:27:34,170
thing I've ever done in my life and

605
00:27:38,560 --> 00:27:36,800
that's been ten times that

606
00:27:40,870 --> 00:27:38,570
and Jackie just a quick question what is

607
00:27:43,360 --> 00:27:40,880
your favorite space movie or space TV

608
00:27:44,650 --> 00:27:43,370
show come on what's the only alike it

609
00:27:46,600 --> 00:27:44,660
doesn't have to be accurate just one

610
00:27:48,670 --> 00:27:46,610
that's your favorite actually my

611
00:27:50,920 --> 00:27:48,680
favorite I just saw a way to remember a

612
00:27:53,050 --> 00:27:50,930
straight boy you know danger and also I

613
00:27:55,270 --> 00:27:53,060

love me who doesn't want rocket in their

614

00:27:57,760 --> 00:27:55,280

boots Oh exactly in a zip zip zip up the

615

00:28:01,180 --> 00:27:57,770

cave awesome stuff you know it's just

616

00:28:03,070 --> 00:28:01,190

great yeah thank you thanks guys yes

617

00:28:04,390 --> 00:28:03,080

it's science week science science

618

00:28:06,580 --> 00:28:04,400

science and with the powerhouse museum

619

00:28:07,960 --> 00:28:06,590

and of course when you're talking about

620

00:28:10,420 --> 00:28:07,970

science where'd you find in there

621

00:28:13,060 --> 00:28:10,430

scientists like dr. Rachel Dunlop but at

622

00:28:14,590 --> 00:28:13,070

the bloody bar how are you hello Maynard

623

00:28:16,420 --> 00:28:14,600

I'm good thank you for your self a big

624

00:28:18,370 --> 00:28:16,430

bottle of aspartame there yes I have

625

00:28:20,320 --> 00:28:18,380

it's gonna give me disease or something

626

00:28:21,520 --> 00:28:20,330

I don't know now you can you get a

627

00:28:23,020 --> 00:28:21,530

little table over there we're gonna be

628

00:28:24,670 --> 00:28:23,030

talking to people are you ready for

629

00:28:27,460 --> 00:28:24,680

questions like what were you doing out

630

00:28:29,080 --> 00:28:27,470

so late on Tuesday night any questions

631

00:28:31,810 --> 00:28:29,090

I'll take any questions may know where

632

00:28:33,370 --> 00:28:31,820

was last month's rent oh you have to

633

00:28:34,570 --> 00:28:33,380

come and ask me join the key take a

634

00:28:36,610 --> 00:28:34,580

number and I'll answer all those

635

00:28:39,100 --> 00:28:36,620

questions for you things she says that

636

00:28:40,900 --> 00:28:39,110

such so often it is this time of night

637

00:28:42,880 --> 00:28:40,910

on a set day usually it's across the

638

00:28:44,620 --> 00:28:42,890

road superb object yeah join the queue

639

00:28:47,200 --> 00:28:44,630

tracking number it's like that kind of

640

00:28:48,430 --> 00:28:47,210

stuff and tell me what do people really

641

00:28:50,470 --> 00:28:48,440

want to know when they talk to you about

642

00:28:52,420 --> 00:28:50,480

your chosen field you know I have no

643

00:28:54,040 --> 00:28:52,430

idea i've never done this before and

644

00:28:56,260 --> 00:28:54,050

actually i was asked to do it and i

645

00:28:59,260 --> 00:28:56,270

didn't realize that i'd be sitting down

646

00:29:01,300 --> 00:28:59,270

at a table like a speed date so we

647

00:29:02,200 --> 00:29:01,310

actually have a chair across from me you

648

00:29:04,030 --> 00:29:02,210

thought it would be like the pleasure

649

00:29:05,620 --> 00:29:04,040

chest where there's a wall between and

650

00:29:08,010 --> 00:29:05,630

the people and there's a small hole and

651
00:29:10,630 --> 00:29:08,020
people go hello dr. 18 yes exactly

652
00:29:12,820 --> 00:29:10,640
mainul it's nothing like that it's not

653
00:29:15,100 --> 00:29:12,830
at all know so I have no idea what to

654
00:29:18,090 --> 00:29:15,110
expect but I think I'm gonna warm up I'm

655
00:29:20,530 --> 00:29:18,100
gonna go ask her about last Tuesday not

656
00:29:22,420 --> 00:29:20,540
you can do that mean that I can handle

657
00:29:24,010 --> 00:29:22,430
it and ago say congratulations on the

658
00:29:26,380 --> 00:29:24,020
ice bucket challenge you tip the bucket

659
00:29:29,500 --> 00:29:26,390
of ice over yourself and you called me

660
00:29:31,810 --> 00:29:29,510
out and who else dr. Paul Willis who has

661
00:29:34,720 --> 00:29:31,820
responded in fact I responded most bank

662
00:29:36,940 --> 00:29:34,730
know I've had I've had the bucket tipped

663
00:29:38,770 --> 00:29:36,950

over me enough lately if anyone knows

664

00:29:40,240 --> 00:29:38,780

the history but I can't go into it but I

665

00:29:42,460 --> 00:29:40,250

tell you what I will do I am going to

666

00:29:44,140 --> 00:29:42,470

donate some money to my charity which is

667

00:29:45,700 --> 00:29:44,150

the Bobby Goldsmith foundation well good

668

00:29:47,320 --> 00:29:45,710

for you may know but you know what i was

669

00:29:48,550 --> 00:29:47,330

thinking of when I nominated you I was

670

00:29:50,620 --> 00:29:48,560

thinking of you on the chocolate wheel

671

00:29:52,210 --> 00:29:50,630

in your gold hot pants and I was

672

00:29:54,640 --> 00:29:52,220

thinking if someone could throw I thank

673

00:29:56,950 --> 00:29:54,650

you like it was spinning around now if

674

00:29:59,350 --> 00:29:56,960

people look up Maynard's we love must be

675

00:30:02,680 --> 00:29:59,360

on YouTube they will see me doing that

676

00:30:04,840 --> 00:30:02,690

unfortunately i donated the i'm glad you

677

00:30:06,760 --> 00:30:04,850

brought this up i donated Maynard's

678

00:30:08,830 --> 00:30:06,770

Wheeler will speak to a mistress at the

679

00:30:11,080 --> 00:30:08,840

cross mistress anna i believe how

680

00:30:12,730 --> 00:30:11,090

quickly and i don't know if you're aware

681

00:30:15,520 --> 00:30:12,740

of the bondage device known as the

682

00:30:17,140 --> 00:30:15,530

spanish wheel no i'm not my god well she

683

00:30:18,940 --> 00:30:17,150

turned it into a Spanish wheel which is

684

00:30:20,740 --> 00:30:18,950

basically you can get strapped to it and

685

00:30:22,270 --> 00:30:20,750

get spun around in a bondage kind of way

686

00:30:23,770 --> 00:30:22,280

so it used to be all colorful and fluro

687

00:30:25,630 --> 00:30:23,780

now it's all black and dark and in a

688

00:30:27,850 --> 00:30:25,640

dungeon somewhere Kings Cross see

689

00:30:29,770 --> 00:30:27,860

mistress anna so i should have nominated

690

00:30:32,530 --> 00:30:29,780

mistress anna then more than ice bucket

691

00:30:34,120 --> 00:30:32,540

challenge yeah poor mistress tokyo

692

00:30:35,740 --> 00:30:34,130

actually because i'm bit of a fan of her

693

00:30:36,820 --> 00:30:35,750

work as well right i'm not familiar with

694

00:30:39,040 --> 00:30:36,830

her work but i trust your

695

00:30:40,780 --> 00:30:39,050

recommendations may not ok a bit look at

696

00:30:42,070 --> 00:30:40,790

so i will give i will donate some money

697

00:30:43,750 --> 00:30:42,080

and i will make sure that i get a

698

00:30:44,860 --> 00:30:43,760

receipt and take a photograph of it so

699

00:30:46,270 --> 00:30:44,870

we now have actually given some money

700

00:30:48,250 --> 00:30:46,280

into the Bobby Goldsmith foundation we

701
00:30:50,260 --> 00:30:48,260
trust you mean aren't we trust you yeah

702
00:30:51,310 --> 00:30:50,270
look and so what are you hoping to tell

703
00:30:53,380 --> 00:30:51,320
people what are you trying to get across

704
00:30:56,080 --> 00:30:53,390
how do you excite people about science

705
00:30:57,280 --> 00:30:56,090
well I am actually since you mentioned

706
00:30:59,020 --> 00:30:57,290
that ice bucket challenge i have my

707
00:31:00,580 --> 00:30:59,030
video tonight so i'll be playing that so

708
00:31:03,430 --> 00:31:00,590
people can laugh at me getting drenched

709
00:31:05,320 --> 00:31:03,440
and um I mean our research is really

710
00:31:08,110 --> 00:31:05,330
fascinating I don't really have to sex

711
00:31:11,260 --> 00:31:08,120
it up because it's about bats and algae

712
00:31:13,330 --> 00:31:11,270
and birds and so it's just really

713
00:31:16,330 --> 00:31:13,340

interesting on its own i think ok such a

714

00:31:18,040 --> 00:31:16,340

great story what's got it absolutely has

715

00:31:20,140 --> 00:31:18,050

no relationship whatsoever to ancient

716

00:31:21,850 --> 00:31:20,150

astronauts or you know ancient aliens so

717

00:31:24,040 --> 00:31:21,860

I mean help you haven't got the guy with

718

00:31:25,570 --> 00:31:24,050

the big hair they're helping it I know I

719

00:31:26,770 --> 00:31:25,580

know you're always asking me this

720

00:31:29,350 --> 00:31:26,780

question and you're always trying to

721

00:31:31,930 --> 00:31:29,360

find a link between ancient aliens on

722

00:31:34,390 --> 00:31:31,940

the history channel box turtle I have

723

00:31:36,160 --> 00:31:34,400

not pursued that Avenue yet but yep it's

724

00:31:37,690 --> 00:31:36,170

it's a very good suggestion and I might

725

00:31:39,670 --> 00:31:37,700

write a grant for it and then maybe we

726

00:31:40,870 --> 00:31:39,680

can investigate it remember that i think

727

00:31:43,090 --> 00:31:40,880

was michael shermer said that the

728

00:31:46,030 --> 00:31:43,100

paranormal can be a gateway drug to

729

00:31:47,710 --> 00:31:46,040

actual science so if there is someone

730

00:31:49,990 --> 00:31:47,720

that's interested in the Augie boogie on

731

00:31:51,520 --> 00:31:50,000

the Wu they could perhaps get into your

732

00:31:52,690 --> 00:31:51,530

field through that but your field Billy

733

00:31:54,100 --> 00:31:52,700

hasn't got a lot of that in it it's

734

00:31:55,139 --> 00:31:54,110

actually just got straight up science

735

00:31:59,969 --> 00:31:55,149

yeah

736

00:32:01,409 --> 00:31:59,979

oh I guess there's a bit of superstition

737

00:32:03,209 --> 00:32:01,419

in there and things like that I don't

738

00:32:04,289 --> 00:32:03,219

know I the one that one really got me is

739

00:32:06,269 --> 00:32:04,299

when you went to the middle of the

740

00:32:07,349 --> 00:32:06,279

desert and found that there was algae in

741

00:32:10,859 --> 00:32:07,359

the desert if you just poured some water

742

00:32:13,229 --> 00:32:10,869

yeah well that's the thing algae is 3.5

743

00:32:15,539 --> 00:32:13,239

billion years old as a species so it's

744

00:32:18,779 --> 00:32:15,549

evolved to grow just about anywhere yeah

745

00:32:20,669 --> 00:32:18,789

but did it ever win logi no I don't

746

00:32:24,060 --> 00:32:20,679

think it's ever won a low game for the

747

00:32:25,619 --> 00:32:24,070

best variety show algae no never you're

748

00:32:27,450 --> 00:32:25,629

right it's pretty crap isn't it really

749

00:32:29,009 --> 00:32:27,460

when you think about it look I was I was

750

00:32:32,009 --> 00:32:29,019

watching watching some alternative

751

00:32:33,930 --> 00:32:32,019

videos on on YouTube that said that

752

00:32:35,489 --> 00:32:33,940

there's no link between primates and man

753

00:32:37,440 --> 00:32:35,499

the missing link is still there can you

754

00:32:39,570 --> 00:32:37,450

be isn't there what do you like on the

755

00:32:41,459 --> 00:32:39,580

evolutionary science oh I'm not it's not

756

00:32:43,169 --> 00:32:41,469

my area of expertise Maynard I just I

757

00:32:44,669 --> 00:32:43,179

listen to the expert so I think this is

758

00:32:47,519 --> 00:32:44,679

a good piece of advice for everyone

759

00:32:50,249 --> 00:32:47,529

listening I'm done listening now take

760

00:32:53,159 --> 00:32:50,259

the advice of experts and take the

761

00:32:55,440 --> 00:32:53,169

advice of the consensus from experts so

762

00:32:57,389 --> 00:32:55,450

even within that expert community there

763

00:32:59,279 --> 00:32:57,399

might be one or two people that have

764

00:33:01,169 --> 00:32:59,289

different ideas but it's best to rely on

765

00:33:03,539 --> 00:33:01,179

the consensus and the consensus says

766

00:33:05,909 --> 00:33:03,549

that we are evolved from primates so I

767

00:33:07,079 --> 00:33:05,919

reckon they're probably right like I

768

00:33:09,899 --> 00:33:07,089

hate it when you beat me in an argument

769

00:33:11,609 --> 00:33:09,909

okay what about stuff that's on the edge

770

00:33:13,289 --> 00:33:11,619

of science stuff that's like history

771

00:33:15,239 --> 00:33:13,299

that has a lot of opinion in it and has

772

00:33:16,799 --> 00:33:15,249

the weight of various groups under there

773

00:33:18,690 --> 00:33:16,809

how do you work that one out yeah well

774

00:33:20,399 --> 00:33:18,700

see that's different because people's

775

00:33:23,219 --> 00:33:20,409

opinions are worthy of debate and a

776

00:33:25,409 --> 00:33:23,229

worthy of different opinions that can be

777

00:33:28,289 --> 00:33:25,419

debated but when it comes to evidence

778

00:33:30,869 --> 00:33:28,299

and science and facts there's no debate

779

00:33:32,279 --> 00:33:30,879

around evidence you know $2+2$ is 4 we can

780

00:33:34,739 --> 00:33:32,289

have a debate that it's five but it's

781

00:33:36,329 --> 00:33:34,749

just simply not so we must rely on facts

782

00:33:38,579 --> 00:33:36,339

and evidence when it comes to science

783

00:33:40,320 --> 00:33:38,589

what do you like it maths by the way dr.

784

00:33:41,489 --> 00:33:40,330

H oh I've asked you a lot of questions

785

00:33:43,259 --> 00:33:41,499

and believe you me lessons we have

786

00:33:44,339 --> 00:33:43,269

discussed a lot I've never actually

787

00:33:45,930 --> 00:33:44,349

asked you what do you like at

788

00:33:48,810 --> 00:33:45,940

mathematics because in your field is

789

00:33:51,959 --> 00:33:48,820

that necessarily required it is required

790

00:33:54,839 --> 00:33:51,969

because I do calculations every day and

791

00:33:58,200 --> 00:33:54,849

I'm unfortunately not very good at maths

792

00:34:00,149 --> 00:33:58,210

main art I love math though and I wish

793

00:34:02,339 --> 00:34:00,159

I'd proceed it further but I just wasn't

794

00:34:03,719 --> 00:34:02,349

very good at it but yes you do need math

795

00:34:05,310 --> 00:34:03,729

since I it's not as much in biology

796

00:34:07,330 --> 00:34:05,320

which is what I do if you're doing

797

00:34:09,339 --> 00:34:07,340

physics for example you know

798

00:34:11,020 --> 00:34:09,349

matix to me is just really hard maths

799

00:34:12,550 --> 00:34:11,030

get under the table yeah basically well

800

00:34:14,980 --> 00:34:12,560

it's applied maths too isn't it you know

801
00:34:18,129 --> 00:34:14,990
how would you fit this we love what we

802
00:34:19,839 --> 00:34:18,139
through this doorway if it's too big and

803
00:34:21,159 --> 00:34:19,849
you can write an equation and work it

804
00:34:22,389 --> 00:34:21,169
out and you got it and you can fit in a

805
00:34:25,240 --> 00:34:22,399
double-car garage have a look at that

806
00:34:26,950 --> 00:34:25,250
main adds a wheel of wispy on um it

807
00:34:28,659 --> 00:34:26,960
maynards wheel I think it's on YouTube

808
00:34:29,770 --> 00:34:28,669
there I'm going around in the over suit

809
00:34:31,419 --> 00:34:29,780
in the bongos and with the monkey

810
00:34:33,820 --> 00:34:31,429
underpants monkey Underpants very

811
00:34:35,740 --> 00:34:33,830
impressive now what do you know what are

812
00:34:37,599 --> 00:34:35,750
the rates of like women and girls

813
00:34:38,859 --> 00:34:37,609

getting into science at the moment is it

814

00:34:40,629 --> 00:34:38,869

pretty much even at the moment that we

815

00:34:43,060 --> 00:34:40,639

had a drop-off or was it increase what's

816

00:34:45,700 --> 00:34:43,070

it like no it's actually pretty even and

817

00:34:48,040 --> 00:34:45,710

in fact in the biological sciences it's

818

00:34:49,990 --> 00:34:48,050

weighted more towards females in the

819

00:34:52,270 --> 00:34:50,000

early stages of Korea and also

820

00:34:53,740 --> 00:34:52,280

undergraduate but as people progress to

821

00:34:56,109 --> 00:34:53,750

their careers women drop off

822

00:34:59,920 --> 00:34:56,119

significantly so this is a big problem

823

00:35:01,270 --> 00:34:59,930

which policy makers and leaders now

824

00:35:03,430 --> 00:35:01,280

field have been trying to address for a

825

00:35:05,980 --> 00:35:03,440

number of years is how to maintain and

826
00:35:07,450 --> 00:35:05,990
keep women in the field of science now

827
00:35:09,310 --> 00:35:07,460
why do they drop off is because they see

828
00:35:11,260 --> 00:35:09,320
the earning potential isn't there they

829
00:35:13,329 --> 00:35:11,270
go and do something else they they get

830
00:35:15,579 --> 00:35:13,339
married or was it well there are various

831
00:35:18,310 --> 00:35:15,589
reasons one is of course family gets in

832
00:35:20,410 --> 00:35:18,320
the way but also women for some reason

833
00:35:22,960 --> 00:35:20,420
tend not to apply for as many grants as

834
00:35:24,579 --> 00:35:22,970
men even though the evidence shows that

835
00:35:26,410 --> 00:35:24,589
when they do apply there just as likely

836
00:35:29,470 --> 00:35:26,420
to get awarded the grants in most cases

837
00:35:31,560 --> 00:35:29,480
so for some reason they just sort of get

838
00:35:33,820 --> 00:35:31,570

pushed out and left to the sidelines and

839

00:35:35,710 --> 00:35:33,830

it's a real big problem and people are

840

00:35:37,690 --> 00:35:35,720

trying to address it at the moment well

841

00:35:41,020 --> 00:35:37,700

because every woman i know is smarter

842

00:35:44,349 --> 00:35:41,030

than me hahaha really how many women do

843

00:35:46,660 --> 00:35:44,359

you know just me the air goes a bit but

844

00:35:48,579 --> 00:35:46,670

Gideon grant is really hard I mean even

845

00:35:49,480 --> 00:35:48,589

in the arts I mean the arts is really

846

00:35:50,500 --> 00:35:49,490

hard cuz you got to pretend you're

847

00:35:52,960 --> 00:35:50,510

something you gotta pretend you got an

848

00:35:53,829 --> 00:35:52,970

act for start so i guess in science

849

00:35:55,210 --> 00:35:53,839

that's what you're doing is all you

850

00:35:57,880 --> 00:35:55,220

you're pretending you've got an act or

851
00:35:59,589 --> 00:35:57,890
that be a scientific fact or i guess you

852
00:36:01,839 --> 00:35:59,599
know you've got one in science now well

853
00:36:03,550 --> 00:36:01,849
you you tend to know you've got

854
00:36:07,060 --> 00:36:03,560
something then you apply for a grant

855
00:36:09,430 --> 00:36:07,070
based on that that small idea and you

856
00:36:11,200 --> 00:36:09,440
apply for money to explore it further so

857
00:36:13,480 --> 00:36:11,210
it's pretty much as the same as an

858
00:36:15,940 --> 00:36:13,490
australian council grant really isn't

859
00:36:18,130 --> 00:36:15,950
really probably you know you're hard to

860
00:36:20,100 --> 00:36:18,140
get who's very competitive and very

861
00:36:21,870 --> 00:36:20,110
disheartening when you don't get them

862
00:36:23,130 --> 00:36:21,880
something that we used to have when I

863
00:36:24,450 --> 00:36:23,140

was in the cast net club when we did get

864

00:36:26,130 --> 00:36:24,460

australian council grants when that

865

00:36:27,210 --> 00:36:26,140

existed is the person that ran the

866

00:36:29,670 --> 00:36:27,220

ground would come and check out what

867

00:36:31,470 --> 00:36:29,680

we're doing and we all had to like being

868

00:36:32,970 --> 00:36:31,480

our best behavior does that happen when

869

00:36:34,560 --> 00:36:32,980

the ground people come around check you

870

00:36:36,690 --> 00:36:34,570

what he did you wear a wider look that

871

00:36:38,970 --> 00:36:36,700

let go than usual what do you do and so

872

00:36:42,240 --> 00:36:38,980

now legs instead of on our heads mane

873

00:36:43,440 --> 00:36:42,250

are that's what we do no we do we don't

874

00:36:45,750 --> 00:36:43,450

actually have them come and check on us

875

00:36:47,760 --> 00:36:45,760

but we do have to write reports over a

876

00:36:49,650 --> 00:36:47,770

period of time to demonstrate that we're

877

00:36:51,750 --> 00:36:49,660

not just faffing about in a wool of

878

00:36:52,920 --> 00:36:51,760

whoops be autumn oh that's a thing when

879

00:36:54,630 --> 00:36:52,930

you're doing an arts grant you can

880

00:36:56,520 --> 00:36:54,640

fathom it and that's about that's the

881

00:36:58,410 --> 00:36:56,530

whole idea yeah exactly i suppose so but

882

00:37:00,270 --> 00:36:58,420

that's not the aim in science is not to

883

00:37:01,410 --> 00:37:00,280

faff about really what i'm asking

884

00:37:05,490 --> 00:37:01,420

everyone here today what is your

885

00:37:06,900 --> 00:37:05,500

favorite space TV show or movie to do a

886

00:37:08,160 --> 00:37:06,910

space since we've got a space-themed

887

00:37:10,290 --> 00:37:08,170

here as science weekly what does your

888

00:37:11,670 --> 00:37:10,300

I've mentioned darkstar as being one of

889

00:37:13,310 --> 00:37:11,680

my favorite movies because it's a bit of

890

00:37:15,810 --> 00:37:13,320

an analog of the Vietnam experience

891

00:37:18,720 --> 00:37:15,820

quirk is a good TV show I thought that

892

00:37:20,820 --> 00:37:18,730

was pretty good as well I like beyond

893

00:37:23,970 --> 00:37:20,830

the shadow of the moon it's a

894

00:37:26,340 --> 00:37:23,980

documentary about the trip to the moon

895

00:37:28,290 --> 00:37:26,350

and the moon landings and it's I can't

896

00:37:29,970 --> 00:37:28,300

remember if Frank Zappa's son made it or

897

00:37:31,620 --> 00:37:29,980

something well that's cool I don't I

898

00:37:33,420 --> 00:37:31,630

don't remember but it's just a beautiful

899

00:37:35,010 --> 00:37:33,430

documentary and interviews all the

900

00:37:37,160 --> 00:37:35,020

astronauts and talks to them about their

901
00:37:39,510 --> 00:37:37,170
experiences and also interestingly

902
00:37:41,130 --> 00:37:39,520
delves into the fact that some of them

903
00:37:42,570 --> 00:37:41,140
came back and became quite religious

904
00:37:45,090 --> 00:37:42,580
because they found the experience so

905
00:37:46,680 --> 00:37:45,100
overwhelming and then it's the famous

906
00:37:48,180 --> 00:37:46,690
movie where they talk about just putting

907
00:37:49,950 --> 00:37:48,190
your thumb up to earth when you're

908
00:37:52,830 --> 00:37:49,960
standing on the moon and everything you

909
00:37:55,140 --> 00:37:52,840
know disappears in a second and how

910
00:37:58,170 --> 00:37:55,150
overwhelming that was for them but I

911
00:38:00,720 --> 00:37:58,180
also liked the dish is really in a dish

912
00:38:03,840 --> 00:38:00,730
it's a great film about space and muninn

913
00:38:05,340 --> 00:38:03,850

and space travel here I hope you have a

914

00:38:07,230 --> 00:38:05,350

good night tonight getting great

915

00:38:08,670 --> 00:38:07,240

questions I hope no one stumps you won't

916

00:38:11,190 --> 00:38:08,680

really be annoying if some like 12 your

917

00:38:12,660 --> 00:38:11,200

kid cameras God kid comes up and gas and

918

00:38:14,640 --> 00:38:12,670

have you got the equation to something

919

00:38:17,160 --> 00:38:14,650

you'll get a no little boy I don't and

920

00:38:18,990 --> 00:38:17,170

little boys gonna go hmm well that could

921

00:38:20,310 --> 00:38:19,000

probably happen may not because I'm a

922

00:38:22,770 --> 00:38:20,320

scientist therefore I don't know

923

00:38:24,720 --> 00:38:22,780

everything we're trying that men's a

924

00:38:26,970 --> 00:38:24,730

scientist is he yes what kind of

925

00:38:28,620 --> 00:38:26,980

scientist is he well look I've had his

926

00:38:29,910 --> 00:38:28,630

argument a few people a lot of people

927

00:38:32,370 --> 00:38:29,920

claim the Batman is in fact a

928

00:38:33,540 --> 00:38:32,380

technologist and sure yes he is but he's

929

00:38:35,130 --> 00:38:33,550

also a scientist

930

00:38:37,110 --> 00:38:35,140

if anyone has seen Adam West he's in the

931

00:38:38,220 --> 00:38:37,120

Batcave he's always doing he's must must

932

00:38:39,990 --> 00:38:38,230

have something in chemistry because he's

933

00:38:41,490 --> 00:38:40,000

mucked around in chemistry and he must

934

00:38:43,530 --> 00:38:41,500

have maybe he's got a degree in crime or

935

00:38:45,690 --> 00:38:43,540

so now that the green crime google crime

936

00:38:47,550 --> 00:38:45,700

fighting crime fighting I don't know and

937

00:38:49,380 --> 00:38:47,560

I rennes exceed have to have a degree in

938

00:38:51,750 --> 00:38:49,390

forensics it's not my area of expertise

939

00:38:53,250 --> 00:38:51,760

Batman's occupation or qualifications to

940

00:38:57,270 --> 00:38:53,260

main outside prefer i prefer not to

941

00:39:00,180 --> 00:38:57,280

comment in this situation oh look let's

942

00:39:03,660 --> 00:39:00,190

reveal now somebody tell myself look at

943

00:39:05,550 --> 00:39:03,670

that ah fan fantastic Scott look it's

944

00:39:07,890 --> 00:39:05,560

William Shatner William Shatner no

945

00:39:09,540 --> 00:39:07,900

William Shatner's done as more for

946

00:39:10,830 --> 00:39:09,550

science than I ever have but tell me so

947

00:39:11,940 --> 00:39:10,840

what's your degree and who are you and

948

00:39:14,370 --> 00:39:11,950

what are you doing here as part of

949

00:39:16,290 --> 00:39:14,380

science work I'll well I am here

950

00:39:18,600 --> 00:39:16,300

representing edster means we're a

951
00:39:20,220 --> 00:39:18,610
sponsor of this event since we do which

952
00:39:22,740 --> 00:39:20,230
stands for the Australian nuclear

953
00:39:25,050 --> 00:39:22,750
science technology organisation so we're

954
00:39:27,180 --> 00:39:25,060
here just to basically raise awareness

955
00:39:29,370 --> 00:39:27,190
of what we're doing in some we've got an

956
00:39:32,490 --> 00:39:29,380
activity here which is a science lab so

957
00:39:35,430 --> 00:39:32,500
as the night goes on you can grab a lab

958
00:39:37,710 --> 00:39:35,440
coat and jump into our Y 11 you'll get a

959
00:39:39,480 --> 00:39:37,720
strip of photos that you can take home

960
00:39:40,650 --> 00:39:39,490
as a bit of a moment ocean actually do

961
00:39:43,560 --> 00:39:40,660
that a bit later and what's your degree

962
00:39:46,620 --> 00:39:43,570
I have a degree in the very noble

963
00:39:50,700 --> 00:39:46,630

science of marketing get out hence a

964

00:39:53,400 --> 00:39:50,710

science lab look I reckon marketing can

965

00:39:55,560 --> 00:39:53,410

be as difficult as like men finding it

966

00:39:58,260 --> 00:39:55,570

amira conium from time to time but yeah

967

00:40:00,420 --> 00:39:58,270

well that's true it's true yes it can be

968

00:40:02,250 --> 00:40:00,430

very very easy or can be extremely

969

00:40:03,810 --> 00:40:02,260

difficult a little bit why you want to

970

00:40:05,160 --> 00:40:03,820

look at it well so so you can feel tough

971

00:40:07,740 --> 00:40:05,170

questions like how's that thorium

972

00:40:09,480 --> 00:40:07,750

reactor going how we going on that one

973

00:40:11,700 --> 00:40:09,490

is India way ahead of us on that one

974

00:40:14,010 --> 00:40:11,710

there oh well look you know we have a

975

00:40:17,070 --> 00:40:14,020

research reactor a tedster so we make

976
00:40:19,560 --> 00:40:17,080
nuclear medicines and do research ah not

977
00:40:21,720 --> 00:40:19,570
so concerned about power reactors like a

978
00:40:25,050 --> 00:40:21,730
for lan reactor would seat that's the

979
00:40:26,370 --> 00:40:25,060
right question see and but we do produce

980
00:40:27,930 --> 00:40:26,380
you know eighty-five percent of the

981
00:40:29,610 --> 00:40:27,940
country's nuclear medicine so these are

982
00:40:31,770 --> 00:40:29,620
medicines you would take you're going to

983
00:40:34,470 --> 00:40:31,780
have a scan to detect cancel any other

984
00:40:36,750 --> 00:40:34,480
disease so you know it's a very very

985
00:40:39,960 --> 00:40:36,760
important facility to have and in terms

986
00:40:42,060 --> 00:40:39,970
of research you know we produce neutrons

987
00:40:44,160 --> 00:40:42,070
out of our reactor and use those

988
00:40:45,940 --> 00:40:44,170

neutrons understand the atomic structure

989

00:40:48,550 --> 00:40:45,950

of all sorts of materials

990

00:40:50,829 --> 00:40:48,560

so we have about 300 scientists working

991

00:40:53,319 --> 00:40:50,839

there that in that particular field so

992

00:40:54,460 --> 00:40:53,329

now is a tough question particularly for

993

00:40:56,770 --> 00:40:54,470

someone in the field what's your

994

00:40:58,180 --> 00:40:56,780

favorite element I'm appear on the bit

995

00:41:00,460 --> 00:40:58,190

on the periodic table when you're

996

00:41:04,480 --> 00:41:00,470

looking at it you go man that just blows

997

00:41:05,950 --> 00:41:04,490

my mind oh well I already claimed mine

998

00:41:07,720 --> 00:41:05,960

and Mira conium I like it because the

999

00:41:09,370 --> 00:41:07,730

things were very bold of them to name it

1000

00:41:10,870 --> 00:41:09,380

after the country quite selfish of them

1001
00:41:12,579 --> 00:41:10,880
but still just the same not about it i'm

1002
00:41:16,660 --> 00:41:12,589
going to give you a marketing answer

1003
00:41:19,420 --> 00:41:16,670
here so why ANSTO radiates about thirty

1004
00:41:21,160 --> 00:41:19,430
percent of the world's silicon so i'm

1005
00:41:24,520 --> 00:41:21,170
going to say silicon there's my favorite

1006
00:41:26,829 --> 00:41:24,530
elements and some the silicon is a step

1007
00:41:30,339 --> 00:41:26,839
in the production of silicon chips and

1008
00:41:32,349 --> 00:41:30,349
about everything yes yeah yes yeah yeah

1009
00:41:36,190 --> 00:41:32,359
there's nothing to shove the summon beer

1010
00:41:37,390 --> 00:41:36,200
as well well I hope so I hope so one my

1011
00:41:38,680 --> 00:41:37,400
favorite look I hope you're gonna go

1012
00:41:40,270 --> 00:41:38,690
well here and what are the kids mainly

1013
00:41:41,770 --> 00:41:40,280

get up to the that you take a photo of

1014

00:41:43,630 --> 00:41:41,780

them in the lab and they do that it's

1015

00:41:46,180 --> 00:41:43,640

not you guys haven't you come and have a

1016

00:41:47,440 --> 00:41:46,190

go so lots of different tell liquids now

1017

00:41:49,750 --> 00:41:47,450

are any of these normally available

1018

00:41:51,819 --> 00:41:49,760

after ten o'clock at a pub for example

1019

00:41:53,170 --> 00:41:51,829

is any this of still available in Kings

1020

00:41:55,420 --> 00:41:53,180

Cross which must have stuff being baby

1021

00:41:57,760 --> 00:41:55,430

now I think I'll a to the supermarkets

1022

00:41:59,710 --> 00:41:57,770

so food coloring right I've always been

1023

00:42:01,150 --> 00:41:59,720

I know that the red stuff makes you run

1024

00:42:02,800 --> 00:42:01,160

around like a nut if you have some but

1025

00:42:04,569 --> 00:42:02,810

but the blue stuff really washes your

1026
00:42:07,450 --> 00:42:04,579
hands get rid of 90 understand the germs

1027
00:42:08,890 --> 00:42:07,460
here well I don't know about that so if

1028
00:42:10,960 --> 00:42:08,900
you put some of that blue stuff on your

1029
00:42:14,079 --> 00:42:10,970
hands you can have blue hands for a few

1030
00:42:15,550 --> 00:42:14,089
days it looks pretty cool like this

1031
00:42:17,559 --> 00:42:15,560
looks like there's some genuine science

1032
00:42:19,569 --> 00:42:17,569
about to go on here all about cool thing

1033
00:42:22,930 --> 00:42:19,579
about this is you're going to get photos

1034
00:42:25,680 --> 00:42:22,940
and so we are going to say Richard put

1035
00:42:29,140 --> 00:42:25,690
this on your arm skeptics facebook site

1036
00:42:30,700 --> 00:42:29,150
and cook until now so I Twitter them as

1037
00:42:32,319 --> 00:42:30,710
well they would like to know what's the

1038
00:42:34,150 --> 00:42:32,329

website for you guys so we can find out

1039

00:42:35,589 --> 00:42:34,160

more about you and get to the get to the

1040

00:42:38,050 --> 00:42:35,599

bottom of that thorium issue that I've

1041

00:42:39,130 --> 00:42:38,060

been discussing well you can have a look

1042

00:42:43,780 --> 00:42:39,140

at all the other things that we're

1043

00:42:48,309 --> 00:42:43,790

working on so it is it is wwan co which

1044

00:42:50,380 --> 00:42:48,319

is a in st oak ave you and you ever take

1045

00:42:53,319 --> 00:42:50,390

guided tours through lucas lucas heights

1046

00:42:55,599 --> 00:42:53,329

guided tours every second saturday for

1047

00:42:57,640 --> 00:42:55,609

the general public and most days during

1048

00:42:59,890 --> 00:42:57,650

the school holidays as well too

1049

00:43:02,380 --> 00:42:59,900

so two and a half hour tour it's free

1050

00:43:04,269 --> 00:43:02,390

we'll show you our reactor will show you

1051
00:43:05,500 --> 00:43:04,279
our major scientific facilities we've

1052
00:43:08,170 --> 00:43:05,510
got other things like particle

1053
00:43:10,240 --> 00:43:08,180
accelerators there as well two different

1054
00:43:12,099 --> 00:43:10,250
environmental labs so we'll give you a

1055
00:43:13,960 --> 00:43:12,109
good look around the site and also tell

1056
00:43:15,579 --> 00:43:13,970
you all the amazing stuff that we do out

1057
00:43:18,160 --> 00:43:15,589
there right thanks a lot thank you very

1058
00:43:19,510 --> 00:43:18,170
much but we're just seeing over in the

1059
00:43:21,760 --> 00:43:19,520
background there Richard Saunders is

1060
00:43:23,319 --> 00:43:21,770
doing his stuff he's bending spoons he's

1061
00:43:25,420 --> 00:43:23,329
making people find water what's your

1062
00:43:27,760 --> 00:43:25,430
name Michelle and what did Richard

1063
00:43:29,920 --> 00:43:27,770

Saunders have you do then he just gave

1064

00:43:32,980 --> 00:43:29,930

me a divining rod went and hit some

1065

00:43:34,210 --> 00:43:32,990

water whilst I was not looking to get me

1066

00:43:36,390 --> 00:43:34,220

to see if I could find the water with

1067

00:43:39,549 --> 00:43:36,400

the divining rod and how did you go I

1068

00:43:42,490 --> 00:43:39,559

didn't quite make it no I was just one

1069

00:43:44,380 --> 00:43:42,500

box away but yeah I went with the way it

1070

00:43:45,940 --> 00:43:44,390

was pointing and it was definitely not

1071

00:43:47,829 --> 00:43:45,950

pointing for the water so for a moment

1072

00:43:50,680 --> 00:43:47,839

there you'd already spent that \$10,000

1073

00:43:52,900 --> 00:43:50,690

you could have one no actually i'm i'm

1074

00:43:56,769 --> 00:43:52,910

actually a regular follow of the

1075

00:43:59,890 --> 00:43:56,779

skeptics sign so I was actually already

1076

00:44:01,450 --> 00:43:59,900

pretty skeptical about it anyway okay so

1077

00:44:03,339 --> 00:44:01,460

what you were doing could have been an

1078

00:44:05,019 --> 00:44:03,349

example of cognitive dissonance maybe Oh

1079

00:44:07,140 --> 00:44:05,029

perhaps yeah maybe actually there is

1080

00:44:11,410 --> 00:44:07,150

avani but you didn't want it to happen

1081

00:44:13,210 --> 00:44:11,420

exactly my power of mind over ruled it

1082

00:44:14,980 --> 00:44:13,220

also yes I'm asking everyone tonight

1083

00:44:16,900 --> 00:44:14,990

because it's been a bit of space here

1084

00:44:20,890 --> 00:44:16,910

tonight what's your favorite space TV

1085

00:44:23,289 --> 00:44:20,900

show or movie it simply go oh my gosh um

1086

00:44:25,499 --> 00:44:23,299

I'm not necessarily meaning a realistic

1087

00:44:28,379 --> 00:44:25,509

one just one you like

1088

00:44:30,029 --> 00:44:28,389

oh god now you put me on the spot I'm

1089

00:44:32,069 --> 00:44:30,039

almost a big fan of anything of the work

1090

00:44:34,319 --> 00:44:32,079

of Shatner involved in it but of course

1091

00:44:36,299 --> 00:44:34,329

there's not a see if it came to books

1092

00:44:39,599 --> 00:44:36,309

out probably you know about sleep

1093

00:44:42,719 --> 00:44:39,609

douglas adams and Hitchhiker's Guide so

1094

00:44:45,479 --> 00:44:42,729

much volume which volume um actually the

1095

00:44:47,909 --> 00:44:45,489

first one is it's an and actually the

1096

00:44:50,729 --> 00:44:47,919

first two I really enjoyed the most I

1097

00:44:53,189 --> 00:44:50,739

think so the Dirk Gently detective

1098

00:44:54,959 --> 00:44:53,199

agency oh I actually I have to invoke

1099

00:44:58,319 --> 00:44:54,969

bookshelf but I've still yet to read it

1100

00:44:59,399 --> 00:44:58,329

so yeah I was lucky enough to meet him

1101
00:45:01,559 --> 00:44:59,409
once and interview him and he was a

1102
00:45:03,389 --> 00:45:01,569
lovely man and online if you search

1103
00:45:04,979 --> 00:45:03,399
Maynard and Douglas animals I don't that

1104
00:45:06,299 --> 00:45:04,989
one-hour interview with him oh that

1105
00:45:07,649 --> 00:45:06,309
would be amazing i look forward to

1106
00:45:09,689 --> 00:45:07,659
listening to it he was just the wildest

1107
00:45:11,639 --> 00:45:09,699
guy hey thank you for helping us here

1108
00:45:14,009 --> 00:45:11,649
tonight no thank you Reynard is they're

1109
00:45:15,689 --> 00:45:14,019
lovely to meet you good science wig here

1110
00:45:16,949 --> 00:45:15,699
at the powerhouse as I said and Hoover

1111
00:45:20,159 --> 00:45:16,959
got here what have you got a degree in

1112
00:45:22,589 --> 00:45:20,169
sir hello my name is Boyan I actually

1113
00:45:24,120 --> 00:45:22,599

have a degree in physics but I'm here to

1114

00:45:27,179 --> 00:45:24,130

talk about biology I'm here to talk

1115

00:45:28,469 --> 00:45:27,189

about elbow biofuels oh and how has it

1116

00:45:32,639 --> 00:45:28,479

been going so far what have people been

1117

00:45:34,889 --> 00:45:32,649

asking you very interesting questions

1118

00:45:36,989 --> 00:45:34,899

actually a lot about the future

1119

00:45:39,419 --> 00:45:36,999

potential for getting sustainable energy

1120

00:45:42,120 --> 00:45:39,429

in Australia so you know how much how

1121

00:45:44,129 --> 00:45:42,130

much space will we need to how much

1122

00:45:46,169 --> 00:45:44,139

space do we need to grow algae in order

1123

00:45:48,479 --> 00:45:46,179

to satisfy the energy requirements of

1124

00:45:50,399 --> 00:45:48,489

the country what are the advantages of

1125

00:45:52,559 --> 00:45:50,409

algae against traditional fuels like

1126

00:45:54,479 --> 00:45:52,569

crude oil so yeah it's been very

1127

00:45:56,309 --> 00:45:54,489

interesting so far and and if we were to

1128

00:45:57,899 --> 00:45:56,319

do it on a commercial scale what would

1129

00:45:59,909 --> 00:45:57,909

you have to do would you take over very

1130

00:46:01,620 --> 00:45:59,919

large area or would it be very how would

1131

00:46:04,529 --> 00:46:01,630

you do what would it look like a LG

1132

00:46:06,929 --> 00:46:04,539

factory it would it look quite

1133

00:46:10,229 --> 00:46:06,939

agriculture actually would be an you

1134

00:46:12,089 --> 00:46:10,239

would have salt water ponds on marginal

1135

00:46:14,519 --> 00:46:12,099

land so it can be desert it doesn't have

1136

00:46:16,829 --> 00:46:14,529

to be agricultural land and what you

1137

00:46:19,229 --> 00:46:16,839

would do is you choose a coastal region

1138

00:46:20,519 --> 00:46:19,239

and you dig up our groupings you'd fill

1139

00:46:21,479 --> 00:46:20,529

it with salt water and then you put

1140

00:46:23,849 --> 00:46:21,489

yourselves in there and they would just

1141

00:46:27,689 --> 00:46:23,859

grow and they use satellite to grow so

1142

00:46:31,799 --> 00:46:27,699

you and some minimal nutrients and you

1143

00:46:33,359 --> 00:46:31,809

need to satisfy the the crude oil demand

1144

00:46:35,510 --> 00:46:33,369

for Australia you'd need an area

1145

00:46:37,280 --> 00:46:35,520

approximately the size of Sydney

1146

00:46:38,510 --> 00:46:37,290

okay and that could be some area that's

1147

00:46:40,640 --> 00:46:38,520

not being used for anything else at the

1148

00:46:44,390 --> 00:46:40,650

moment exactly it could be a desert

1149

00:46:45,920 --> 00:46:44,400

region okay and what sort of what what's

1150

00:46:47,660 --> 00:46:45,930

been the largest scale production

1151
00:46:50,900 --> 00:46:47,670
distance gone on so far anywhere in the

1152
00:46:53,420 --> 00:46:50,910
world it's it's happening in the States

1153
00:46:54,950 --> 00:46:53,430
at the moment it's a new mexico and

1154
00:46:56,900 --> 00:46:54,960
they're looking at about 400 hectares

1155
00:46:59,510 --> 00:46:56,910
they're scaling up to about 400 hectares

1156
00:47:01,370 --> 00:46:59,520
at the moment okay and is it easy to

1157
00:47:03,260 --> 00:47:01,380
explain in layman's terms how you get it

1158
00:47:06,740 --> 00:47:03,270
from being the algae in the water to

1159
00:47:08,930 --> 00:47:06,750
being able to be a fuel in your car it

1160
00:47:12,560 --> 00:47:08,940
it's it's easy to explain it's a bit

1161
00:47:14,480 --> 00:47:12,570
harder to do and what you do is you need

1162
00:47:15,770 --> 00:47:14,490
to extract the algae from the water so

1163
00:47:18,260 --> 00:47:15,780

the algal cells are growing in

1164

00:47:20,270 --> 00:47:18,270

suspension in the water you need to pull

1165

00:47:21,860 --> 00:47:20,280

them out but then you need to squash

1166

00:47:23,690 --> 00:47:21,870

them to get the oils out of them and

1167

00:47:27,530 --> 00:47:23,700

eventually you need to chemically

1168

00:47:29,480 --> 00:47:27,540

convert those oils into fuels and the

1169

00:47:32,810 --> 00:47:29,490

oil is quite combustible is that correct

1170

00:47:35,720 --> 00:47:32,820

that's correct yes it's it's essentially

1171

00:47:37,430 --> 00:47:35,730

an analog for crude oil so once you get

1172

00:47:39,770 --> 00:47:37,440

yours out of the cells you send them to

1173

00:47:42,350 --> 00:47:39,780

a refinery and you process them the same

1174

00:47:43,370 --> 00:47:42,360

way as a traditional fuel and the reason

1175

00:47:44,750 --> 00:47:43,380

no one's doing this at the moment is

1176
00:47:46,130 --> 00:47:44,760
because there's quite a steep curve to

1177
00:47:47,570 --> 00:47:46,140
get it to the commercial level and no

1178
00:47:49,280 --> 00:47:47,580
one's willing to risk that is that what

1179
00:47:51,080 --> 00:47:49,290
it is that's exactly what it is it's a

1180
00:47:52,940 --> 00:47:51,090
question of scale so we work at the

1181
00:47:56,090 --> 00:47:52,950
laboratory scale at the moment a few

1182
00:47:58,670 --> 00:47:56,100
liters we need to get to the size of

1183
00:48:00,320 --> 00:47:58,680
Sydney and the question is when you go

1184
00:48:02,420 --> 00:48:00,330
to a pilot scale of a few thousand

1185
00:48:03,740 --> 00:48:02,430
liters who's going to invest in that

1186
00:48:05,780 --> 00:48:03,750
who's going to take that risk because

1187
00:48:08,090 --> 00:48:05,790
you you're not producing very much fuel

1188
00:48:10,340 --> 00:48:08,100

but you have significant construction

1189

00:48:13,400 --> 00:48:10,350

costs so somebody needs to take that

1190

00:48:14,960 --> 00:48:13,410

risk and so it's combustible as petrol

1191

00:48:18,200 --> 00:48:14,970

or diesel what sort of fuel you're

1192

00:48:20,420 --> 00:48:18,210

talking about all right so you would you

1193

00:48:21,830 --> 00:48:20,430

get crude oil and you separate the oil

1194

00:48:23,990 --> 00:48:21,840

into fractions you there would be a

1195

00:48:26,900 --> 00:48:24,000

diesel fraction a petrol fraction also

1196

00:48:29,240 --> 00:48:26,910

jet fuel fraction elements that you

1197

00:48:32,270 --> 00:48:29,250

could use to make plastics so you get

1198

00:48:34,040 --> 00:48:32,280

the whole spectrum of fuels so you just

1199

00:48:35,420 --> 00:48:34,050

opened up my eyes to a whole new world I

1200

00:48:37,370 --> 00:48:35,430

didn't know existed I didn't know it was

1201
00:48:39,050 --> 00:48:37,380
completely replaceable for hydrocarbons

1202
00:48:40,400 --> 00:48:39,060
that's amazing well I'm glad to hear

1203
00:48:43,610 --> 00:48:40,410
okay thank you very much have a good

1204
00:48:45,070 --> 00:48:43,620
night thank you look Luke we've got

1205
00:48:46,820 --> 00:48:45,080
three people here have just been

1206
00:48:48,859 --> 00:48:46,830
experiencing the Chris Hadfield

1207
00:48:51,049 --> 00:48:48,869
experience on stage what's it been like

1208
00:48:55,009 --> 00:48:51,059
oh it's being very fascinating actually

1209
00:48:56,329 --> 00:48:55,019
at it's great to hear all the little

1210
00:48:58,670 --> 00:48:56,339
things that you might be thinking about

1211
00:49:01,009 --> 00:48:58,680
in space that with it we don't know the

1212
00:49:02,599 --> 00:49:01,019
answers to and he's just been telling us

1213
00:49:03,739 --> 00:49:02,609

everything so that was one thing you

1214

00:49:09,019 --> 00:49:03,749

might have learned there that you gone

1215

00:49:10,430 --> 00:49:09,029

Wow um oh I've learned a few things and

1216

00:49:12,140 --> 00:49:10,440

now you've asked me that question and

1217

00:49:14,210 --> 00:49:12,150

it's popped out in my mind what did you

1218

00:49:15,890 --> 00:49:14,220

learn yeah what do you find out from his

1219

00:49:19,190 --> 00:49:15,900

space experience he thought gee I would

1220

00:49:21,079 --> 00:49:19,200

never thought that I actually really

1221

00:49:22,460 --> 00:49:21,089

hadn't considered how rough the landing

1222

00:49:24,380 --> 00:49:22,470

would be coming in because you sort of

1223

00:49:26,569 --> 00:49:24,390

you see that the shots of it and doesn't

1224

00:49:28,849 --> 00:49:26,579

always look that rough looks fairly

1225

00:49:31,309 --> 00:49:28,859

smooth I'd realized how jostle they get

1226

00:49:32,900 --> 00:49:31,319

not really quite surprised me yeah and

1227

00:49:34,640 --> 00:49:32,910

he gets rolled around before it comes to

1228

00:49:36,049 --> 00:49:34,650

stop yeah I thought that was amazing i

1229

00:49:37,339 --> 00:49:36,059

did like that he got an apple at the end

1230

00:49:38,900 --> 00:49:37,349

of her thought that was quite funny yeah

1231

00:49:40,849 --> 00:49:38,910

i like the fact that he could actually

1232

00:49:42,980 --> 00:49:40,859

feel the weight of his own tongue once a

1233

00:49:44,900 --> 00:49:42,990

gravity came back yeah that's right that

1234

00:49:46,549 --> 00:49:44,910

seemed to be it weird to me like you

1235

00:49:48,589 --> 00:49:46,559

would always think that you could feel

1236

00:49:50,089 --> 00:49:48,599

that it yeah you think you may be your

1237

00:49:52,420 --> 00:49:50,099

arm or your head or something but your

1238

00:49:54,880 --> 00:49:52,430

tongue yeah yeah that was a bit strange

1239

00:49:57,499 --> 00:49:54,890

how'd you find his presentation on stage

1240

00:50:00,109 --> 00:49:57,509

he's a fantastic speaker i really

1241

00:50:03,109 --> 00:50:00,119

enjoyed listening to him and is it one

1242

00:50:05,120 --> 00:50:03,119

fact that stuck out i think perhaps

1243

00:50:08,779 --> 00:50:05,130

there is magic thing that he brought up

1244

00:50:10,609 --> 00:50:08,789

was describing that moment just hanging

1245

00:50:12,049 --> 00:50:10,619

off the space station told to hang in

1246

00:50:14,299 --> 00:50:12,059

there for a few minutes and just letting

1247

00:50:16,999 --> 00:50:14,309

go and just the impact of that moment is

1248

00:50:19,099 --> 00:50:17,009

amazing what about when he was actually

1249

00:50:20,509 --> 00:50:19,109

in the Southern Lights he wasn't looking

1250

00:50:22,940 --> 00:50:20,519

at the Southern Lights it was part of

1251

00:50:24,559 --> 00:50:22,950

the Southern Lights yeah that not

1252

00:50:26,989 --> 00:50:24,569

something you'd ever think about better

1253

00:50:28,849 --> 00:50:26,999

yeah it'd be off his shoes and all that

1254

00:50:30,890 --> 00:50:28,859

sort of thing yeah it's just amazing it

1255

00:50:32,900 --> 00:50:30,900

would be such an experience made me very

1256

00:50:34,640 --> 00:50:32,910

jealous yeah of course say he's gonna do

1257

00:50:36,079 --> 00:50:34,650

the question section next what is one

1258

00:50:38,660 --> 00:50:36,089

question you would ask him if you gotta

1259

00:50:41,839 --> 00:50:38,670

go up there we were just discussing that

1260

00:50:44,660 --> 00:50:41,849

before and um I don't know just like the

1261

00:50:46,430 --> 00:50:44,670

little things about I think you were

1262

00:50:48,979 --> 00:50:46,440

saying something about what would you do

1263

00:50:51,140 --> 00:50:48,989

if you vomited in space well the thing

1264

00:50:52,940 --> 00:50:51,150

that I would like to ask him and they

1265

00:50:54,410 --> 00:50:52,950

say around NASA at around you know that

1266

00:50:56,480 --> 00:50:54,420

you're not really national until you've

1267

00:50:59,690 --> 00:50:56,490

actually used the space toilet inspire

1268

00:51:03,470 --> 00:50:59,700

and I'd like to ask him really is that

1269

00:51:04,490 --> 00:51:03,480

difficult to use yeah I I want to know

1270

00:51:06,800 --> 00:51:04,500

but I don't really want to think about

1271

00:51:08,450 --> 00:51:06,810

it yeah yeah it's an interesting fact

1272

00:51:10,880 --> 00:51:08,460

but not at this time of night yeah what

1273

00:51:12,440 --> 00:51:10,890

what do you think you'd ask him oh I

1274

00:51:14,330 --> 00:51:12,450

think I need a little longer to process

1275

00:51:18,290 --> 00:51:14,340

everything you said before I can come up

1276

00:51:24,560 --> 00:51:18,300

with a sensible question yeah look thank

1277

00:51:26,840 --> 00:51:24,570

you and enjoy your night we're shown in

1278

00:51:29,510 --> 00:51:26,850

cell culture that that's the voice of

1279

00:51:31,640 --> 00:51:29,520

dr. rachy there she is talking to yet

1280

00:51:33,890 --> 00:51:31,650

another potential science graduate about

1281

00:51:36,470 --> 00:51:33,900

the work that she does I don't

1282

00:51:39,800 --> 00:51:36,480

understand it myself but they appear

1283

00:51:41,840 --> 00:51:39,810

interested but John head down here John

1284

00:51:43,100 --> 00:51:41,850

hey going it has dr. Bochy bingo Mia

1285

00:51:45,680 --> 00:51:43,110

she's been fielding a few interesting

1286

00:51:47,210 --> 00:51:45,690

questions yeah I haven't been playing

1287

00:51:48,830 --> 00:51:47,220

too much close attention but she's

1288

00:51:50,930 --> 00:51:48,840

definitely had some interesting or

1289

00:51:52,490 --> 00:51:50,940

interested parties coming along and

1290

00:51:54,080 --> 00:51:52,500

asking her questions about her research

1291

00:51:56,359 --> 00:51:54,090

I like the way that she can demonstrate

1292

00:51:59,930 --> 00:51:56,369

the entire life cycle of any type of

1293

00:52:01,670 --> 00:51:59,940

algae through mime yes it has no bit of

1294

00:52:04,970 --> 00:52:01,680

dance it's fascinating you think

1295

00:52:06,680 --> 00:52:04,980

microbial life form how would you how

1296

00:52:08,900 --> 00:52:06,690

did you express that in mind well she

1297

00:52:11,210 --> 00:52:08,910

found a way she becomes it she becomes a

1298

00:52:13,040 --> 00:52:11,220

microbial life form and we've been

1299

00:52:15,020 --> 00:52:13,050

asking a few people of because we're

1300

00:52:18,050 --> 00:52:15,030

about space here tonight what is your

1301
00:52:20,630 --> 00:52:18,060
favorite space movie or TV thing of all

1302
00:52:23,000 --> 00:52:20,640
time and again as I'm telling people not

1303
00:52:27,109 --> 00:52:23,010
necessarily accurate I mean what is your

1304
00:52:29,810 --> 00:52:27,119
favorite one I think space 1999 martin

1305
00:52:32,390 --> 00:52:29,820
landau and where are our skivvies we are

1306
00:52:34,250 --> 00:52:32,400
like what 15 years past that now and we

1307
00:52:36,170 --> 00:52:34,260
haven't got any decent outfits like were

1308
00:52:38,000 --> 00:52:36,180
designed by Sylvia Anderson for that out

1309
00:52:38,430 --> 00:52:38,010
for that show we don't even have a moon

1310
00:52:40,349 --> 00:52:38,440
pie

1311
00:52:41,760 --> 00:52:40,359
what the hell yeah look if I were you

1312
00:52:43,470 --> 00:52:41,770
listener I would stop this right now

1313
00:52:47,040 --> 00:52:43,480

then go to youtube and just have a look

1314

00:52:49,079 --> 00:52:47,050

at the intro to space 1999 it's got one

1315

00:52:52,020 --> 00:52:49,089

of the funkiest themes of all time

1316

00:52:54,900 --> 00:52:52,030

hasn't it indeed it does he focused look

1317

00:52:56,520 --> 00:52:54,910

at your check it's beyond any porn film

1318

00:52:58,730 --> 00:52:56,530

music ever gonna hear it's just

1319

00:53:01,530 --> 00:52:58,740

fantastic there's one show that I

1320

00:53:04,559 --> 00:53:01,540

happened upon recently it's called UFO

1321

00:53:06,390 --> 00:53:04,569

oh and another one another Gerry

1322

00:53:07,800 --> 00:53:06,400

Anderson one where he's directing actors

1323

00:53:09,690 --> 00:53:07,810

but the good thing is they actually can

1324

00:53:11,849 --> 00:53:09,700

act they look like puppets it's an

1325

00:53:14,730 --> 00:53:11,859

amazing show up on YouTube it's

1326

00:53:17,490 --> 00:53:14,740

fantastic it features a daisy wheel

1327

00:53:20,339 --> 00:53:17,500

printer in the intro and it's set in the

1328

00:53:21,630 --> 00:53:20,349

futuristic year of 1984 and the great

1329

00:53:23,970 --> 00:53:21,640

thing is that I've got a jean paul

1330

00:53:25,950 --> 00:53:23,980

gaultier suit from 1990 that is

1331

00:53:29,160 --> 00:53:25,960

identical to what ed striker used to

1332

00:53:31,530 --> 00:53:29,170

wear and in UFO 984 it is a great show

1333

00:53:33,270 --> 00:53:31,540

some great costumes and I love love the

1334

00:53:35,490 --> 00:53:33,280

way when they're they're going off to

1335

00:53:37,410 --> 00:53:35,500

shoot the aliens and their their little

1336

00:53:40,290 --> 00:53:37,420

rocket ships they just dive into those

1337

00:53:42,870 --> 00:53:40,300

tubes it's amazing and the moonbase

1338

00:53:45,000 --> 00:53:42,880

girls with the purple wigs yes oh yes

1339

00:53:47,190 --> 00:53:45,010

not only do you have to wear a miniskirt

1340

00:53:49,440 --> 00:53:47,200

on the moon base as part of your uniform

1341

00:53:51,930 --> 00:53:49,450

let's just make it really sexist and

1342

00:53:54,900 --> 00:53:51,940

force you to wear purple wigs yes yes

1343

00:53:57,690 --> 00:53:54,910

until then well no because everyone

1344

00:54:00,059 --> 00:53:57,700

knows that 60s go-go dancers is the

1345

00:54:02,180 --> 00:54:00,069

exact outfit you'd want on the moon is

1346

00:54:05,359 --> 00:54:02,190

why this is why I think we should have a

1347

00:54:08,130 --> 00:54:05,369

moon base I mean then we'd have 60s

1348

00:54:10,589 --> 00:54:08,140

classes that's very good your logic is

1349

00:54:10,589 --> 00:54:10,599

infallible

1350

00:54:15,390 --> 00:54:12,839

that's great that's going on now I'm

1351
00:54:29,220 --> 00:54:15,400
glad I bet someone 1999 check out those

1352
00:54:29,230 --> 00:54:37,350
in a world where the truth is a battle

1353
00:54:37,360 --> 00:54:45,339
your messages are a seat for beyond

1354
00:54:45,349 --> 00:54:51,079
and reason is sidelined for magical sync

1355
00:54:56,939 --> 00:54:54,339
only three men stand between the truth

1356
00:55:00,699 --> 00:54:56,949
temples and modernist

1357
00:55:02,409 --> 00:55:00,709
what date is it 787 thing this is

1358
00:55:04,059 --> 00:55:02,419
impressive if these are system present

1359
00:55:06,900 --> 00:55:04,069
they're not their photographs of Chinese

1360
00:55:09,189 --> 00:55:06,910
anthem it's not we are not well received

1361
00:55:10,839 --> 00:55:09,199
good god we're fully don't discuss

1362
00:55:12,729 --> 00:55:10,849
cryptozoology on the show very often

1363
00:55:15,249 --> 00:55:12,739

because we don't know anything about how

1364

00:55:17,289 --> 00:55:15,259

the truth the price gets lower lower

1365

00:55:21,519 --> 00:55:17,299

lower and then he hits the ceiling it's

1366

00:55:23,439 --> 00:55:21,529

a ceiling for the room below for skeptic

1367

00:55:37,450 --> 00:55:23,449

to the cave and Moses has gifted society

1368

00:55:41,510 --> 00:55:39,740

thank you for listening to the skeptic

1369

00:55:43,040 --> 00:55:41,520

zone now some information about the

1370

00:55:46,400 --> 00:55:43,050

upcoming Australian skeptics National

1371

00:55:49,809 --> 00:55:46,410

Convention and new information released

1372

00:55:54,530 --> 00:55:49,819

by Australian skeptics we got some new

1373

00:55:57,140 --> 00:55:54,540

guests to announce and the blurb says in

1374

00:55:59,569 --> 00:55:57,150

a special consumer affairs discussion

1375

00:56:01,160 --> 00:55:59,579

panel the 30th National Australian

1376

00:56:03,980 --> 00:56:01,170

skeptics convention will feature three

1377

00:56:07,030 --> 00:56:03,990

entertainers from the ABC satirical

1378

00:56:10,670 --> 00:56:07,040

programs that check out and the chaser

1379

00:56:12,950 --> 00:56:10,680

Julian mauro kristen Drysdale and Chaz

1380

00:56:15,400 --> 00:56:12,960

leach adela are known for their fearless

1381

00:56:18,799 --> 00:56:15,410

attacks on ignorance and double-dealing

1382

00:56:22,460 --> 00:56:18,809

wherever it might be politicians shonky

1383

00:56:23,990 --> 00:56:22,470

services or pseudoscience they will be

1384

00:56:26,900 --> 00:56:24,000

joined by two leading figures in

1385

00:56:29,180 --> 00:56:26,910

consumer protection in Australia Delia

1386

00:56:31,400 --> 00:56:29,190

Rickard Deputy Chair of the Australian

1387

00:56:35,960 --> 00:56:31,410

Competition and Consumer Commission a

1388

00:56:39,339 --> 00:56:35,970

Triple C and Alan Kirkland CEO of choice

1389

00:56:41,870 --> 00:56:39,349

magazine fantastic some really great

1390

00:56:44,180 --> 00:56:41,880

guests coming up are for the Asturian

1391

00:56:48,349 --> 00:56:44,190

skeptics National Convention for more

1392

00:56:50,660 --> 00:56:48,359

information go to ww convention skeptics

1393

00:56:53,630 --> 00:56:50,670

Comte you or skeptics calm today you

1394

00:56:56,390 --> 00:56:53,640

check it out now's the time to buy your

1395

00:56:57,829 --> 00:56:56,400

ticket secure your place it's going to

1396

00:56:59,569 --> 00:56:57,839

be a great convention one of the biggest

1397

00:57:01,670 --> 00:56:59,579

ones in this country for some years

1398

00:57:04,309 --> 00:57:01,680

can't wait to see the skeptics guide to

1399

00:57:07,130 --> 00:57:04,319

the universe gang George rub Sonya

1400

00:57:09,470 --> 00:57:07,140

Pemberton is also coming along a dr.

1401

00:57:12,319 --> 00:57:09,480

Carl dr. Cole worth the price of

1402

00:57:14,240 --> 00:57:12,329

admission alone can't wait for that see

1403

00:57:18,260 --> 00:57:14,250

you there at the end of november in

1404

00:57:20,539 --> 00:57:18,270

chatswood here in sydney but for now but

1405

00:57:22,250 --> 00:57:20,549

for this week I think I'll run

1406

00:57:24,950 --> 00:57:22,260

downstairs and finish off that couscous

1407

00:57:28,749 --> 00:57:24,960

a tuna this is Richard Saunders signing

1408

00:57:36,170 --> 00:57:31,160

you've been listening to the skeptic

1409

00:57:39,949 --> 00:57:36,180

zone visit our website at www.skeptics