



1
00:00:21,860 --> 00:00:19,510
[Music]

2
00:00:36,709 --> 00:00:21,870
thank you

3
00:00:36,719 --> 00:00:50,040
foreign

4
00:02:01,010 --> 00:01:11,140
[Music]

5
00:02:01,020 --> 00:02:16,530
foreign

6
00:02:35,570 --> 00:02:29,980
[Music]

7
00:02:38,089 --> 00:02:35,580
at Nasa we pay tribute to the women in

8
00:02:41,089 --> 00:02:38,099
stem who continue to lead the way for

9
00:02:43,070 --> 00:02:41,099
change in our society and culture this

10
00:02:46,009 --> 00:02:43,080
March we shot a spotlight with just a

11
00:02:49,430 --> 00:02:46,019
few in honor of women's History Month

12
00:02:52,130 --> 00:02:49,440
did you know human computers were a huge

13
00:02:54,650 --> 00:02:52,140

part of NASA's history starting for 34

14

00:02:56,809 --> 00:02:54,660

years at Nasa Annie Beasley gave away

15

00:02:58,670 --> 00:02:56,819

for women's rights by helping

16

00:03:02,630 --> 00:02:58,680

supervisors address issues such as

17

00:03:04,270 --> 00:03:02,640

gender race and age discrimination

18

00:03:07,670 --> 00:03:04,280

and on the other side of the country

19

00:03:09,770 --> 00:03:07,680

Helen Lang hired women computers who

20

00:03:12,710 --> 00:03:09,780

wanted to be Engineers but who didn't

21

00:03:15,410 --> 00:03:12,720

have the necessary education over the

22

00:03:16,430 --> 00:03:15,420

years more women were trained to be NASA

23

00:03:19,009 --> 00:03:16,440

astronauts

24

00:03:21,229 --> 00:03:19,019

while she never went to space Dr

25

00:03:23,990 --> 00:03:21,239

Patricia cowings became the first

26

00:03:26,750 --> 00:03:24,000

American woman scientist to be trained

27

00:03:29,509 --> 00:03:26,760

as a payload specialist and even

28

00:03:32,509 --> 00:03:29,519

developed a method to train astronauts

29

00:03:35,089 --> 00:03:32,519

on how to combat motion sickness during

30

00:03:37,970 --> 00:03:35,099

space flight did you know

31

00:03:40,550 --> 00:03:37,980

a NASA engineer was inspired by a

32

00:03:45,229 --> 00:03:40,560

drinking straw to create a new way to

33

00:03:47,750 --> 00:03:45,239

clean up toxic waste well it's true NASA

34

00:03:50,990 --> 00:03:47,760

environmental engineer Jackie Quinn was

35

00:03:52,970 --> 00:03:51,000

hit by inspiration in the cafeteria when

36

00:03:55,850 --> 00:03:52,980

she came up with an invention to clean

37

00:03:59,030 --> 00:03:55,860

up contaminated water and soil all

38

00:04:00,050 --> 00:03:59,040

thanks to a drinking straw Houston you

39

00:04:03,729 --> 00:04:00,060

copy

40

00:04:07,070 --> 00:04:03,739

in 2001 Ginger Carrick became the first

41

00:04:09,289 --> 00:04:07,080

non-astronaut capsule Communicator aka

42

00:04:12,050 --> 00:04:09,299

the person who relays information from

43

00:04:15,170 --> 00:04:12,060

Mission Control to astronauts in space

44

00:04:17,590 --> 00:04:15,180

four years later Ginger became NASA's

45

00:04:21,229 --> 00:04:17,600

first Hispanic female flight director

46

00:04:24,170 --> 00:04:21,239

from politics to science Pioneers to

47

00:04:29,610 --> 00:04:24,180

Engineers women are making history every

48

00:04:41,450 --> 00:04:37,570

[Music]

49

00:04:46,370 --> 00:04:44,030

good morning and thank you for joining

50

00:04:49,909 --> 00:04:46,380

us and celebrating women's History Month

51
00:04:52,310 --> 00:04:49,919
at Nasa my name is Sarah adami and I am

52
00:04:53,270 --> 00:04:52,320
a cyber security specialist here at Nasa

53
00:04:55,490 --> 00:04:53,280
Goddard

54
00:04:57,530 --> 00:04:55,500
this year's women's History Month theme

55
00:05:00,110 --> 00:04:57,540
as announced by the national women's

56
00:05:02,870 --> 00:05:00,120
history Alliance is celebrating women

57
00:05:05,870 --> 00:05:02,880
who tell our stories

58
00:05:08,150 --> 00:05:05,880
woman at Nasa serve as role models for

59
00:05:10,969 --> 00:05:08,160
young women and by sharing our stories

60
00:05:13,850 --> 00:05:10,979
we can Inspire the Next Generation and

61
00:05:16,490 --> 00:05:13,860
help launch them on stem pathways

62
00:05:18,590 --> 00:05:16,500
the office of stem engagement is excited

63
00:05:21,890 --> 00:05:18,600

to support this goal and announce the

64

00:05:24,770 --> 00:05:21,900

new agency-wide woman in stem 2023

65

00:05:26,390 --> 00:05:24,780

initiative to mobilize women at Nasa to

66

00:05:28,850 --> 00:05:26,400

participate in student engagement

67

00:05:31,310 --> 00:05:28,860

opportunities to talk more about this

68

00:05:33,890 --> 00:05:31,320

initiative please welcome Chris Brown

69

00:05:35,780 --> 00:05:33,900

Deputy associate administrator of NASA

70

00:05:42,710 --> 00:05:35,790

stem engagement

71

00:05:49,430 --> 00:05:46,129

good morning Sarah thanks so much

72

00:05:52,010 --> 00:05:49,440

I am delighted to be with all of you and

73

00:05:54,710 --> 00:05:52,020

uh especially I am pleased and excited

74

00:05:55,850 --> 00:05:54,720

to be back here at Goddard back home so

75

00:05:58,070 --> 00:05:55,860

to speak

76

00:06:01,909 --> 00:05:58,080

um this is where it all started for me

77

00:06:04,249 --> 00:06:01,919

in my NASA career as an engineer

78

00:06:06,409 --> 00:06:04,259

we are here today to Mark women's

79

00:06:09,290 --> 00:06:06,419

history month and celebrate the

80

00:06:11,330 --> 00:06:09,300

contributions and accomplishments of

81

00:06:13,129 --> 00:06:11,340

women at Nasa today and throughout the

82

00:06:16,310 --> 00:06:13,139

history of our agency

83

00:06:19,370 --> 00:06:16,320

I'm honored to be joined today by a few

84

00:06:21,830 --> 00:06:19,380

of our women of NASA who have charted

85

00:06:24,290 --> 00:06:21,840

the path who have charting paths for us

86

00:06:27,830 --> 00:06:24,300

and are going to be part of our panel

87

00:06:32,689 --> 00:06:30,170

our goal for today is to particularly

88

00:06:34,969 --> 00:06:32,699

honor the women of NASA who have charted

89

00:06:37,610 --> 00:06:34,979

those paths before us

90

00:06:40,370 --> 00:06:37,620

and their Collective Legacy with an

91

00:06:41,809 --> 00:06:40,380

invitation to join us on a critical

92

00:06:44,809 --> 00:06:41,819

mission

93

00:06:48,170 --> 00:06:44,819

I like to frame it as we are on a

94

00:06:51,230 --> 00:06:48,180

mission of creating possibilities

95

00:06:54,350 --> 00:06:51,240

at Nasa an important element of our work

96

00:06:57,710 --> 00:06:54,360

and our agency's mission is devoted to

97

00:07:00,650 --> 00:06:57,720

building a diverse future stem Workforce

98

00:07:03,409 --> 00:07:00,660

we do that by providing a spectrum of

99

00:07:06,469 --> 00:07:03,419

opportunities and activities designed to

100

00:07:09,170 --> 00:07:06,479

inspire and engage students that next

101
00:07:10,670 --> 00:07:09,180
generation of scientists engineers and

102
00:07:13,430 --> 00:07:10,680
explorers

103
00:07:16,430 --> 00:07:13,440
NASA's investments in engaging students

104
00:07:19,189 --> 00:07:16,440
are vital to our Collective ability to

105
00:07:22,189 --> 00:07:19,199
continue the work we do and Advance our

106
00:07:25,010 --> 00:07:22,199
future work in Exploration and discovery

107
00:07:27,230 --> 00:07:25,020
and we need your help

108
00:07:30,710 --> 00:07:27,240
the theme of this year's women's history

109
00:07:33,409 --> 00:07:30,720
month is as Sarah said celebrating women

110
00:07:35,570 --> 00:07:33,419
who tell our stories

111
00:07:36,529 --> 00:07:35,580
I'd like to focus on that for a few

112
00:07:39,469 --> 00:07:36,539
minutes

113
00:07:42,170 --> 00:07:39,479

the women you'll hear from today have

114

00:07:45,650 --> 00:07:42,180

compelling stories to tell

115

00:07:47,029 --> 00:07:45,660

but in fact we all have powerful stories

116

00:07:49,430 --> 00:07:47,039

to tell

117

00:07:51,890 --> 00:07:49,440

if I could have you take one thing away

118

00:07:54,409 --> 00:07:51,900

from today's session

119

00:07:55,550 --> 00:07:54,419

is I would like you to hold on to that

120

00:07:58,850 --> 00:07:55,560

idea

121

00:08:00,950 --> 00:07:58,860

that each of us you have powerful

122

00:08:02,270 --> 00:08:00,960

stories to tell that may touch a young

123

00:08:05,450 --> 00:08:02,280

person

124

00:08:08,270 --> 00:08:05,460

spark their imagination resonate with an

125

00:08:12,290 --> 00:08:08,280

experience they've had Inspire them to

126

00:08:15,110 --> 00:08:12,300

see possibilities or dream big

127

00:08:18,950 --> 00:08:15,120

NASA is committed to building a diverse

128

00:08:21,350 --> 00:08:18,960

Next Generation stem Workforce and to

129

00:08:24,170 --> 00:08:21,360

broadening participation in order to

130

00:08:26,510 --> 00:08:24,180

increase diversity Equity inclusion and

131

00:08:28,969 --> 00:08:26,520

accessibility in stem

132

00:08:31,249 --> 00:08:28,979

let's talk about why we need to invest

133

00:08:33,889 --> 00:08:31,259

in this work I'd like to note three

134

00:08:36,589 --> 00:08:33,899

relevant areas of need

135

00:08:39,589 --> 00:08:36,599

first there is evidence that the current

136

00:08:42,170 --> 00:08:39,599

domestic supply of stem workers is not

137

00:08:43,490 --> 00:08:42,180

sufficient to meet our nation's future

138

00:08:45,949 --> 00:08:43,500

needs

139

00:08:48,110 --> 00:08:45,959

estimates suggest that the United States

140

00:08:50,329 --> 00:08:48,120

will need one million more stem

141

00:08:52,850 --> 00:08:50,339

professionals than its on track to

142

00:08:55,910 --> 00:08:52,860

produce over the next decade

143

00:08:57,949 --> 00:08:55,920

second a large proportion of our current

144

00:08:59,750 --> 00:08:57,959

stem Workforce is at or nearing

145

00:09:01,370 --> 00:08:59,760

retirement and that's especially true

146

00:09:04,190 --> 00:09:01,380

here at NASA

147

00:09:06,530 --> 00:09:04,200

we need to move into action to support a

148

00:09:09,949 --> 00:09:06,540

healthy pipeline of future stem

149

00:09:11,990 --> 00:09:09,959

professionals to meet increasing demands

150

00:09:14,810 --> 00:09:12,000

and finally third

151
00:09:16,970 --> 00:09:14,820
currently women and other minority

152
00:09:20,750 --> 00:09:16,980
populations are disproportionately

153
00:09:22,910 --> 00:09:20,760
represented in stem fields we must shift

154
00:09:25,370 --> 00:09:22,920
our demographics of the stem Workforce

155
00:09:27,290 --> 00:09:25,380
to better reflect the population of the

156
00:09:30,350 --> 00:09:27,300
nation that we serve

157
00:09:33,050 --> 00:09:30,360
let's dive in just a bit deeper

158
00:09:37,269 --> 00:09:33,060
while women make up 51 of the

159
00:09:39,710 --> 00:09:37,279
college-educated U.S Workforce only 29

160
00:09:41,329 --> 00:09:39,720
comprise the science and engineering

161
00:09:43,910 --> 00:09:41,339
Workforce

162
00:09:45,410 --> 00:09:43,920
in some notable Fields particularly in

163
00:09:48,470 --> 00:09:45,420

the physical sciences and computer

164

00:09:49,850 --> 00:09:48,480

science the despair the disparity is

165

00:09:52,730 --> 00:09:49,860

very large

166

00:09:55,730 --> 00:09:52,740

for instance women make up less than 16

167

00:09:58,190 --> 00:09:55,740

percent of the engineering Workforce and

168

00:10:00,290 --> 00:09:58,200

only 26 percent of the computer science

169

00:10:02,389 --> 00:10:00,300

Workforce as examples

170

00:10:04,210 --> 00:10:02,399

when I started in engineering just a few

171

00:10:07,009 --> 00:10:04,220

moments ago

172

00:10:09,530 --> 00:10:07,019

there were less than nine percent of

173

00:10:13,070 --> 00:10:09,540

women in the engineering Workforce I was

174

00:10:15,350 --> 00:10:13,080

literally the only woman in the room

175

00:10:18,410 --> 00:10:15,360

while the landscape is better now

176

00:10:21,170 --> 00:10:18,420

it's it's not where it needs to be and

177

00:10:23,509 --> 00:10:21,180

we know that and unfortunately women of

178

00:10:26,769 --> 00:10:23,519

color are even more underrepresented

179

00:10:29,329 --> 00:10:26,779

Hispanic women make up only 2.3 percent

180

00:10:32,030 --> 00:10:29,339

of the science and engineering Workforce

181

00:10:35,329 --> 00:10:32,040

black women or African-American women

182

00:10:38,090 --> 00:10:35,339

make up 2.5 percent and Native American

183

00:10:40,970 --> 00:10:38,100

women less than one percent

184

00:10:42,949 --> 00:10:40,980

and Beyond gender overall we need to

185

00:10:45,350 --> 00:10:42,959

shift the demographics of the science

186

00:10:47,990 --> 00:10:45,360

and engineering Workforce blacks are

187

00:10:50,389 --> 00:10:48,000

African Americans Hispanics or Latinos

188

00:10:52,970 --> 00:10:50,399

American Indians or Alaska natives

189

00:10:55,370 --> 00:10:52,980

together make up a greater share of the

190

00:10:57,590 --> 00:10:55,380

general population than they do of those

191

00:10:59,269 --> 00:10:57,600

working in stem

192

00:11:02,030 --> 00:10:59,279

in order to reflect our nation's

193

00:11:04,790 --> 00:11:02,040

population we clearly need to do better

194

00:11:06,889 --> 00:11:04,800

not to mention sustaining a healthy

195

00:11:09,829 --> 00:11:06,899

Pipeline and a diverse pipeline of

196

00:11:11,449 --> 00:11:09,839

future stem workers in order to meet the

197

00:11:14,350 --> 00:11:11,459

demands that we are experiencing

198

00:11:17,870 --> 00:11:14,360

globally in areas such as public health

199

00:11:20,090 --> 00:11:17,880

climate change technological advances in

200

00:11:21,350 --> 00:11:20,100

multiple sectors including the Aerospace

201
00:11:24,410 --> 00:11:21,360
industry

202
00:11:26,090 --> 00:11:24,420
girls and boys especially those from

203
00:11:28,730 --> 00:11:26,100
underserved and underrepresented

204
00:11:31,790 --> 00:11:28,740
communities need to be able to Envision

205
00:11:34,550 --> 00:11:31,800
themselves by seeing and experiencing

206
00:11:36,050 --> 00:11:34,560
people who look like them and who they

207
00:11:38,389 --> 00:11:36,060
can relate to

208
00:11:41,150 --> 00:11:38,399
doing exciting work that makes a

209
00:11:42,710 --> 00:11:41,160
difference in the world and that's where

210
00:11:44,990 --> 00:11:42,720
we all come in

211
00:11:47,449 --> 00:11:45,000
so back to my invitation

212
00:11:52,009 --> 00:11:47,459
today I'm thrilled to announce a new

213
00:11:54,290 --> 00:11:52,019

initiative NASA women in stem 2023

214

00:11:56,750 --> 00:11:54,300

our purpose as Sarah noted is to

215

00:11:59,750 --> 00:11:56,760

mobilize women at Nasa to get out there

216

00:12:03,230 --> 00:11:59,760

and engage with students serving as

217

00:12:07,130 --> 00:12:03,240

powerful Role Models mentors and guides

218

00:12:08,389 --> 00:12:07,140

we've set a goal of 2023 hours in this

219

00:12:11,690 --> 00:12:08,399

calendar year

220

00:12:13,910 --> 00:12:11,700

of service to students and educators

221

00:12:15,470 --> 00:12:13,920

and we hope that you will consider

222

00:12:17,930 --> 00:12:15,480

getting involved

223

00:12:19,850 --> 00:12:17,940

through a dedicated internal website you

224

00:12:22,370 --> 00:12:19,860

can register to participate in the

225

00:12:24,290 --> 00:12:22,380

initiative explore opportunities that

226

00:12:27,110 --> 00:12:24,300

you might want to Embark in

227

00:12:29,329 --> 00:12:27,120

and find volunteers for your own

228

00:12:30,769 --> 00:12:29,339

activities that you might be involved in

229

00:12:32,810 --> 00:12:30,779

or sponsoring

230

00:12:35,150 --> 00:12:32,820

through a shared calendar

231

00:12:37,190 --> 00:12:35,160

each Center has a designated point of

232

00:12:40,790 --> 00:12:37,200

contact and that's available on the

233

00:12:42,949 --> 00:12:40,800

website and if you reference NASA Deputy

234

00:12:45,230 --> 00:12:42,959

Administrator Pam melroy's email that

235

00:12:47,750 --> 00:12:45,240

went out to the workforce yesterday you

236

00:12:49,550 --> 00:12:47,760

can find the link to that site and I was

237

00:12:51,790 --> 00:12:49,560

told by our by our team this morning

238

00:12:54,590 --> 00:12:51,800

that we already have

239

00:12:56,690 --> 00:12:54,600

224 people registered and that's in less

240

00:12:59,150 --> 00:12:56,700

than 24 hours so we're pretty excited

241

00:13:00,590 --> 00:12:59,160

about the prospect of you all getting

242

00:13:02,389 --> 00:13:00,600

involved

243

00:13:04,069 --> 00:13:02,399

and there are many ways for you to get

244

00:13:06,410 --> 00:13:04,079

involved and if you're out there already

245

00:13:09,170 --> 00:13:06,420

connecting with students we're asking

246

00:13:11,269 --> 00:13:09,180

you to share that with us

247

00:13:14,449 --> 00:13:11,279

in registering we're looking for you to

248

00:13:16,730 --> 00:13:14,459

commit at least one hour of your time to

249

00:13:19,069 --> 00:13:16,740

get out there with students

250

00:13:21,590 --> 00:13:19,079

while we aim to build a community of

251
00:13:23,810 --> 00:13:21,600
women who are committed to bolstering

252
00:13:26,210 --> 00:13:23,820
our efforts to serving as role models

253
00:13:28,550 --> 00:13:26,220
and mentors and to connect and work with

254
00:13:30,769 --> 00:13:28,560
students I'd like to take this

255
00:13:33,949 --> 00:13:30,779
opportunity to encourage all of you

256
00:13:36,590 --> 00:13:33,959
women and men to consider getting

257
00:13:39,050 --> 00:13:36,600
involved to inspire and engage students

258
00:13:41,449 --> 00:13:39,060
helping them to see themselves and doing

259
00:13:43,009 --> 00:13:41,459
doing that exciting work that we do here

260
00:13:45,829 --> 00:13:43,019
at NASA

261
00:13:47,690 --> 00:13:45,839
and finally I'd like for each of you to

262
00:13:49,910 --> 00:13:47,700
carry a vision forward

263
00:13:52,430 --> 00:13:49,920

I imagine if you've no you've probably

264

00:13:55,490 --> 00:13:52,440

noticed if you've traveled anywhere over

265

00:13:57,190 --> 00:13:55,500

the past year or two lots of young

266

00:14:00,230 --> 00:13:57,200

people around the country

267

00:14:02,930 --> 00:14:00,240

wearing proudly their NASA branded

268

00:14:05,210 --> 00:14:02,940

clothing and having their NASA gear

269

00:14:07,670 --> 00:14:05,220

it's really exciting to see clearly

270

00:14:10,610 --> 00:14:07,680

there is curiosity out there affinity

271

00:14:13,430 --> 00:14:10,620

and interest to what we do and and this

272

00:14:15,470 --> 00:14:13,440

this bond in a way to NASA

273

00:14:17,870 --> 00:14:15,480

think about this mission that I've

274

00:14:19,190 --> 00:14:17,880

invited you to join us on in creating

275

00:14:22,490 --> 00:14:19,200

possibilities

276

00:14:26,750 --> 00:14:22,500

imagine if each of us at Nasa took on

277

00:14:29,509 --> 00:14:26,760

the mantle of actively engaging students

278

00:14:31,610 --> 00:14:29,519

we have the power to translate that

279

00:14:35,329 --> 00:14:31,620

Curiosity and interest that's out there

280

00:14:37,910 --> 00:14:35,339

that Affinity into action

281

00:14:39,350 --> 00:14:37,920

enrolling more of these young people to

282

00:14:42,829 --> 00:14:39,360

consider

283

00:14:46,009 --> 00:14:42,839

and imagine a future in stem

284

00:14:46,850 --> 00:14:46,019

that's what women in stem 2023 is all

285

00:14:49,129 --> 00:14:46,860

about

286

00:14:50,930 --> 00:14:49,139

I'm challenged challenging each of you

287

00:14:53,810 --> 00:14:50,940

to join us in building that next

288

00:14:57,769 --> 00:14:53,820

generation of explorers a diverse

289

00:15:00,829 --> 00:14:57,779

Workforce that is energized and ready to

290

00:15:02,810 --> 00:15:00,839

take on the work of tomorrow

291

00:15:05,810 --> 00:15:02,820

thank you all so much for being with us

292

00:15:08,810 --> 00:15:05,820

today and I look forward to us all

293

00:15:11,569 --> 00:15:08,820

sharing our stories as I tell students

294

00:15:12,410 --> 00:15:11,579

the universe is out there waiting for

295

00:15:15,400 --> 00:15:12,420

them

296

00:15:22,790 --> 00:15:15,410

thanks so much

297

00:15:27,290 --> 00:15:25,490

well thank you so much Chris

298

00:15:30,170 --> 00:15:27,300

through their accomplishments and

299

00:15:32,329 --> 00:15:30,180

dedication to their jobs women at Nasa

300

00:15:33,290 --> 00:15:32,339

embody the spirit of women's History

301
00:15:35,569 --> 00:15:33,300
Month

302
00:15:37,790 --> 00:15:35,579
today I'm joined by leaders at Nasa

303
00:15:39,829 --> 00:15:37,800
light Chris whose work in promoting stem

304
00:15:43,670 --> 00:15:39,839
in their communities is leading the way

305
00:15:45,829 --> 00:15:43,680
for the next generation of women in stem

306
00:15:48,290 --> 00:15:45,839
please join me in welcoming our other

307
00:15:55,470 --> 00:15:48,300
speakers Crystal Johnson

308
00:16:01,910 --> 00:15:59,689
[Applause]

309
00:16:04,009 --> 00:16:01,920
thank you all so much for joining us

310
00:16:06,949 --> 00:16:04,019
here today to talk about your experience

311
00:16:09,350 --> 00:16:06,959
as women in stem and the work you do to

312
00:16:11,509 --> 00:16:09,360
engage with the Next Generation

313
00:16:13,490 --> 00:16:11,519

to kick it off I would love for each of

314

00:16:15,350 --> 00:16:13,500

you to give a brief introduction about

315

00:16:18,050 --> 00:16:15,360

what your current role is and what it

316

00:16:20,329 --> 00:16:18,060

entails let's start with you Crystal

317

00:16:21,769 --> 00:16:20,339

I'm Crystal Johnson I'm the deputy

318

00:16:23,629 --> 00:16:21,779

center director for research and

319

00:16:26,150 --> 00:16:23,639

Technology here at Goddard space flight

320

00:16:28,310 --> 00:16:26,160

center I'm responsible for shaping the

321

00:16:31,009 --> 00:16:28,320

missions of the future in astrophysics

322

00:16:33,350 --> 00:16:31,019

earth science heliophysics and planetary

323

00:16:35,810 --> 00:16:33,360

science and then making sure we have a

324

00:16:37,189 --> 00:16:35,820

portfolio of Technology Investments to

325

00:16:39,110 --> 00:16:37,199

make sure that we can enable those

326

00:16:42,110 --> 00:16:39,120

amazing missions that we're creating for

327

00:16:46,430 --> 00:16:44,329

can you hear me okay now I can't hear

328

00:16:48,230 --> 00:16:46,440

you uh I'm Sandra Kaufman and I am the

329

00:16:50,389 --> 00:16:48,240

deputy director for the astrophysics

330

00:16:53,269 --> 00:16:50,399

division uh within the science Mission

331

00:16:55,910 --> 00:16:53,279

director the headquarters and we are

332

00:17:00,470 --> 00:16:55,920

responsible for the entire universe

333

00:17:04,970 --> 00:17:00,480

except for one star eight planets and a

334

00:17:09,110 --> 00:17:07,610

my name is Mamta Patel nagaraja and I'm

335

00:17:11,150 --> 00:17:09,120

the associate Chief scientist at

336

00:17:13,669 --> 00:17:11,160

headquarters for exploration and applied

337

00:17:15,650 --> 00:17:13,679

research and my job is to advise the

338

00:17:17,689 --> 00:17:15,660

chief scientists in any area where

339

00:17:19,730 --> 00:17:17,699

humans are doing science in space so

340

00:17:21,890 --> 00:17:19,740

that could be on the ISS or future

341

00:17:24,590 --> 00:17:21,900

missions to the Moon through our Artemis

342

00:17:27,350 --> 00:17:24,600

program as well

343

00:17:29,870 --> 00:17:27,360

and Chris and you've already heard from

344

00:17:32,450 --> 00:17:29,880

me uh as a deputy associate

345

00:17:35,630 --> 00:17:32,460

administrator for stem engagement I have

346

00:17:37,490 --> 00:17:35,640

the fabulous job of of leading our team

347

00:17:39,529 --> 00:17:37,500

across the agency and inspiring and

348

00:17:42,610 --> 00:17:39,539

engaging students and supporting

349

00:17:45,590 --> 00:17:42,620

Educators and educational institutions

350

00:17:47,870 --> 00:17:45,600

it's a great way for me to give back

351
00:17:50,390 --> 00:17:47,880
after years of service and engineering

352
00:17:51,830 --> 00:17:50,400
and uh and to really do something I'm

353
00:17:54,529 --> 00:17:51,840
very passionate about

354
00:17:56,750 --> 00:17:54,539
well thank you so much and thank you for

355
00:17:58,909 --> 00:17:56,760
sharing about your current work that

356
00:18:01,789 --> 00:17:58,919
you're doing and I know that each of you

357
00:18:04,010 --> 00:18:01,799
have powerful stories to tell about your

358
00:18:05,570 --> 00:18:04,020
paths and careers could you briefly

359
00:18:07,970 --> 00:18:05,580
touch on notable moments in your

360
00:18:10,970 --> 00:18:07,980
Journeys and particularly how it all

361
00:18:16,070 --> 00:18:13,370
Chris let's start with me oh yeah

362
00:18:18,169 --> 00:18:16,080
so for me I always I always talk about

363
00:18:21,289 --> 00:18:18,179

how it all started

364

00:18:24,529 --> 00:18:21,299

um because I grew up in a teeny teeny

365

00:18:26,450 --> 00:18:24,539

town in rural Pennsylvania and I was the

366

00:18:27,409 --> 00:18:26,460

first person in my family to go to

367

00:18:31,130 --> 00:18:27,419

college

368

00:18:35,090 --> 00:18:31,140

and for me the the path to stem started

369

00:18:37,549 --> 00:18:35,100

when my dad brought home a Lego set

370

00:18:41,210 --> 00:18:37,559

uh that I think it was about six years

371

00:18:45,590 --> 00:18:41,220

old at the time and through through that

372

00:18:49,430 --> 00:18:45,600

really I started to discover a real

373

00:18:54,169 --> 00:18:49,440

interest and Affinity to building things

374

00:18:57,650 --> 00:18:54,179

and and that creativity and and led to

375

00:18:59,150 --> 00:18:57,660

me drawing and designing and into art

376

00:19:00,650 --> 00:18:59,160

and and

377

00:19:02,930 --> 00:19:00,660

um I ended up

378

00:19:05,810 --> 00:19:02,940

thinking that I eventually wanted to be

379

00:19:07,549 --> 00:19:05,820

an architect uh and so I started an

380

00:19:10,909 --> 00:19:07,559

architecture as an architecture major at

381

00:19:15,409 --> 00:19:10,919

Virginia Tech and and in about I guess

382

00:19:18,470 --> 00:19:15,419

about a year in realized that I I really

383

00:19:20,750 --> 00:19:18,480

had enough more of an affinity for for

384

00:19:24,710 --> 00:19:20,760

the the tangible building of things

385

00:19:27,529 --> 00:19:24,720

through engineering and that has been in

386

00:19:30,110 --> 00:19:27,539

a sense of thread as I as I look back so

387

00:19:34,970 --> 00:19:30,120

far on my career it's been a thread for

388

00:19:39,710 --> 00:19:34,980

me that that I have been an architect uh

389

00:19:42,470 --> 00:19:39,720

a Creator uh an innovator in in that

390

00:19:45,350 --> 00:19:42,480

that inherent creativity in the work

391

00:19:48,230 --> 00:19:45,360

that we do is something that I talk

392

00:19:50,390 --> 00:19:48,240

about with with our audiences with

393

00:19:52,970 --> 00:19:50,400

students and and with Educators I think

394

00:19:55,730 --> 00:19:52,980

Engineers I think sometimes get a little

395

00:19:58,549 --> 00:19:55,740

bit of a bad rap right stereotypically

396

00:20:00,950 --> 00:19:58,559

and that we're we're geeky and we're not

397

00:20:03,350 --> 00:20:00,960

creative and we think inside the box and

398

00:20:05,570 --> 00:20:03,360

that's that's actually the antithesis of

399

00:20:07,370 --> 00:20:05,580

what really happens is that we're we're

400

00:20:09,409 --> 00:20:07,380

thinking out of the box

401
00:20:11,150 --> 00:20:09,419
um scientists as well and technologists

402
00:20:13,370 --> 00:20:11,160
and so

403
00:20:16,310 --> 00:20:13,380
um I try to convey that with students as

404
00:20:19,430 --> 00:20:16,320
much as I can to to to talk about the

405
00:20:22,010 --> 00:20:19,440
attraction of literally how exciting it

406
00:20:23,930 --> 00:20:22,020
is to work in a team when we've all had

407
00:20:26,570 --> 00:20:23,940
this experience where you're you're

408
00:20:29,409 --> 00:20:26,580
creating something that that does didn't

409
00:20:33,830 --> 00:20:29,419
exist it was an idea that somebody had

410
00:20:36,590 --> 00:20:33,840
and there there's a so much richness in

411
00:20:40,010 --> 00:20:36,600
the work that we do

412
00:20:42,409 --> 00:20:40,020
so for me it started uh I thought that I

413
00:20:44,150 --> 00:20:42,419

wanted to to be a computer scientist a

414

00:20:45,529 --> 00:20:44,160

computer engineer in the very beginning

415

00:20:47,930 --> 00:20:45,539

and I was a part of the Lincoln

416

00:20:49,610 --> 00:20:47,940

aerospace engineering recruitment

417

00:20:52,549 --> 00:20:49,620

program which was at Lincoln University

418

00:20:54,950 --> 00:20:52,559

and so in that first summer right out of

419

00:20:56,930 --> 00:20:54,960

high school they require you to go work

420

00:20:59,810 --> 00:20:56,940

at a NASA facility because it was a

421

00:21:01,730 --> 00:20:59,820

program sponsored by NASA and so you

422

00:21:03,950 --> 00:21:01,740

know we were required to do that and the

423

00:21:07,549 --> 00:21:03,960

center that I chose was Langley Research

424

00:21:09,409 --> 00:21:07,559

Center and so we we go there and they

425

00:21:12,409 --> 00:21:09,419

said that I was assigned to a physics

426

00:21:14,450 --> 00:21:12,419

lab and I was like physics what in the

427

00:21:15,890 --> 00:21:14,460

world what in the world would I do with

428

00:21:17,570 --> 00:21:15,900

physics and what are we going to do for

429

00:21:19,610 --> 00:21:17,580

the summer for physics I was really

430

00:21:21,470 --> 00:21:19,620

disappointed because I was a lifeguard

431

00:21:23,630 --> 00:21:21,480

in Virginia Beach that's where I grew up

432

00:21:25,310 --> 00:21:23,640

and so all my friends were going to be

433

00:21:27,590 --> 00:21:25,320

spending the summer doing lifeguarding

434

00:21:29,330 --> 00:21:27,600

at the pools or at the beach and I was

435

00:21:30,470 --> 00:21:29,340

really you know upset because I thought

436

00:21:32,690 --> 00:21:30,480

it was going to be really missing out

437

00:21:35,570 --> 00:21:32,700

this particular summer so I go to

438

00:21:37,070 --> 00:21:35,580

Langley Research Center they walk me to

439

00:21:38,870 --> 00:21:37,080

to the lab that I'm supposed supposed to

440

00:21:41,570 --> 00:21:38,880

be working on and there's this danger

441

00:21:43,730 --> 00:21:41,580

hazardous laser inside sign and I'm like

442

00:21:46,430 --> 00:21:43,740

what in the world am I getting myself

443

00:21:48,409 --> 00:21:46,440

into and so then the guy opens the door

444

00:21:50,690 --> 00:21:48,419

and he's like okay put these goggles on

445

00:21:52,190 --> 00:21:50,700

and don't lean down to the level of the

446

00:21:54,470 --> 00:21:52,200

table because they're stray laser light

447

00:21:56,210 --> 00:21:54,480

going around the room and if it hits you

448

00:21:56,990 --> 00:21:56,220

in your eye it can blind you and I was

449

00:21:59,090 --> 00:21:57,000

like

450

00:22:01,549 --> 00:21:59,100

what in the world am I doing here this

451
00:22:03,289 --> 00:22:01,559
is not what I signed up for and so we go

452
00:22:05,149 --> 00:22:03,299
in further and this was back in the day

453
00:22:07,190 --> 00:22:05,159
when in the labs you know we wore the

454
00:22:09,590 --> 00:22:07,200
lab coats with the big sleeves and so

455
00:22:11,390 --> 00:22:09,600
the guy leans over to adjust one of the

456
00:22:13,310 --> 00:22:11,400
mirrors of the laser and I hear pop up

457
00:22:15,890 --> 00:22:13,320
pop and there's smoke because he got a

458
00:22:18,950 --> 00:22:15,900
sleeve in the path of the laser and then

459
00:22:20,510 --> 00:22:18,960
I was like yes this is the feel for me

460
00:22:22,549 --> 00:22:20,520
you get to shoot lasers around the room

461
00:22:25,789 --> 00:22:22,559
put holes and stuff I thought that was

462
00:22:27,830 --> 00:22:25,799
really cool and so as a part of that we

463
00:22:30,470 --> 00:22:27,840

realize I realized that in this kind of

464

00:22:32,690 --> 00:22:30,480

field you are paid to think no matter

465

00:22:34,970 --> 00:22:32,700

where you are and the the environment

466

00:22:37,370 --> 00:22:34,980

that was created for us at Langley in

467

00:22:39,590 --> 00:22:37,380

laser research and development we would

468

00:22:42,289 --> 00:22:39,600

actually be in the lab trying to we were

469

00:22:44,630 --> 00:22:42,299

creating new laser materials and so we

470

00:22:47,090 --> 00:22:44,640

would look at a material we'd do the

471

00:22:48,830 --> 00:22:47,100

testing for it we try to make it work

472

00:22:50,990 --> 00:22:48,840

if we couldn't make it work we'd all hop

473

00:22:53,090 --> 00:22:51,000

in our cars we go to the mall and we

474

00:22:54,649 --> 00:22:53,100

people watch or have ice cream and

475

00:22:56,450 --> 00:22:54,659

somebody to come up with an idea and

476

00:22:58,789 --> 00:22:56,460

we'd run back to the lab and try it out

477

00:23:00,649 --> 00:22:58,799

or one of my co-workers had a boat and

478

00:23:03,470 --> 00:23:00,659

so we'd go out on the boat we'd have our

479

00:23:05,510 --> 00:23:03,480

laptops on the boat we'd take a dive in

480

00:23:07,190 --> 00:23:05,520

and somebody come up with an idea we

481

00:23:10,130 --> 00:23:07,200

would work until late into the night

482

00:23:12,289 --> 00:23:10,140

because it was all about creativity it

483

00:23:15,350 --> 00:23:12,299

was all about being able to come up with

484

00:23:18,230 --> 00:23:15,360

ideas and we were so productive in that

485

00:23:20,149 --> 00:23:18,240

particular laser lab so for me that

486

00:23:22,850 --> 00:23:20,159

opened up a whole new way of thinking

487

00:23:25,730 --> 00:23:22,860

for me realizing that it's all about

488

00:23:28,250 --> 00:23:25,740

thinking outside the box trying things

489

00:23:30,770 --> 00:23:28,260

in a way that nobody else has ever tried

490

00:23:33,950 --> 00:23:30,780

them and for me to have a career doing

491

00:23:36,529 --> 00:23:33,960

that I was like I'm sold so every summer

492

00:23:38,750 --> 00:23:36,539

after that I came back to NASA and then

493

00:23:40,730 --> 00:23:38,760

they hired me after I finished my

494

00:23:42,529 --> 00:23:40,740

master's program

495

00:23:45,289 --> 00:23:42,539

School

496

00:23:45,830 --> 00:23:45,299

thank you so

497

00:23:48,710 --> 00:23:45,840

um

498

00:23:51,310 --> 00:23:48,720

I can say that mine is started with the

499

00:23:55,610 --> 00:23:51,320

moon landing Apollo 11

500

00:23:59,630 --> 00:23:55,620

and a single mother who who never gave

501
00:24:01,370 --> 00:23:59,640
up uh and I have to say that uh you know

502
00:24:02,930 --> 00:24:01,380
when when I saw that it just grabbed me

503
00:24:06,190 --> 00:24:02,940
it was just not something that really

504
00:24:09,710 --> 00:24:06,200
inspired me I was born in Costa Rica

505
00:24:10,970 --> 00:24:09,720
uh and um when I saw that it was like I

506
00:24:13,490 --> 00:24:10,980
gotta go to the Moon of course I never

507
00:24:16,789 --> 00:24:13,500
went to the moon I don't like hikes you

508
00:24:18,710 --> 00:24:16,799
know that's not my thing but um but that

509
00:24:20,750 --> 00:24:18,720
uh that moment you know I told my mom I

510
00:24:22,730 --> 00:24:20,760
wanted to go to the moon and the lady

511
00:24:24,830 --> 00:24:22,740
kept reminding me every time I was doing

512
00:24:26,210 --> 00:24:24,840
something bad you know remember you want

513
00:24:27,590 --> 00:24:26,220

to go to the Moon you gotta you gotta

514

00:24:29,870 --> 00:24:27,600

you know apply yourself you got to study

515

00:24:31,549 --> 00:24:29,880

you gotta you know and and not repeat

516

00:24:33,649 --> 00:24:31,559

history because you know she grew up in

517

00:24:36,710 --> 00:24:33,659

orphan and uh and she had to you know

518

00:24:40,850 --> 00:24:36,720

self was self-made

519

00:24:43,130 --> 00:24:40,860

um but went to all public schools in

520

00:24:45,649 --> 00:24:43,140

Costa Rica when I got to college finally

521

00:24:47,870 --> 00:24:45,659

they told me I couldn't study electrical

522

00:24:49,610 --> 00:24:47,880

engineering because I was a woman and

523

00:24:52,130 --> 00:24:49,620

therefore if they were like 50 years

524

00:24:53,990 --> 00:24:52,140

behind behind the times right uh they

525

00:24:55,730 --> 00:24:54,000

they wanted they wanted me to study

526

00:24:57,950 --> 00:24:55,740

industrial engineering which was the

527

00:25:01,669 --> 00:24:57,960

only engineering that was accepting

528

00:25:05,110 --> 00:25:01,679

women I wanted to study electrical and

529

00:25:07,490 --> 00:25:05,120

so I spent three and a half years in um

530

00:25:09,649 --> 00:25:07,500

in industrial engineering and I tried to

531

00:25:13,310 --> 00:25:09,659

transfer a couple of times and still I

532

00:25:14,870 --> 00:25:13,320

couldn't do it so I came here and that

533

00:25:17,570 --> 00:25:14,880

was uh October this year will be four

534

00:25:20,029 --> 00:25:17,580

years ago and I never went back

535

00:25:22,610 --> 00:25:20,039

um but um you know when I got my first

536

00:25:24,409 --> 00:25:22,620

job um as a contractor for NASA was just

537

00:25:26,390 --> 00:25:24,419

the best day of my life it was just

538

00:25:28,789 --> 00:25:26,400

amazing I graduated with electrical and

539

00:25:32,149 --> 00:25:28,799

physics and uh the next month right away

540

00:25:34,370 --> 00:25:32,159

uh I went to a job fair and I uh uh

541

00:25:37,669 --> 00:25:34,380

interviewed with a company and uh and

542

00:25:39,470 --> 00:25:37,679

and I was just thrilled and then um uh

543

00:25:42,830 --> 00:25:39,480

one day I got a phone call from some guy

544

00:25:44,090 --> 00:25:42,840

named Francis podina and uh he he asked

545

00:25:45,950 --> 00:25:44,100

me if I wanted to go and work with him

546

00:25:48,529 --> 00:25:45,960

and I was like yes of course I want to

547

00:25:53,690 --> 00:25:48,539

go and work for NASA you know so

548

00:25:55,909 --> 00:25:53,700

um this um February I had my my 32nd

549

00:25:58,970 --> 00:25:55,919

year anniversary working and I started

550

00:26:01,010 --> 00:25:58,980

with with sepi and it was just such a

551
00:26:03,169 --> 00:26:01,020
treat you know to work with him but you

552
00:26:06,710 --> 00:26:03,179
know doing in in following on the theme

553
00:26:09,169 --> 00:26:06,720
uh the Chris and Crystal you know it is

554
00:26:11,269 --> 00:26:09,179
doing the the right thing and never give

555
00:26:14,210 --> 00:26:11,279
up never giving up and that is what I

556
00:26:16,430 --> 00:26:14,220
always tell the the students when I go

557
00:26:17,870 --> 00:26:16,440
and talk to them is is that the nature

558
00:26:19,909 --> 00:26:17,880
of your birth doesn't detect the person

559
00:26:21,950 --> 00:26:19,919
that you can become doesn't matter where

560
00:26:24,049 --> 00:26:21,960
you come from it's and it doesn't matter

561
00:26:26,029 --> 00:26:24,059
where you get your education it's what

562
00:26:29,990 --> 00:26:26,039
you do with education that you received

563
00:26:31,970 --> 00:26:30,000

and uh and and and with persistent and

564

00:26:34,370 --> 00:26:31,980

perseverance you can be anybody that you

565

00:26:36,769 --> 00:26:34,380

want to be or at least get as far you

566

00:26:39,649 --> 00:26:36,779

know as you can uh trying to do what you

567

00:26:43,130 --> 00:26:39,659

can and and I try to mix the space

568

00:26:45,409 --> 00:26:43,140

program with life because you know

569

00:26:47,330 --> 00:26:45,419

failure is not an option right and so

570

00:26:48,529 --> 00:26:47,340

when things are going bad and that we

571

00:26:50,810 --> 00:26:48,539

have failures in the lab and everything

572

00:26:52,970 --> 00:26:50,820

we keep on trying and trying and trying

573

00:26:54,409 --> 00:26:52,980

until something works otherwise if we

574

00:26:55,549 --> 00:26:54,419

have given up at the first no we

575

00:26:57,230 --> 00:26:55,559

wouldn't have never launched not even

576

00:26:59,690 --> 00:26:57,240

the first thing right so we have to keep

577

00:27:01,789 --> 00:26:59,700

on trying and I try to tell you know the

578

00:27:03,169 --> 00:27:01,799

students is something that you have to

579

00:27:05,750 --> 00:27:03,179

keep on trying you cannot just give up

580

00:27:07,490 --> 00:27:05,760

at the first no keep on trying and and

581

00:27:09,230 --> 00:27:07,500

and and it's not repeating the same

582

00:27:11,510 --> 00:27:09,240

thing you know you have to reinvent

583

00:27:13,610 --> 00:27:11,520

yourself again to try again that you

584

00:27:15,950 --> 00:27:13,620

create your opportunities and uh and I

585

00:27:19,190 --> 00:27:15,960

think this is very important that we

586

00:27:21,470 --> 00:27:19,200

have role models and uh and show

587

00:27:23,810 --> 00:27:21,480

students out there that doesn't matter

588

00:27:25,490 --> 00:27:23,820

who you are uh if they have a dream they

589

00:27:28,730 --> 00:27:25,500

can they can try to make it true whether

590

00:27:31,490 --> 00:27:28,740

these get as far as they can in life

591

00:27:33,110 --> 00:27:31,500

gosh my story like Chris and I didn't

592

00:27:35,630 --> 00:27:33,120

know this and I know Chris I love how

593

00:27:37,909 --> 00:27:35,640

you learn something every time you

594

00:27:39,950 --> 00:27:37,919

attend one of these events I also grew

595

00:27:42,470 --> 00:27:39,960

up in a small town not nearly as teeny

596

00:27:44,390 --> 00:27:42,480

tiny as Chris's town I imagine but mine

597

00:27:46,190 --> 00:27:44,400

was in West Texas and I too am a first

598

00:27:48,710 --> 00:27:46,200

generation college graduate in our

599

00:27:51,409 --> 00:27:48,720

family as well and my parents were

600

00:27:54,169 --> 00:27:51,419

immigrants from India and we ran

601
00:27:55,909 --> 00:27:54,179
a little motel and so we're not talking

602
00:27:57,890 --> 00:27:55,919
Four Seasons and we're not talking even

603
00:28:01,190 --> 00:27:57,900
holiday and we're talking like a like

604
00:28:06,529 --> 00:28:03,830
that's the kind of Motel we ran but not

605
00:28:08,750 --> 00:28:06,539
scary but that's what it was like

606
00:28:10,549 --> 00:28:08,760
um and my parents quickly and they were

607
00:28:13,610 --> 00:28:10,559
in the cycle of poverty generation after

608
00:28:15,289 --> 00:28:13,620
generation in India and they they were

609
00:28:17,090 --> 00:28:15,299
stuck in that cycle and so I think their

610
00:28:19,370 --> 00:28:17,100
biggest goal was to get us out of the

611
00:28:22,850 --> 00:28:19,380
cycle and I still remember cleaning

612
00:28:25,010 --> 00:28:22,860
motel rooms with my parents and I can I

613
00:28:27,710 --> 00:28:25,020

can still visualize and hear my mom's

614

00:28:29,570 --> 00:28:27,720

voice from the bathroom and she says if

615

00:28:30,890 --> 00:28:29,580

you don't want a clean toilet's like me

616

00:28:32,390 --> 00:28:30,900

mumpta and this was in our native

617

00:28:34,070 --> 00:28:32,400

language not in English but same

618

00:28:35,810 --> 00:28:34,080

inflection if you don't want to clean

619

00:28:37,430 --> 00:28:35,820

toilets like me then you better do well

620

00:28:41,330 --> 00:28:37,440

in school and so I think that was just

621

00:28:44,330 --> 00:28:41,340

sort of how my life started I knew that

622

00:28:46,490 --> 00:28:44,340

I was going to focus on my studies and I

623

00:28:48,289 --> 00:28:46,500

didn't want to clean toilets for the

624

00:28:50,390 --> 00:28:48,299

rest of my life

625

00:28:52,250 --> 00:28:50,400

um and so that was sort of that was it

626
00:28:53,870 --> 00:28:52,260
and we didn't so we didn't have much and

627
00:28:56,029 --> 00:28:53,880
my parents fixed everything on their own

628
00:28:57,289 --> 00:28:56,039
I still remember tapping sewer lines

629
00:28:59,810 --> 00:28:57,299
with my dad

630
00:29:02,870 --> 00:28:59,820
gross so gross that I learned how to tap

631
00:29:04,070 --> 00:29:02,880
a sewer line cleaning I mean well we did

632
00:29:06,110 --> 00:29:04,080
a whole lot of cleaning but fixing

633
00:29:08,930 --> 00:29:06,120
refrigerators and my mom had this really

634
00:29:10,669 --> 00:29:08,940
amazing talent long before I knew how

635
00:29:12,409 --> 00:29:10,679
important it was to have female role

636
00:29:14,810 --> 00:29:12,419
models I had one right there in front of

637
00:29:17,810 --> 00:29:14,820
me my dad would he had the mechanical

638
00:29:19,610 --> 00:29:17,820

tactile capabilities he would open up a

639

00:29:22,430 --> 00:29:19,620

broken refrigerator and she could just

640

00:29:24,350 --> 00:29:22,440

look at the wires and she couldn't do it

641

00:29:26,149 --> 00:29:24,360

herself she didn't have the tactile but

642

00:29:28,070 --> 00:29:26,159

she'd say I bet if you connect that wire

643

00:29:29,510 --> 00:29:28,080

to that wire and that one that

644

00:29:31,490 --> 00:29:29,520

refrigerator is going to work my dad

645

00:29:34,010 --> 00:29:31,500

would look at her

646

00:29:37,010 --> 00:29:34,020

and the fridge worked it was amazing so

647

00:29:38,870 --> 00:29:37,020

I had this just early life experience of

648

00:29:40,909 --> 00:29:38,880

seeing the way they worked together my

649

00:29:42,889 --> 00:29:40,919

dad's incredible respect for my mom

650

00:29:45,289 --> 00:29:42,899

which I think set the standard for me in

651
00:29:47,029 --> 00:29:45,299
life well before this is me reflecting

652
00:29:48,230 --> 00:29:47,039
well before I knew how important that

653
00:29:49,789 --> 00:29:48,240
was

654
00:29:51,350 --> 00:29:49,799
um but yeah I think that's just sort of

655
00:29:53,210 --> 00:29:51,360
how it started and then I started doing

656
00:29:55,070 --> 00:29:53,220
it with them and that led me to a life

657
00:29:56,810 --> 00:29:55,080
of engineering and then I crossed into

658
00:29:59,210 --> 00:29:56,820
science which people think you can't do

659
00:30:01,669 --> 00:29:59,220
but you can because I did it my current

660
00:30:02,990 --> 00:30:01,679
position is a scientist position so I

661
00:30:04,909 --> 00:30:03,000
think that was sort of how my career

662
00:30:07,190 --> 00:30:04,919
path went

663
00:30:10,190 --> 00:30:07,200

thank you so much for sharing with us

664

00:30:12,230 --> 00:30:10,200

how it all started and specifically the

665

00:30:14,630 --> 00:30:12,240

stories and the wisdom within those

666

00:30:16,909 --> 00:30:14,640

stories which reminds me of the theme of

667

00:30:19,549 --> 00:30:16,919

women's History Month this year which is

668

00:30:21,649 --> 00:30:19,559

celebrating women who tell our stories

669

00:30:23,149 --> 00:30:21,659

what does that mean to you let's start

670

00:30:25,549 --> 00:30:23,159

with you Crystal

671

00:30:28,490 --> 00:30:25,559

I think Chris really captured it really

672

00:30:30,470 --> 00:30:28,500

well in her opening remarks and so

673

00:30:32,810 --> 00:30:30,480

women who tell their stories it's

674

00:30:36,230 --> 00:30:32,820

important for all of us it's not just

675

00:30:39,529 --> 00:30:36,240

women but especially women because so

676

00:30:42,470 --> 00:30:39,539

many of us kind of run into challenges

677

00:30:44,870 --> 00:30:42,480

and we suffer in silence when you hear

678

00:30:47,750 --> 00:30:44,880

the stories of others you realize you're

679

00:30:50,750 --> 00:30:47,760

not in this alone you're not in a unique

680

00:30:52,730 --> 00:30:50,760

situation so many times I've heard women

681

00:30:53,690 --> 00:30:52,740

say well we you know things are

682

00:30:55,430 --> 00:30:53,700

different for you and the federal

683

00:30:56,990 --> 00:30:55,440

government than they are in Private

684

00:30:58,610 --> 00:30:57,000

Industry or they're different from you

685

00:31:01,070 --> 00:30:58,620

you don't have the same kind of problems

686

00:31:04,370 --> 00:31:01,080

we have in Academia that we have in

687

00:31:06,649 --> 00:31:04,380

industry and the more I listen to all of

688

00:31:09,230 --> 00:31:06,659

them the more similar the more the same

689

00:31:11,450 --> 00:31:09,240

it sounded to me and so when you

690

00:31:14,510 --> 00:31:11,460

actually when a woman is bold enough to

691

00:31:16,669 --> 00:31:14,520

tell her story and not care you know

692

00:31:19,370 --> 00:31:16,679

what people think about her but to share

693

00:31:21,110 --> 00:31:19,380

your story there are so many people that

694

00:31:24,350 --> 00:31:21,120

are helped by that because every the

695

00:31:26,149 --> 00:31:24,360

people listening realize okay so this is

696

00:31:28,430 --> 00:31:26,159

not just me that's going through this

697

00:31:30,289 --> 00:31:28,440

and then when you hear how they overcame

698

00:31:32,630 --> 00:31:30,299

team whatever it was they're going

699

00:31:34,669 --> 00:31:32,640

through then you actually have hope to

700

00:31:36,590 --> 00:31:34,679

realize hey there's a light at the end

701
00:31:38,389 --> 00:31:36,600
of this tunnel there are things that I

702
00:31:40,370 --> 00:31:38,399
can do there are people I can reach out

703
00:31:42,289 --> 00:31:40,380
to there are mentors that can help me

704
00:31:44,570 --> 00:31:42,299
and so it's just helpful all the way

705
00:31:46,669 --> 00:31:44,580
around for people to listen to the

706
00:31:48,710 --> 00:31:46,679
stories and for people to be willing to

707
00:31:50,090 --> 00:31:48,720
tell their stories both of those are

708
00:31:52,669 --> 00:31:50,100
important

709
00:31:54,830 --> 00:31:52,679
amazing thank you so much for that and

710
00:31:57,529 --> 00:31:54,840
someone also mentioned the term Role

711
00:31:59,630 --> 00:31:57,539
Models you know how have you acted as a

712
00:32:02,029 --> 00:31:59,640
stem Mentor guide or engage with

713
00:32:04,669 --> 00:32:02,039

students and how has that role impacted

714

00:32:06,350 --> 00:32:04,679

you and your community Sandra

715

00:32:10,250 --> 00:32:06,360

oh wow

716

00:32:11,330 --> 00:32:10,260

um well so I've made my life mission to

717

00:32:13,090 --> 00:32:11,340

change

718

00:32:17,450 --> 00:32:13,100

things in Costa Rica

719

00:32:20,510 --> 00:32:17,460

I came to the station 83 and I went had

720

00:32:22,970 --> 00:32:20,520

the opportunity to go back in 98 and

721

00:32:24,769 --> 00:32:22,980

they were still not admitting women in

722

00:32:28,310 --> 00:32:24,779

electrical engineering or other

723

00:32:29,810 --> 00:32:28,320

Engineers just industrial so I I was

724

00:32:31,669 --> 00:32:29,820

like this has got to change you know and

725

00:32:33,830 --> 00:32:31,679

so I made my life mission to change it

726
00:32:37,730 --> 00:32:33,840
and I did and now there are more women

727
00:32:39,649 --> 00:32:37,740
in Engineering in Costa Rica than than

728
00:32:41,930 --> 00:32:39,659
you know ever before in fact I think

729
00:32:45,230 --> 00:32:41,940
there are more women than men

730
00:32:48,289 --> 00:32:45,240
um but um one particular incident that

731
00:32:52,789 --> 00:32:48,299
that always resonates with me is that I

732
00:32:53,930 --> 00:32:52,799
in in that trip 98 I went to uh Intel

733
00:32:56,570 --> 00:32:53,940
had a plant

734
00:32:58,549 --> 00:32:56,580
and uh this little girl was in front

735
00:33:00,649 --> 00:32:58,559
just placing her hand asking questions

736
00:33:02,570 --> 00:33:00,659
and while I was talking and she asked so

737
00:33:04,909 --> 00:33:02,580
many questions and

738
00:33:06,049 --> 00:33:04,919

um you know and I remember her vividly

739

00:33:07,070 --> 00:33:06,059

you know because she has so many

740

00:33:09,169 --> 00:33:07,080

questions

741

00:33:11,870 --> 00:33:09,179

so fast forward I'm here and I went to

742

00:33:14,210 --> 00:33:11,880

the AIC and this young lady touches my

743

00:33:16,190 --> 00:33:14,220

shoulder and she's like um I don't know

744

00:33:17,750 --> 00:33:16,200

if you remember me but I wasn't I didn't

745

00:33:20,029 --> 00:33:17,760

tell uh

746

00:33:22,789 --> 00:33:20,039

um you know a presentation that you gave

747

00:33:24,169 --> 00:33:22,799

and I raised uh my hand so many times I

748

00:33:26,269 --> 00:33:24,179

asked so many questions and you answered

749

00:33:30,169 --> 00:33:26,279

them all patiently and she says because

750

00:33:32,269 --> 00:33:30,179

of that uh your patience and and enjoy

751

00:33:35,509 --> 00:33:32,279

example and everything I I am about to

752

00:33:37,730 --> 00:33:35,519

get my doctorate now and uh you know and

753

00:33:40,310 --> 00:33:37,740

and you know and so that's one

754

00:33:41,930 --> 00:33:40,320

individual you know uh the same thing

755

00:33:43,909 --> 00:33:41,940

you know in my local community I live in

756

00:33:46,009 --> 00:33:43,919

Arlington Virginia you know I I go to

757

00:33:47,930 --> 00:33:46,019

the schools I have a um

758

00:33:50,450 --> 00:33:47,940

um standing

759

00:33:52,730 --> 00:33:50,460

um yearly visits with some of the

760

00:33:54,769 --> 00:33:52,740

science teachers and I go and and talk

761

00:33:56,930 --> 00:33:54,779

to the classes I spend the whole day I

762

00:33:58,250 --> 00:33:56,940

do the whole classes and I don't think I

763

00:34:00,769 --> 00:33:58,260

can be a teacher I don't know how they

764

00:34:02,450 --> 00:34:00,779

do it I admire that I wanted to do but

765

00:34:04,490 --> 00:34:02,460

you know I I go through all of the

766

00:34:06,470 --> 00:34:04,500

blocks and I and I and I and I teach all

767

00:34:08,690 --> 00:34:06,480

the blocks and and I you know tell them

768

00:34:11,570 --> 00:34:08,700

what we do why we do it why it's

769

00:34:14,089 --> 00:34:11,580

important uh and I repeat it all all the

770

00:34:16,849 --> 00:34:14,099

blocks you know and I do this every year

771

00:34:18,950 --> 00:34:16,859

and a lot of kids

772

00:34:21,050 --> 00:34:18,960

um are you know going into high school

773

00:34:23,930 --> 00:34:21,060

and and uh you know trying to sponsor

774

00:34:27,589 --> 00:34:23,940

them uh to be interns

775

00:34:30,109 --> 00:34:27,599

um we I started this program uh here in

776

00:34:33,349 --> 00:34:30,119

in a daughter and I took it to to

777

00:34:35,629 --> 00:34:33,359

Goddard this is the senior experience

778

00:34:38,210 --> 00:34:35,639

um and so um I started with my high

779

00:34:41,450 --> 00:34:38,220

school when my sons went to school and

780

00:34:42,349 --> 00:34:41,460

uh the last three weeks of their senior

781

00:34:44,810 --> 00:34:42,359

year

782

00:34:46,970 --> 00:34:44,820

they can come and in turn for three

783

00:34:49,609 --> 00:34:46,980

weeks and you know I find mentors for

784

00:34:50,750 --> 00:34:49,619

them and we we got that rolling we don't

785

00:34:53,510 --> 00:34:50,760

have to pay we don't have to advertise

786

00:34:55,250 --> 00:34:53,520

we just can somebody be a mentor for

787

00:34:58,550 --> 00:34:55,260

three weeks for some kid who is

788

00:35:00,170 --> 00:34:58,560

interested in in what we do and uh and

789

00:35:02,089 --> 00:35:00,180

so when I went to headquarters I brought

790

00:35:04,550 --> 00:35:02,099

it to headquarters and now the divisions

791

00:35:07,310 --> 00:35:04,560

and everybody are interested in having

792

00:35:10,190 --> 00:35:07,320

um these interns uh you know coming over

793

00:35:13,190 --> 00:35:10,200

and everything and and the other thing I

794

00:35:14,890 --> 00:35:13,200

also have done is um I was a founding

795

00:35:17,930 --> 00:35:14,900

member of the AIA

796

00:35:19,910 --> 00:35:17,940

distinguishment and uh so you know we

797

00:35:22,970 --> 00:35:19,920

get a lot of calls and uh you know in

798

00:35:25,490 --> 00:35:22,980

one mentors students uh and and that's

799

00:35:27,829 --> 00:35:25,500

just just you know talking to schools

800

00:35:30,290 --> 00:35:27,839

and high schools and colleges and and

801
00:35:32,630 --> 00:35:30,300
things of the sort

802
00:35:35,510 --> 00:35:32,640
um but in general I also always have you

803
00:35:36,710 --> 00:35:35,520
know three four or five mentees that I'm

804
00:35:40,069 --> 00:35:36,720
mentoring

805
00:35:43,010 --> 00:35:40,079
um you know women across uh uh you know

806
00:35:46,310 --> 00:35:43,020
the agency and it meant to I mean mean I

807
00:35:48,290 --> 00:35:46,320
I've Mentor both both and you know so I

808
00:35:50,990 --> 00:35:48,300
think it's it's such a enriching

809
00:35:53,510 --> 00:35:51,000
opportunity because I think the mentee

810
00:35:55,370 --> 00:35:53,520
benefits as much as the mentor and you

811
00:35:58,310 --> 00:35:55,380
know and and you learn from them and

812
00:36:01,370 --> 00:35:58,320
they and and they learn from you uh you

813
00:36:02,870 --> 00:36:01,380

know so it is just so so nice to to have

814

00:36:05,569 --> 00:36:02,880

somebody touch on your shoulders that I

815

00:36:08,089 --> 00:36:05,579

I you you inspire me or or helping

816

00:36:09,530 --> 00:36:08,099

somebody you know further career or

817

00:36:11,270 --> 00:36:09,540

lending a hand and provide an

818

00:36:14,210 --> 00:36:11,280

opportunity uh you know to see what we

819

00:36:15,290 --> 00:36:14,220

do I mean all of that is is just a very

820

00:36:18,589 --> 00:36:15,300

nice

821

00:36:20,870 --> 00:36:18,599

amazing and it's so inspiring to see the

822

00:36:23,030 --> 00:36:20,880

impacts that can be had and along those

823

00:36:25,010 --> 00:36:23,040

same lines anyone can jump in but we'll

824

00:36:27,050 --> 00:36:25,020

start with mumta can you share a story

825

00:36:29,510 --> 00:36:27,060

about a time where you engage with

826

00:36:31,069 --> 00:36:29,520

students or young people and notice a

827

00:36:34,609 --> 00:36:31,079

real impact

828

00:36:36,349 --> 00:36:34,619

yeah so I think

829

00:36:38,630 --> 00:36:36,359

and it goes back to Crystal something

830

00:36:40,670 --> 00:36:38,640

you said when we tell our stories I had

831

00:36:42,829 --> 00:36:40,680

to really learn how to tell my story I

832

00:36:44,630 --> 00:36:42,839

didn't think I had a story and then

833

00:36:46,490 --> 00:36:44,640

somebody says you know somebody told me

834

00:36:48,410 --> 00:36:46,500

everyone has a story and somebody had to

835

00:36:51,589 --> 00:36:48,420

pull it out of me and really

836

00:36:54,050 --> 00:36:51,599

got me to think about my story and who I

837

00:36:55,849 --> 00:36:54,060

had become and what shaped me and I

838

00:36:57,950 --> 00:36:55,859

think it does take a certain bravery at

839

00:36:59,329 --> 00:36:57,960

least if you're like me who I don't want

840

00:37:00,710 --> 00:36:59,339

to talk about myself and I don't want to

841

00:37:01,970 --> 00:37:00,720

get up on the stage and tell you about

842

00:37:04,310 --> 00:37:01,980

me because

843

00:37:06,470 --> 00:37:04,320

I just think I'm me but somebody can

844

00:37:07,970 --> 00:37:06,480

pull it out of you and it definitely I

845

00:37:09,530 --> 00:37:07,980

have gotten I have had to learn it and

846

00:37:12,109 --> 00:37:09,540

I've had to become brave enough to say

847

00:37:13,790 --> 00:37:12,119

it but the rewarding part of it I've

848

00:37:16,250 --> 00:37:13,800

told it enough and in front of enough

849

00:37:18,470 --> 00:37:16,260

diverse audiences that somehow I've

850

00:37:21,230 --> 00:37:18,480

started to attract and I think it's

851

00:37:23,089 --> 00:37:21,240

because I just told my story but a lot

852

00:37:24,890 --> 00:37:23,099

of young women and a lot of people of

853

00:37:26,589 --> 00:37:24,900

color and the vast majority of the

854

00:37:30,050 --> 00:37:26,599

people who approach me come from lower

855

00:37:32,569 --> 00:37:30,060

socioeconomic upbringings and that has

856

00:37:34,849 --> 00:37:32,579

been reward it's been helpful for them

857

00:37:37,609 --> 00:37:34,859

but it has been incredibly rewarding for

858

00:37:39,230 --> 00:37:37,619

me just to have those relationships most

859

00:37:41,390 --> 00:37:39,240

of them are on email because a lot of

860

00:37:43,730 --> 00:37:41,400

them are younger or FaceTime I mean they

861

00:37:45,589 --> 00:37:43,740

they connect through so many different

862

00:37:47,390 --> 00:37:45,599

ways than how I would have connected

863

00:37:48,770 --> 00:37:47,400

with a mentor going into somebody's

864

00:37:51,290 --> 00:37:48,780

office and thinking that was the only

865

00:37:53,089 --> 00:37:51,300

way to have a mentor but these the Young

866

00:37:55,910 --> 00:37:53,099

Generation they find all sorts of ways

867

00:37:57,170 --> 00:37:55,920

to find you and talk to you and a lot of

868

00:38:00,109 --> 00:37:57,180

them have just been back and forth

869

00:38:01,490 --> 00:38:00,119

they'll ask questions and can I Facetime

870

00:38:04,310 --> 00:38:01,500

with you and we'll FaceTime on the

871

00:38:06,170 --> 00:38:04,320

weekend but helping them just know

872

00:38:08,870 --> 00:38:06,180

somebody else said it that they're not

873

00:38:10,730 --> 00:38:08,880

alone so the one specific thing I'll

874

00:38:12,650 --> 00:38:10,740

tell you about is I was talking to a

875

00:38:14,390 --> 00:38:12,660

group of kids who came from immigrant

876

00:38:17,150 --> 00:38:14,400

families you can understand why I was

877

00:38:20,210 --> 00:38:17,160

asked to talk to them and one of them

878

00:38:22,130 --> 00:38:20,220

came on and she it was obvious that she

879

00:38:23,990 --> 00:38:22,140

needed to ask me something so intimate

880

00:38:25,670 --> 00:38:24,000

for her she got real close up to the

881

00:38:27,050 --> 00:38:25,680

computer and it was it was virtual she

882

00:38:28,790 --> 00:38:27,060

got real close up to the computer and

883

00:38:30,530 --> 00:38:28,800

she said I'm just different than

884

00:38:32,990 --> 00:38:30,540

everybody around me

885

00:38:35,450 --> 00:38:33,000

I'm just different I just know that I am

886

00:38:37,069 --> 00:38:35,460

how did you handle that so I told her

887

00:38:38,810 --> 00:38:37,079

this story which Chris you might

888

00:38:41,270 --> 00:38:38,820

remember because I told it for the first

889

00:38:44,089 --> 00:38:41,280

time on a stage for an education event

890

00:38:47,569 --> 00:38:44,099

but I remember being little and the kids

891

00:38:49,730 --> 00:38:47,579

making comments about how I smelled I

892

00:38:52,069 --> 00:38:49,740

didn't even know I smelled

893

00:38:53,810 --> 00:38:52,079

and I wouldn't have so that made me not

894

00:38:55,609 --> 00:38:53,820

want people to come to my house because

895

00:38:58,370 --> 00:38:55,619

then I figured out my house smoke you

896

00:39:01,870 --> 00:38:58,380

wanna know what that smell was Curry

897

00:39:04,609 --> 00:39:01,880

bad smell was Curry but in 1980s America

898

00:39:06,230 --> 00:39:04,619

nobody knew Curry and nobody knew that

899

00:39:07,670 --> 00:39:06,240

they loved Curry you said that now

900

00:39:10,730 --> 00:39:07,680

people be like that sounds like an

901
00:39:12,470 --> 00:39:10,740
awesome lunch right but back then it

902
00:39:14,750 --> 00:39:12,480
wasn't so I told her then you could just

903
00:39:16,849 --> 00:39:14,760
immediately see the relief on her face

904
00:39:19,370 --> 00:39:16,859
like it was okay to be different she

905
00:39:20,990 --> 00:39:19,380
wasn't the only one and maybe someday

906
00:39:23,329 --> 00:39:21,000
people will understand and accept her

907
00:39:25,069 --> 00:39:23,339
better but it was just having that

908
00:39:27,170 --> 00:39:25,079
connection to somebody I think was

909
00:39:30,109 --> 00:39:27,180
really important for her and then for me

910
00:39:32,630 --> 00:39:30,119
to be able to go back into my childhood

911
00:39:34,609 --> 00:39:32,640
and realize everything's okay like it's

912
00:39:36,770 --> 00:39:34,619
okay that I smelled back then totally

913
00:39:38,750 --> 00:39:36,780

fine that's also rewarding for it's

914

00:39:41,930 --> 00:39:38,760

gratifying for myself too just to come

915

00:39:44,450 --> 00:39:41,940

full circle and those realize those

916

00:39:46,970 --> 00:39:44,460

moments aren't the ones that Define you

917

00:39:50,450 --> 00:39:46,980

they feel like they do at age six but

918

00:39:54,410 --> 00:39:52,730

particular example for me

919

00:39:56,390 --> 00:39:54,420

um I was invited to come to Oprah

920

00:39:59,630 --> 00:39:56,400

Winfrey school her school for her girls

921

00:40:01,849 --> 00:39:59,640

in South Africa and she really wanted

922

00:40:04,250 --> 00:40:01,859

um the young girls to see someone that

923

00:40:06,230 --> 00:40:04,260

looked like them that was actually

924

00:40:08,870 --> 00:40:06,240

successful and that could be someone

925

00:40:10,790 --> 00:40:08,880

that they could talk to and and get some

926
00:40:13,190 --> 00:40:10,800
advice from and this was associated with

927
00:40:16,430 --> 00:40:13,200
the office of stem education so the

928
00:40:18,050 --> 00:40:16,440
ostem office was conducting an event at

929
00:40:20,030 --> 00:40:18,060
the school as well so we had a

930
00:40:21,530 --> 00:40:20,040
competition of the young girls but the

931
00:40:24,589 --> 00:40:21,540
dean of the school came to me and said

932
00:40:26,210 --> 00:40:24,599
Crystal there is this one girl that we

933
00:40:29,390 --> 00:40:26,220
don't understand what is happening with

934
00:40:32,569 --> 00:40:29,400
her and all of the girls are from very

935
00:40:35,510 --> 00:40:32,579
very very low income you know tribe

936
00:40:38,690 --> 00:40:35,520
tribal areas and so or communities I

937
00:40:40,130 --> 00:40:38,700
will say and so this young girl all of

938
00:40:42,650 --> 00:40:40,140

them were doing really well and they're

939

00:40:44,510 --> 00:40:42,660

on their trajectory to go to college but

940

00:40:46,490 --> 00:40:44,520

this one had they could not get her to

941

00:40:47,870 --> 00:40:46,500

commit to going to college and they

942

00:40:49,849 --> 00:40:47,880

didn't know what had happened and it was

943

00:40:52,130 --> 00:40:49,859

her senior year so they were like we

944

00:40:53,930 --> 00:40:52,140

don't know what to do new here so I got

945

00:40:55,730 --> 00:40:53,940

we were in an auditorium I got her and

946

00:40:57,950 --> 00:40:55,740

pulled her over to the side just to have

947

00:41:00,470 --> 00:40:57,960

a conversation with her face to face and

948

00:41:02,690 --> 00:41:00,480

long story short she did not want to go

949

00:41:05,030 --> 00:41:02,700

to college because her parents didn't

950

00:41:07,250 --> 00:41:05,040

want her to go they wanted her to work

951
00:41:09,829 --> 00:41:07,260
in the community so that she could bring

952
00:41:11,690 --> 00:41:09,839
five more cents to the table for their

953
00:41:14,270 --> 00:41:11,700
family's dollar that they were going to

954
00:41:17,210 --> 00:41:14,280
make in the course of a month so she was

955
00:41:20,030 --> 00:41:17,220
very interested in in I.T security and

956
00:41:22,370 --> 00:41:20,040
so I said okay so here's the deal if you

957
00:41:24,290 --> 00:41:22,380
can allow your parents to be you know

958
00:41:26,690 --> 00:41:24,300
upset with you for just a couple of

959
00:41:28,490 --> 00:41:26,700
years let me explain to you the benefit

960
00:41:31,490 --> 00:41:28,500
you can have not just for your family

961
00:41:33,050 --> 00:41:31,500
but for your whole community and so I I

962
00:41:35,089 --> 00:41:33,060
told her this is the amount of money

963
00:41:36,710 --> 00:41:35,099

that you can make as soon as you come

964

00:41:39,109 --> 00:41:36,720

out of school in this particular field

965

00:41:41,210 --> 00:41:39,119

and I translated it for the dollars that

966

00:41:43,310 --> 00:41:41,220

they you know make there and then I said

967

00:41:45,829 --> 00:41:43,320

and just imagine their their family had

968

00:41:47,930 --> 00:41:45,839

never lived in a house they were you

969

00:41:50,270 --> 00:41:47,940

know pretty much in a little Shanty they

970

00:41:52,790 --> 00:41:50,280

had never had a car whatsoever so I said

971

00:41:55,730 --> 00:41:52,800

and for the first time your family your

972

00:41:57,710 --> 00:41:55,740

parents can live in an actual house you

973

00:42:00,470 --> 00:41:57,720

can have a car to transport them from

974

00:42:02,450 --> 00:42:00,480

one place to the next and imagine if you

975

00:42:05,030 --> 00:42:02,460

were able to build a community center

976
00:42:07,609 --> 00:42:05,040
that could help the whole community and

977
00:42:10,490 --> 00:42:07,619
no one else is able to do that just

978
00:42:12,890 --> 00:42:10,500
imagine the change and the uplifting you

979
00:42:14,990 --> 00:42:12,900
can do for the whole Community because

980
00:42:16,910 --> 00:42:15,000
you're willing to to let your parents be

981
00:42:18,650 --> 00:42:16,920
mad for the amount of time that you'll

982
00:42:20,270 --> 00:42:18,660
be in college you don't even need their

983
00:42:22,609 --> 00:42:20,280
support to go because it's already

984
00:42:26,030 --> 00:42:22,619
covered for you you just have to go you

985
00:42:27,890 --> 00:42:26,040
have to do well and so she said okay I

986
00:42:30,290 --> 00:42:27,900
think I know what I need to do and so

987
00:42:32,210 --> 00:42:30,300
her dean of the school later came to me

988
00:42:34,670 --> 00:42:32,220

and said we don't know what you said we

989

00:42:37,310 --> 00:42:34,680

don't know what you did but you changed

990

00:42:39,770 --> 00:42:37,320

this girl's life forever and those are

991

00:42:43,190 --> 00:42:39,780

the kind of things for me that makes my

992

00:42:45,770 --> 00:42:43,200

job so much worth the Outreach that I do

993

00:42:48,430 --> 00:42:45,780

all the time I'm so happy to do it when

994

00:42:50,870 --> 00:42:48,440

people ask me to come and speak

995

00:42:53,870 --> 00:42:50,880

amazing thank you so much for sharing

996

00:42:56,390 --> 00:42:53,880

that and showing how you can change the

997

00:42:58,550 --> 00:42:56,400

future for a family for someone and

998

00:43:00,770 --> 00:42:58,560

that's just so important along those

999

00:43:02,630 --> 00:43:00,780

lines I do want to take a turn as well

1000

00:43:04,609 --> 00:43:02,640

and ask Chris what types of

1001
00:43:07,010 --> 00:43:04,619
opportunities are you hoping to see the

1002
00:43:09,230 --> 00:43:07,020
NASA Workforce engage in

1003
00:43:12,349 --> 00:43:09,240
oh great question

1004
00:43:14,150 --> 00:43:12,359
um there's a broad spectrum of

1005
00:43:17,089 --> 00:43:14,160
opportunities and activities that you

1006
00:43:20,210 --> 00:43:17,099
can get involved with with it are in

1007
00:43:21,550 --> 00:43:20,220
inherently and designed to engage with

1008
00:43:25,190 --> 00:43:21,560
students

1009
00:43:27,470 --> 00:43:25,200
you can serve as a NASA Mentor for an

1010
00:43:32,150 --> 00:43:27,480
intern it's not too late to sign up for

1011
00:43:33,890 --> 00:43:32,160
that and we have internships that go uh

1012
00:43:36,589 --> 00:43:33,900
all three essentially all three

1013
00:43:40,609 --> 00:43:36,599

semesters of the year so we'd love for

1014

00:43:41,710 --> 00:43:40,619

you to do that we have a range of stem

1015

00:43:45,349 --> 00:43:41,720

engagement

1016

00:43:46,970 --> 00:43:45,359

events and activities that we do that

1017

00:43:50,030 --> 00:43:46,980

include student challenges and

1018

00:43:53,329 --> 00:43:50,040

competitions we always need judges and

1019

00:43:55,309 --> 00:43:53,339

guides for those and in fact we have I

1020

00:43:57,230 --> 00:43:55,319

think about nine of them that have

1021

00:43:59,809 --> 00:43:57,240

culminating events over the next couple

1022

00:44:01,790 --> 00:43:59,819

three months and I know that they need

1023

00:44:06,109 --> 00:44:01,800

help so we would love folks to sign up

1024

00:44:07,730 --> 00:44:06,119

for those we have opportunities with

1025

00:44:09,349 --> 00:44:07,740

Partners Partnerships we have

1026

00:44:12,230 --> 00:44:09,359

Partnerships with the Girl Scouts

1027

00:44:16,430 --> 00:44:12,240

million women mentors and million girls

1028

00:44:18,950 --> 00:44:16,440

moonshot are some examples but there are

1029

00:44:21,050 --> 00:44:18,960

a lot of after-school programs and

1030

00:44:24,410 --> 00:44:21,060

activities that I I'm sure are in your

1031

00:44:26,690 --> 00:44:24,420

communities and having a chance for them

1032

00:44:30,050 --> 00:44:26,700

to hear from someone from NASA or to

1033

00:44:32,150 --> 00:44:30,060

have them have a NASA employee come and

1034

00:44:34,670 --> 00:44:32,160

be part of something that they're doing

1035

00:44:37,790 --> 00:44:34,680

I think is a very powerful experience

1036

00:44:41,569 --> 00:44:37,800

both for them and for for us there are

1037

00:44:45,010 --> 00:44:41,579

our library activities clubs girls who

1038

00:44:47,750 --> 00:44:45,020

code is a good example girls typically

1039

00:44:50,030 --> 00:44:47,760

do much better when they're working with

1040

00:44:52,970 --> 00:44:50,040

other girls and so there are a lot of

1041

00:44:55,370 --> 00:44:52,980

activities and and clubs and those

1042

00:44:57,109 --> 00:44:55,380

organizations that are devoted to that

1043

00:44:59,750 --> 00:44:57,119

kind of work as well

1044

00:45:02,089 --> 00:44:59,760

so I I just encourage you to reach out

1045

00:45:04,609 --> 00:45:02,099

look at our our site but also you can

1046

00:45:06,770 --> 00:45:04,619

reach out to our points of contact in

1047

00:45:10,010 --> 00:45:06,780

the offices of stem engagement at the

1048

00:45:11,630 --> 00:45:10,020

centers and they can also provide some

1049

00:45:14,270 --> 00:45:11,640

examples of some things that you might

1050

00:45:15,770 --> 00:45:14,280

want to get involved in amazing and

1051
00:45:17,990 --> 00:45:15,780
those sound like amazing opportunities

1052
00:45:20,690 --> 00:45:18,000
to get involved in and I do want to

1053
00:45:23,630 --> 00:45:20,700
leave our audience with just some advice

1054
00:45:26,030 --> 00:45:23,640
something to get us going so just going

1055
00:45:28,069 --> 00:45:26,040
down the panel I'd love to know what

1056
00:45:30,950 --> 00:45:28,079
advice would you give to those who are

1057
00:45:33,410 --> 00:45:30,960
ready to go out and serve as stem role

1058
00:45:35,750 --> 00:45:33,420
models and mentors

1059
00:45:38,089 --> 00:45:35,760
I would say start small so if you feel

1060
00:45:39,650 --> 00:45:38,099
intimidated you're not sure how much

1061
00:45:41,270 --> 00:45:39,660
time it'll take you're not sure if you

1062
00:45:43,190 --> 00:45:41,280
have the time you're busy or you don't

1063
00:45:45,589 --> 00:45:43,200

really want to tell your story go small

1064

00:45:47,510 --> 00:45:45,599

do you have children go to their school

1065

00:45:49,910 --> 00:45:47,520

start with their classroom if you don't

1066

00:45:51,530 --> 00:45:49,920

have children maybe a neighbor has a kid

1067

00:45:53,329 --> 00:45:51,540

whose classroom would love to have you

1068

00:45:56,030 --> 00:45:53,339

those are probably the least

1069

00:45:59,390 --> 00:45:56,040

intimidating in terms of it's not a big

1070

00:46:01,490 --> 00:45:59,400

stage it's but it's really rewarding man

1071

00:46:03,230 --> 00:46:01,500

and if you want to get stumped do a

1072

00:46:06,170 --> 00:46:03,240

kindergarten classroom because they will

1073

00:46:08,030 --> 00:46:06,180

ask you the hardest questions

1074

00:46:09,950 --> 00:46:08,040

um but that and it's just you'll walk

1075

00:46:11,450 --> 00:46:09,960

out I would be shocked if you came out

1076

00:46:14,450 --> 00:46:11,460

and said that you didn't feel a little

1077

00:46:16,190 --> 00:46:14,460

bit of warmth talking to Young students

1078

00:46:19,250 --> 00:46:16,200

they will remind you sometimes we get

1079

00:46:21,349 --> 00:46:19,260

into these like work is work sort of

1080

00:46:24,829 --> 00:46:21,359

modes right go talk to kids and they'll

1081

00:46:30,349 --> 00:46:27,470

so um everything that Manta said of

1082

00:46:32,210 --> 00:46:30,359

course uh but uh NASA has the speaker's

1083

00:46:35,450 --> 00:46:32,220

Bureau too so if you don't really want

1084

00:46:38,030 --> 00:46:35,460

to uh you know take on a mentee because

1085

00:46:40,970 --> 00:46:38,040

of time but you have time for for one

1086

00:46:43,550 --> 00:46:40,980

off uh you know sign up for the emails

1087

00:46:46,790 --> 00:46:43,560

and volunteer to go to school uh one

1088

00:46:49,910 --> 00:46:46,800

time College go and give a talk uh you

1089

00:46:52,190 --> 00:46:49,920

know and uh and and that is uh uh very

1090

00:46:54,290 --> 00:46:52,200

Envision but the other advice that you

1091

00:46:56,329 --> 00:46:54,300

know if you do want to take a a mentee

1092

00:46:58,130 --> 00:46:56,339

uh that I want to give you I want to

1093

00:47:00,770 --> 00:46:58,140

give you advice that I I got a long time

1094

00:47:02,390 --> 00:47:00,780

ago and you saw that that you're the

1095

00:47:05,329 --> 00:47:02,400

mentor you're not there to tell them

1096

00:47:07,190 --> 00:47:05,339

what to do and uh and and your job is to

1097

00:47:10,069 --> 00:47:07,200

extract from them what is it that they

1098

00:47:12,589 --> 00:47:10,079

want to do and unfortunately you know

1099

00:47:14,089 --> 00:47:12,599

some mentors feel like they have to tell

1100

00:47:16,250 --> 00:47:14,099

people you have to do this and you have

1101
00:47:19,370 --> 00:47:16,260
to do that and you know ask the

1102
00:47:21,410 --> 00:47:19,380
questions ask the the the

1103
00:47:24,650 --> 00:47:21,420
the questions that are gonna

1104
00:47:26,809 --> 00:47:24,660
be be able to to bring out what is it

1105
00:47:28,790 --> 00:47:26,819
that they their path and and what you

1106
00:47:31,490 --> 00:47:28,800
said that they want to end up doing but

1107
00:47:33,770 --> 00:47:31,500
I thought it refrain from from making

1108
00:47:35,390 --> 00:47:33,780
judgment and telling them exactly what

1109
00:47:37,609 --> 00:47:35,400
they need to do because if that is where

1110
00:47:40,430 --> 00:47:37,619
you would like to go but not but the

1111
00:47:42,530 --> 00:47:40,440
person would like to go so

1112
00:47:45,349 --> 00:47:42,540
yeah that's a really really good point

1113
00:47:48,250 --> 00:47:45,359

uh for for me mentoring really is about

1114

00:47:51,109 --> 00:47:48,260

you doing all that you can to enable

1115

00:47:53,210 --> 00:47:51,119

other people to achieve their dreams you

1116

00:47:55,849 --> 00:47:53,220

know and and helping them by removing

1117

00:47:58,150 --> 00:47:55,859

helping them to remove barriers and and

1118

00:48:00,770 --> 00:47:58,160

helping them to kind of navigate through

1119

00:48:02,750 --> 00:48:00,780

sometimes shark infested waters it's

1120

00:48:04,370 --> 00:48:02,760

it's really giving them a different set

1121

00:48:06,589 --> 00:48:04,380

of eyes from a different vantage point

1122

00:48:08,270 --> 00:48:06,599

but the one thing that I would say that

1123

00:48:10,750 --> 00:48:08,280

is really really important for anyone

1124

00:48:14,030 --> 00:48:10,760

who's thinking about being a mentor

1125

00:48:16,609 --> 00:48:14,040

really think about the place that you're

1126
00:48:18,770 --> 00:48:16,619
coming from and doing it because there

1127
00:48:21,410 --> 00:48:18,780
are some really wonderful effective

1128
00:48:24,109 --> 00:48:21,420
mentors and there are some that are not

1129
00:48:26,569 --> 00:48:24,119
so effective and so you really have to

1130
00:48:28,790 --> 00:48:26,579
be comfortable and it has to be coming

1131
00:48:31,550 --> 00:48:28,800
from a place of love to tell you that

1132
00:48:33,589 --> 00:48:31,560
the God's honest truth really it has to

1133
00:48:36,710 --> 00:48:33,599
be about you caring about that person

1134
00:48:39,710 --> 00:48:36,720
and if someone is pressuring you to

1135
00:48:40,609 --> 00:48:39,720
Mentor or to get you know enroll in this

1136
00:48:43,609 --> 00:48:40,619
program

1137
00:48:45,290 --> 00:48:43,619
don't do it because somebody else wants

1138
00:48:47,210 --> 00:48:45,300

you to do it it really has to be

1139

00:48:49,849 --> 00:48:47,220

something that you're passionate about

1140

00:48:52,130 --> 00:48:49,859

in terms of being able to help others so

1141

00:48:54,650 --> 00:48:52,140

take that time to pause if you're not

1142

00:48:57,290 --> 00:48:54,660

comfortable it's okay you don't have to

1143

00:48:58,670 --> 00:48:57,300

do this it really really needs to be

1144

00:49:00,890 --> 00:48:58,680

something that you're passionate about

1145

00:49:02,930 --> 00:49:00,900

in order for you to to be effective

1146

00:49:05,210 --> 00:49:02,940

because if you're not the person you're

1147

00:49:06,589 --> 00:49:05,220

mentoring will feel it and they will get

1148

00:49:08,750 --> 00:49:06,599

to a place where they say this whole

1149

00:49:11,270 --> 00:49:08,760

mentoring thing doesn't work for me and

1150

00:49:14,930 --> 00:49:11,280

so that's anti what we're trying to

1151
00:49:20,930 --> 00:49:17,510
so everything that you all shared of

1152
00:49:23,990 --> 00:49:20,940
course resonates with me tremendously in

1153
00:49:27,230 --> 00:49:24,000
terms of the things that we we really

1154
00:49:30,470 --> 00:49:27,240
want all of you to consider

1155
00:49:34,309 --> 00:49:30,480
um I think what what strikes me most is

1156
00:49:36,230 --> 00:49:34,319
that when I talk to students about

1157
00:49:38,630 --> 00:49:36,240
trying on I'll talk about putting on

1158
00:49:40,370 --> 00:49:38,640
their Explorer hats and trying on some

1159
00:49:42,050 --> 00:49:40,380
new things and not being afraid of

1160
00:49:43,670 --> 00:49:42,060
trying on those new things so Mom did

1161
00:49:47,290 --> 00:49:43,680
what you said

1162
00:49:50,650 --> 00:49:47,300
um it applies to us too right is it is

1163
00:49:53,390 --> 00:49:50,660

trying on something new with respect to

1164

00:49:58,309 --> 00:49:53,400

reaching out to someone whose early

1165

00:50:00,589 --> 00:49:58,319

career or or who is a student that is it

1166

00:50:02,750 --> 00:50:00,599

may maybe new territory for some of you

1167

00:50:05,690 --> 00:50:02,760

but I think trying on a few different

1168

00:50:09,109 --> 00:50:05,700

things and finding finding in a sense

1169

00:50:12,109 --> 00:50:09,119

your your path I think could be a really

1170

00:50:14,329 --> 00:50:12,119

great way to look at it and I I guess

1171

00:50:16,190 --> 00:50:14,339

I'd just go back to what I started with

1172

00:50:19,490 --> 00:50:16,200

is

1173

00:50:22,190 --> 00:50:19,500

um telling your stories the the the the

1174

00:50:25,670 --> 00:50:22,200

work we do at Nasa is so exciting if you

1175

00:50:26,930 --> 00:50:25,680

think about it I'm just a replaying what

1176
00:50:29,510 --> 00:50:26,940
happened with James Webb's face

1177
00:50:32,530 --> 00:50:29,520
telescope just not too long ago

1178
00:50:35,630 --> 00:50:32,540
and how it literally captured

1179
00:50:40,309 --> 00:50:35,640
imaginings of people all across the

1180
00:50:43,790 --> 00:50:40,319
globe and in the end yes it's it's the

1181
00:50:48,410 --> 00:50:43,800
it's the work excuse me in the discovery

1182
00:50:51,950 --> 00:50:48,420
that is exciting and compelling but I'd

1183
00:50:55,430 --> 00:50:51,960
venture to say it was the human story

1184
00:50:57,890 --> 00:50:55,440
behind it the people behind it who

1185
00:51:00,950 --> 00:50:57,900
devoted years and years of their lives

1186
00:51:04,750 --> 00:51:00,960
to do their life's work and how

1187
00:51:08,750 --> 00:51:04,760
compelling and and inspirational that is

1188
00:51:11,930 --> 00:51:08,760

and so I would say apply that and kind

1189

00:51:13,630 --> 00:51:11,940

of look at look at yourselves to say my

1190

00:51:16,430 --> 00:51:13,640

story

1191

00:51:19,430 --> 00:51:16,440

I think you said it and I the same with

1192

00:51:22,250 --> 00:51:19,440

me I mean I just what's my story right

1193

00:51:24,170 --> 00:51:22,260

but there have been so many experiences

1194

00:51:26,510 --> 00:51:24,180

that I've had one-on-one with students

1195

00:51:29,210 --> 00:51:26,520

but also with groups of students where

1196

00:51:30,950 --> 00:51:29,220

you can actually see that spark you can

1197

00:51:34,069 --> 00:51:30,960

actually see them

1198

00:51:36,589 --> 00:51:34,079

and starting to to shift or Envision

1199

00:51:38,930 --> 00:51:36,599

themselves in a way that that they

1200

00:51:41,450 --> 00:51:38,940

didn't when you when you started

1201
00:51:44,569 --> 00:51:41,460
and you don't really know how you're

1202
00:51:46,309 --> 00:51:44,579
going to touch a student or or or have

1203
00:51:50,150 --> 00:51:46,319
that impact

1204
00:51:51,829 --> 00:51:50,160
but but you do and uh I just encourage

1205
00:51:54,650 --> 00:51:51,839
you all to think about it and I think

1206
00:51:58,309 --> 00:51:54,660
it's one of you said what you give you

1207
00:52:01,190 --> 00:51:58,319
get back as well it is just a rich

1208
00:52:03,950 --> 00:52:01,200
wonderful experience and I hope that you

1209
00:52:06,470 --> 00:52:03,960
will will join us I guess one last thing

1210
00:52:09,049 --> 00:52:06,480
is we're really trying to drive systemic

1211
00:52:11,030 --> 00:52:09,059
change in the work we do in stem

1212
00:52:13,609 --> 00:52:11,040
engagement particularly in NASA's

1213
00:52:16,609 --> 00:52:13,619

investments in in what we do we're

1214

00:52:17,390 --> 00:52:16,619

trying to do to to make that impact at a

1215

00:52:19,370 --> 00:52:17,400

scale

1216

00:52:21,470 --> 00:52:19,380

and that's what this initiative is

1217

00:52:24,109 --> 00:52:21,480

really about is building that community

1218

00:52:27,410 --> 00:52:24,119

of people who who are engaged and

1219

00:52:29,030 --> 00:52:27,420

committed to doing this work and again I

1220

00:52:31,130 --> 00:52:29,040

hope that you'll all join us

1221

00:52:33,770 --> 00:52:31,140

thank you and there's just so much

1222

00:52:35,870 --> 00:52:33,780

incredible wisdom and knowledge amongst

1223

00:52:37,730 --> 00:52:35,880

these panelists that is all the time we

1224

00:52:40,130 --> 00:52:37,740

have but I did want to thank you for

1225

00:52:42,470 --> 00:52:40,140

just sharing your experiences and your

1226
00:52:44,930 --> 00:52:42,480
Insight this has really been just a

1227
00:52:47,210 --> 00:52:44,940
powerful discussion on what an impact we

1228
00:52:49,490 --> 00:52:47,220
can have when our communities get

1229
00:52:52,190 --> 00:52:49,500
together and what's possible when we

1230
00:53:00,890 --> 00:52:52,200
share our stories so please join me in

1231
00:53:06,770 --> 00:53:03,650
women at Nasa have built a tremendous

1232
00:53:09,650 --> 00:53:06,780
Legacy of achievements and exploration

1233
00:53:12,349 --> 00:53:09,660
and Discovery over the agency's history

1234
00:53:14,809 --> 00:53:12,359
and our community of women today are

1235
00:53:17,870 --> 00:53:14,819
forging new Innovations and discoveries

1236
00:53:20,150 --> 00:53:17,880
that will have their place in history

1237
00:53:22,609 --> 00:53:20,160
This Woman's history month we encourage

1238
00:53:26,270 --> 00:53:22,619

you to explore how you might share your

1239

00:53:29,030 --> 00:53:26,280

story to inspire connect and support the

1240

00:53:32,270 --> 00:53:29,040

next generation of women in stem through

1241

00:53:34,309 --> 00:53:32,280

NASA's woman in stem 2023 initiative

1242

00:53:36,530 --> 00:53:34,319

please refer to Deputy Administrator

1243

00:53:38,870 --> 00:53:36,540

melroy's message on how to get involved

1244

00:53:40,810 --> 00:53:38,880

today this concludes our program and

1245

00:53:58,050 --> 00:53:40,820

thank you for joining us

1246

00:54:11,010 --> 00:54:04,940

[Music]