

NASA

WOMEN

IN

ACTION

@WomenNASA

#AskNASAWomen

1  
00:00:04,850 --> 00:00:05,850  
>>> GOOD AFTERNOON.

2  
00:00:05,850 --> 00:00:09,140  
I WANT TO WELCOME YOU TO THE  
NASA WOMEN IN ACTION S.T.E.M.

3  
00:00:09,140 --> 00:00:12,700  
EVENT IN GREENBELT, MARYLAND.

4  
00:00:12,700 --> 00:00:13,880  
I AM DR.

5  
00:00:13,880 --> 00:00:18,860  
CRYSTAL JOHNSON, DEPUTY  
CENTER DIRECTOR FOR RESEARCH AND

6  
00:00:18,860 --> 00:00:19,860  
TECHNOLOGY HERE AT GODDARD.

7  
00:00:19,860 --> 00:00:22,180  
FIRST, WE'VE HAD A MORNING OF  
EXCITING ACTIVITIES FOR THE

8  
00:00:22,180 --> 00:00:23,890  
YOUNG GIRLS WITH US HERE IN THE  
AUDIENCE.

9  
00:00:23,890 --> 00:00:25,400  
WOULD YOU AGREE WITH THAT, YOUNG  
LADIES?

10  
00:00:25,400 --> 00:00:26,640  
ALL RIGHT.

11  
00:00:26,640 --> 00:00:27,640  
THANK YOU.

12

00:00:27,640 --> 00:00:29,540  
WE'RE HAPPY THAT YOU'RE HERE.

13  
00:00:29,540 --> 00:00:30,540  
THANK YOU.

14  
00:00:30,540 --> 00:00:34,090  
WE ARE VERY EXCITED TO PRESENT  
THIS EVENT TO YOU ON THIS

15  
00:00:34,090 --> 00:00:37,100  
SPECIAL DAY IN NASA'S HISTORY,  
AS WELL AS GODDARD SPACEFLIGHT

16  
00:00:37,100 --> 00:00:38,530  
CENTER.

17  
00:00:38,530 --> 00:00:43,820  
OVER 90 YEARS†-- NO, EXACTLY 90  
YEARS AGO TODAY ON MARCH 16th,

18  
00:00:43,820 --> 00:00:48,629  
1926, A ROCKET BUILT BY ROBERT  
H. GODDARD LIFTED OFF AND

19  
00:00:48,629 --> 00:00:54,639  
FOREVER CHANGED THE WAY OF  
SCIENTIFIC EXPLORATION, GIVING

20  
00:00:54,639 --> 00:00:58,260  
BIRTH TO NASA.

21  
00:00:58,260 --> 00:01:01,710  
NOW MORE THAN EVER THE PURSUIT  
OF THOSE KINDS OF MOMENTS OF

22  
00:01:01,710 --> 00:01:04,489  
INNOVATION IS KEY TO OUR FUTURE.

23

00:01:04,489 --> 00:01:09,180  
THE DEVELOPMENT OF WORLD CLASS  
TALENT AND SCIENCE, TECHNOLOGY,

24  
00:01:09,180 --> 00:01:12,290  
ENGINEERING AND MATHEMATICS  
REMAINS CRITICAL TOLL COUNTRY'S

25  
00:01:12,290 --> 00:01:13,939  
GLOBAL LEADERSHIP.

26  
00:01:13,939 --> 00:01:18,240  
SO HERE AT NASA, WE UNDERSTAND  
THAT FOSTERING AN OPEN AND

27  
00:01:18,240 --> 00:01:22,200  
DIVERSE SCIENTIFIC COMMUNITY  
THAT DRAWS FROM AN ARRAY OF

28  
00:01:22,200 --> 00:01:26,570  
UNIQUE EXPERIENCES AND  
VIEWPOINTS IS A VERY NECESSARY

29  
00:01:26,570 --> 00:01:28,710  
STEP TO REALIZING THIS GOAL.

30  
00:01:28,710 --> 00:01:30,439  
IN ADDITION, S.T.E.M.

31  
00:01:30,439 --> 00:01:34,909  
TECHNOLOGICAL BREAKTHROUGHS HERE  
AT NASA AND ALL ACROSS.

32  
00:01:34,909 --> 00:01:38,119  
INCREASING OPPORTUNITIES FOR  
WOMEN IN THESE FIELDS IS A STEP

33  
00:01:38,119 --> 00:01:42,250  
TOWARD RECOGNIZING GREATER  
ECONOMIC SUCCESS AND EQUALITY

34  
00:01:42,250 --> 00:01:44,360  
FOR WOMEN ACROSS THE BOARD.

35  
00:01:44,360 --> 00:01:46,939  
TODAY WE'D LIKE TO SHARE WITH  
YOU SOME OF THE STORIES OF

36  
00:01:46,939 --> 00:01:51,009  
LEADING WOMEN AT NASA WHO EMBODY  
THIS IDEAL.

37  
00:01:51,009 --> 00:01:53,820  
YOU CAN FOLLOW US ON THIS  
DIALOGUE ON SOCIAL MEDIA

38  
00:01:53,820 --> 00:02:00,970  
USING †@NASAWOMEN.

39  
00:02:00,970 --> 00:02:05,090  
I NOW HAVE THE HONOR OF  
INTRODUCING OUR KEYNOTE SPEAKER,

40  
00:02:05,090 --> 00:02:06,090  
DR.

41  
00:02:06,090 --> 00:02:07,090  
JO HANDLES MAN.

42  
00:02:07,090 --> 00:02:13,860  
JO IS THE ASSOCIATE DIRECTOR  
FOR SCIENCE AT THE WHITE HOUSE

43  
00:02:13,860 --> 00:02:16,460  
OFFICE OF SCIENCE AND TECHNOLOGY  
POLICY.

44  
00:02:16,460 --> 00:02:19,600  
SHE WAS APPOINTED TO THAT

POSITION BY PRESIDENT OBAMA AND

45

00:02:19,600 --> 00:02:23,100

CONFIRMED BY THE SENATE IN JUNE  
OF 2014.

46

00:02:23,100 --> 00:02:26,580

SHE ADVISES THE PRESIDENT ON THE  
IMPLICATIONS OF SCIENCE FOR THE

47

00:02:26,580 --> 00:02:30,380

NATION, HOW SCIENCE CAN INFORM  
NATIONAL POLICY AND ON THE

48

00:02:30,380 --> 00:02:33,790

FEDERAL EFFORTS TO SUPPORT  
SCIENTIFIC RESEARCH.

49

00:02:33,790 --> 00:02:36,690

BEFORE JOINING THE WHITE HOUSE,  
SHE WORKED AS A PROFESSOR AT

50

00:02:36,690 --> 00:02:40,180

YALE UNIVERSITY AND THE  
UNIVERSITY OF WISCONSIN IN

51

00:02:40,180 --> 00:02:41,180

MADISON.

52

00:02:41,180 --> 00:02:42,180

DR.

53

00:02:42,180 --> 00:02:45,960

HANDLESMAN IS AN EXPERT IN  
COMMUNICATION AMONG BACTERIA,

54

00:02:45,960 --> 00:02:50,150

BACTERIA THAT ASSOCIATE WITH  
SOIL, PLANTS AND INSECTS, HELPED

55

00:02:50,150 --> 00:02:56,140

PIONEER A FIELD WHICH BRIDGES  
AGRICULTURE AND MEDICINE.

56

00:02:56,140 --> 00:02:57,140

DR.

57

00:02:57,140 --> 00:03:00,100

HANDLES MAN IS ALSO  
RECOGNIZED FOR HER RESEARCH ON

58

00:03:00,100 --> 00:03:05,260

SCIENCE, EDUCATION, AND WOMEN  
AND MINORITIES IN SCIENCE, AND

59

00:03:05,260 --> 00:03:10,430

RECEIVED THE PRESIDENTIAL AWARD  
FOR EXCELLENCE IN SCIENCE

60

00:03:10,430 --> 00:03:12,850

MENTORING IN 2011.

61

00:03:12,850 --> 00:03:14,850

PLEASE JOIN ME IN WELCOMING DR.

62

00:03:14,850 --> 00:03:19,170

JO HANDELSMAN.

63

00:03:19,170 --> 00:03:24,950

>> WELL, GOOD AFTERNOON.

64

00:03:24,950 --> 00:03:26,780

WELCOME, EVERYBODY.

65

00:03:26,780 --> 00:03:28,900

THANK YOU FOR THAT LOVELY  
INTRODUCTION.

66

00:03:28,900 --> 00:03:30,240  
IT'S A REAL HONOR TO BE HERE.

67  
00:03:30,240 --> 00:03:33,820  
I'VE NEVER BEEN TO GODDARD  
BEFORE, SO I'M QUITE EXCITED AND

68  
00:03:33,820 --> 00:03:38,140  
HOPING FOR AN INVITATION TO COME  
BACK AND SEE MORE.

69  
00:03:38,140 --> 00:03:41,110  
THIS IS ONE OF MY FAVORITE  
ACTIVITIES IN WOMEN'S HISTORY

70  
00:03:41,110 --> 00:03:46,210  
MONTH BECAUSE IT IS PARTICULARLY  
IMPORTANT TO RECOGNIZE THE WOMEN

71  
00:03:46,210 --> 00:03:50,370  
WHO IN EARLIER TIMES WEREN'T  
RECOGNIZED FOR WHAT THEY DID.

72  
00:03:50,370 --> 00:03:53,550  
AND ALTHOUGH WOMEN HAVE BEEN  
IMPORTANT TO THE FULFILLMENT OF

73  
00:03:53,550 --> 00:03:55,950  
NASA'S MISSION THROUGHOUT ITS  
HISTORY, THEY HAVEN'T ALWAYS

74  
00:03:55,950 --> 00:03:59,440  
BEEN RECOGNIZED FOR THEIR  
ACCOMPLISHMENTS.

75  
00:03:59,440 --> 00:04:02,870  
PRESIDENT OBAMA CHANGED THAT A  
FEW MONTHS AGO WHEN HE AWARDED

76  
00:04:02,870 --> 00:04:11,600

KATHERINE JOHNSON, A GREAT NASA  
MATHEMATICIAN A MEDAL.

77

00:04:11,600 --> 00:04:15,980  
SHE'S BECOME SOMETHING OF A  
SENSATION IN SCIENCE AND

78

00:04:15,980 --> 00:04:20,930  
TECHNOLOGY AS WE SHOULD HAVE  
BEEN ALL ALONG AND SHE'S FINALLY

79

00:04:20,930 --> 00:04:24,310  
BECOMING RECOGNIZED AS ONE OF  
THE SO-CALLED FEMALE

80

00:04:24,310 --> 00:04:27,690  
CALCULATORS, OR AS I READ  
UNPLEASANTLY IN ONE PLACE, THE

81

00:04:27,690 --> 00:04:29,180  
COMPUTERS WITH SKIRTS.

82

00:04:29,180 --> 00:04:31,930  
WHICH DIDN'T SOUND SO  
FLATTERING.

83

00:04:31,930 --> 00:04:35,910  
AND SHE DID THE MATH THAT SENT  
ALLEN SHEPHERD AND JOHN GLENN

84

00:04:35,910 --> 00:04:39,860  
AND THE FIRST APOLLO ASTRONAUTS  
INTO SPACE.

85

00:04:39,860 --> 00:04:43,150  
STORY HAS IT THAT JOHN GLENN  
WOULDN'T TAKE OFF IN SPACE UNTIL

86

00:04:43,150 --> 00:04:46,190  
KATHERINE HAD CHECKED THE MAP

BECAUSE HE WANTED TO MAKE SURE

87

00:04:46,190 --> 00:04:48,750

IT WAS RIGHT.

88

00:04:48,750 --> 00:04:52,280

SHE WORKED ON VIRTUALLY EVERY  
MAJOR NASA SPACE MISSION FOR

89

00:04:52,280 --> 00:04:56,440

MANY, MANY YEARS FROM "MERCURY"  
THROUGH THE SHUTTLE.

90

00:04:56,440 --> 00:05:01,430

SHE ALSO LITERALLY WROTE THE  
TEXTBOOK ON ROCK SCIENCE.

91

00:05:01,430 --> 00:05:05,811

RECENTLY WE JUST FOUND OUT AT  
THE WHITE HOUSE THAT THERE IS

92

00:05:05,811 --> 00:05:12,460

GOING TO BE AN UPCOMING FILM ON  
HER LIFE SO SHE HAS TRULY HIT

93

00:05:12,460 --> 00:05:15,320

THE BIG TIME AND IS BEING  
RECOGNIZED.

94

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

THAT'S TRULY CHANGED FROM THE  
WAY SHE IS IGNORED BEFORE.

95

00:05:19,320 --> 00:05:24,139

IF IN HE OF YOU HAVE SEEN SOME  
OF THE GREAT OLD FILMS OF THAT

96

00:05:24,139 --> 00:05:27,760

ERA OF EARLY SPACE MISSIONS, YOU  
KNOW THAT WOMEN DIDN'T PLAY A

97  
00:05:27,760 --> 00:05:33,180  
VERY LARGE ROLE IN THOSE FILMS  
EXCEPT AS WIVES OF ASTRONAUTS.

98  
00:05:33,180 --> 00:05:37,720  
I HOPE SOMEBODY REMAKES THE  
STORY OF SPACE WITH KATHERINE

99  
00:05:37,720 --> 00:05:39,290  
JOHNSON AT THE CENTER.

100  
00:05:39,290 --> 00:05:44,680  
IT SOUNDS LIKE THAT MAY BE WHAT  
WE'RE IN STORE FOR.

101  
00:05:44,680 --> 00:05:47,520  
BUT TODAY THINGS ARE SOMEWHAT  
DIFFERENT.

102  
00:05:47,520 --> 00:05:56,340  
GIRLS HAVE ALL SORTS OF ROLE  
MODELS.

103  
00:05:56,340 --> 00:06:00,419  
THAT'S ALSO REAL CHANGE THAT WE  
ACTUALLY HAVE FEMALE ASTRONAUTS

104  
00:06:00,419 --> 00:06:02,330  
TO LOOK UP TO.

105  
00:06:02,330 --> 00:06:05,950  
YOU ALSO HAVE INCREDIBLE  
LEADERSHIP AT NASA AMONG THE

106  
00:06:05,950 --> 00:06:06,950  
WOMEN.

107  
00:06:06,950 --> 00:06:13,190

WE HAVE THE NASA DEPUTY  
ADMINISTRATOR, AND A SCIENTIST

108

00:06:13,190 --> 00:06:16,800  
WHO PROVIDE INCREDIBLE  
LEADERSHIP THROUGHOUT THE AGENCY

109

00:06:16,800 --> 00:06:19,950  
AND THEY LEAD TEAMS OF  
SCIENTISTS, INCLUDING MANY, MANY

110

00:06:19,950 --> 00:06:23,350  
WOMEN AND ENGINEERS WHO ARE  
PUSHING THE BOUNDARIES OF

111

00:06:23,350 --> 00:06:26,270  
SCIENCE, AND IN SO DOING,  
PUSHING THE BOUNDARIES OF OUR

112

00:06:26,270 --> 00:06:27,980  
UNIVERSE.

113

00:06:27,980 --> 00:06:32,030  
SO TODAY I WANT TO THANK JUST  
PERSONALLY FROM ME AND ON BEHALF

114

00:06:32,030 --> 00:06:34,890  
OF THE WHITE HOUSE, I WANT TO  
THANK ALL THE GREAT WOMEN AT

115

00:06:34,890 --> 00:06:39,480  
NASA WHO ARE DOING WONDERFUL AND  
GREAT, IMPORTANT WORK.

116

00:06:39,480 --> 00:06:43,320  
NOT ONLY IN THEIR SCIENCE, BUT  
TO INSPIRE YOUNG PEOPLE AND

117

00:06:43,320 --> 00:06:48,600  
YOUNG WOMEN PARTICULARLY TO BE

## EXPLORERS AND INNOVATORS AND THE

118

00:06:48,600 --> 00:06:53,139

NEXT GENERATION OF ASTRONAUTS,  
NO MATTER WHAT THEIR BACKGROUND

119

00:06:53,139 --> 00:06:55,860

AND WHERE THEY COME FROM.

120

00:06:55,860 --> 00:06:59,370

WHEN I WAS YOUNG, I LOOKED KIND  
OF LONGINGLY AT TELESCOPES.

121

00:06:59,370 --> 00:07:00,720

I THOUGHT THEY WERE REALLY COOL  
LOOKING.

122

00:07:00,720 --> 00:07:03,840

BUT I NEVER LOOKED THROUGH ONE,  
BECAUSE I THOUGHT TELESCOPES

123

00:07:03,840 --> 00:07:05,190

WERE JUST FOR BOYS.

124

00:07:05,190 --> 00:07:07,220

THAT WAS THE ERA I GREW UP IN.

125

00:07:07,220 --> 00:07:11,900

SO INSTEAD, I KIND OF HOPED ONE  
DAY I'D HAVE A TELESCOPE.

126

00:07:11,900 --> 00:07:13,680

I'M STILL HOPING.

127

00:07:13,680 --> 00:07:15,150

ONE DAY MAYBE I WILL.

128

00:07:15,150 --> 00:07:19,660

BUT I FOUND INSTEAD THAT

MICROSCOPES WERE SOMETHING THAT

129

00:07:19,660 --> 00:07:24,000

GIRLS DID USE, BECAUSE I HAD A  
FEMALE TEACHER IN SEVENTH GRADE.

130

00:07:24,000 --> 00:07:25,630

SHE TAUGHT ME HOW TO USE A  
MICROSCOPE.

131

00:07:25,630 --> 00:07:28,660

SO IT SEEMED LIKE A NATURAL  
THING FOR A GIRL TO USE A

132

00:07:28,660 --> 00:07:29,660

MICROSCOPE.

133

00:07:29,660 --> 00:07:32,410

SO SINCE I WAS ABOUT 12 YEARS  
OLD I'VE BEEN GLUED TO THE

134

00:07:32,410 --> 00:07:45,580

OCULARS OF  
A MICROSCOPE.

135

00:07:45,580 --> 00:07:48,669

I THINK IT HAS AN INTERESTING  
PARALLEL WITH SPACE BECAUSE THE

136

00:07:48,669 --> 00:07:56,960

TINY LITTLE MICROBES THAT YOU  
CANNOT SEE WITH YOUR EYES HAS AN

137

00:07:56,960 --> 00:08:01,270

INTERESTING SIMILARITY TO THE  
GREAT OBJECTS IN SPACE THAT WE

138

00:08:01,270 --> 00:08:03,960

ALSO CAN'T SEE VERY WELL WITH  
THE NAKED EYE.

139

00:08:03,960 --> 00:08:07,660

BUT THAT'S BECAUSE THEY'RE FAR  
AWAY AND LARGE.

140

00:08:07,660 --> 00:08:11,320

SO SID'S SAY THAT MICROBIOLOGY  
IS THE INVERSE OF ASTRONOMY.

141

00:08:11,320 --> 00:08:16,210

PERHAPS I SORT OF GOT TO LOOK  
THROUGH A TELESCOPE INVERSELY.

142

00:08:16,210 --> 00:08:20,220

SO THINGS HAVE CHANGED SINCE I  
WAS A GIRL.

143

00:08:20,220 --> 00:08:22,850

AND I HOPE THAT MANY OF THE  
GIRLS IN THIS ROOM TODAY WOULD

144

00:08:22,850 --> 00:08:26,419

BE APPALLED TO THINK THAT A  
TELESCOPE WAS ONLY FOR A BOY,

145

00:08:26,419 --> 00:08:29,970

THAT THAT IS JUST SOMETHING THAT  
NEVER ENTERED YOUR MIND.

146

00:08:29,970 --> 00:08:33,089

PERHAPS THE BEST ILLUSTRATION OF  
THAT CHANGE IS THAT HALF OF THE

147

00:08:33,089 --> 00:08:35,630

RECENT ASTRONAUT CLASS IS WOMEN.

148

00:08:35,630 --> 00:08:39,689

SO THAT'S BIG CHANGE BUT WE  
STILL HAVE MORE TO DO.

149

00:08:39,689 --> 00:08:42,389

THERE ARE STILL TOO MANY LITTLE  
GIRLS WHO GROW UP THINKING THAT

150

00:08:42,389 --> 00:08:46,059

THEY CAN'T DO SOMETHING OR  
SOMEONE TELLS THEM THAT THEY

151

00:08:46,059 --> 00:08:49,070

CAN'T DO SOMETHING BECAUSE  
THEY'RE A GIRL.

152

00:08:49,070 --> 00:08:52,149

PARTICULARLY IN ENGINEERING AND  
OTHER FIELDS OF THE QUANTITATIVE

153

00:08:52,149 --> 00:08:56,529

SCIENCES LIKE ASTRONOMY AND  
COMPUTER SCIENCE, IT'S BEEN VERY

154

00:08:56,529 --> 00:09:00,150

HARD FOR GIRLS TO GET INTO THESE  
FIELDS, IN PART, BECAUSE THERE

155

00:09:00,150 --> 00:09:03,110

HAVEN'T BEEN ENOUGH WOMEN TO  
PROVIDE ROLE MODELS.

156

00:09:03,110 --> 00:09:08,019

IT IS HARD TO DO SOMETHING IF  
YOU CAN'T SEE SOMEONE WHO LOOKS

157

00:09:08,019 --> 00:09:11,069

LIKE YOU DOING THAT SAME THING.

158

00:09:11,069 --> 00:09:15,420

WOMEN STILL OCCUPY A MINORITY OF  
JOBS IN SCIENCE, TECHNOLOGY,

159

00:09:15,420 --> 00:09:18,199  
ENGINEERING AND MATHEMATICS, OR  
S.T.E.M.

160  
00:09:18,199 --> 00:09:23,619  
29% OF THE JOBS ARE FILLED BY  
WOMEN, AND 37% OF S.T.E.M.

161  
00:09:23,619 --> 00:09:25,490  
COLLEGE GRADUATES ARE WOMEN.

162  
00:09:25,490 --> 00:09:28,269  
SADLY, THAT'S SKEWED BY FIELD.

163  
00:09:28,269 --> 00:09:31,970  
MY FIELD BIOLOGY IS VERY RICH  
WITH WOMEN, BUT MANY OTHER

164  
00:09:31,970 --> 00:09:38,050  
FIELDS HAVE LESS THAN 29% OF  
THEIR JOBS BEING FILLED BY

165  
00:09:38,050 --> 00:09:39,050  
WOMEN.

166  
00:09:39,050 --> 00:09:42,480  
IN SOME FIELDS LIKE COMPUTER  
SCIENCE AND ENGINEERING, IN THE

167  
00:09:42,480 --> 00:09:45,980  
LAST FEW DECADES, THE PROPORTION  
OF WOMEN IN MAJORS IN THOSE

168  
00:09:45,980 --> 00:09:48,749  
FIELDS IN COLLEGE HAS ACTUALLY  
GONE DOWN.

169  
00:09:48,749 --> 00:09:50,230  
WE HAVE TO FIX THAT.

170

00:09:50,230 --> 00:09:53,209

THAT'S IMPORTANT CHANGE AS WELL.

171

00:09:53,209 --> 00:09:57,019

THE PRESIDENT HAS SAID OVER AND  
OVER THAT IMPROVING S.T.E.M.

172

00:09:57,019 --> 00:10:00,019

OUTCOMES FOR ALL STUDENTS IS ONE  
OF THE MOST IMPORTANT THINGS WE

173

00:10:00,019 --> 00:10:04,329

CAN DO TO ENSURE A PROSPEROUS,  
SECURE AND SUSTAINABLE FUTURE

174

00:10:04,329 --> 00:10:05,959

FOR OUR COUNTRY.

175

00:10:05,959 --> 00:10:08,639

AND HE'S ACTED ON THAT IN MANY,  
MANY WAYS.

176

00:10:08,639 --> 00:10:13,230

A BIG PART OF THAT GOAL MEANS  
HELPING TO INCREASE ACCESS FOR

177

00:10:13,230 --> 00:10:15,990

WOMEN AND GIRLS WHO WANT TO  
ENTER S.T.E.M.

178

00:10:15,990 --> 00:10:18,480

FIELDS, AND THOSE  
FIELDS ARE IMPORTANT TO GET THEM

179

00:10:18,480 --> 00:10:22,790

INTO BECAUSE THOSE REPRESENT  
WELL-PAYING JOBS, EXCITING AND

180

00:10:22,790 --> 00:10:27,259

REWARDING CAREERS, AND THOSE  
JOBS CONTRIBUTE TO OUR NATIONAL

181

00:10:27,259 --> 00:10:29,269

GLOBAL COMPETITIVENESS.

182

00:10:29,269 --> 00:10:32,910

SO THE PRESIDENT'S FOCUS ON  
INCREASING WOMEN IN S.T.E.M.

183

00:10:32,910 --> 00:10:34,829

IS  
NOT JUST THE RIGHT THING TO DO,

184

00:10:34,829 --> 00:10:39,300

BUT OUR ECONOMIC FUTURE DEPENDS  
ON IT BECAUSE WE NEED MORE AND

185

00:10:39,300 --> 00:10:40,569

TALENTED S.T.E.M.

186

00:10:40,569 --> 00:10:43,240

WORKERS AND WE  
NEED TO DRAW THEM FROM WHATEVER

187

00:10:43,240 --> 00:10:46,290

GROUPS THEY'RE PART OF BASED ON  
THEIR TALENT AND NOT WHETHER

188

00:10:46,290 --> 00:10:51,399

THEY'RE JUST BOYS OR THE  
TRADITIONAL LOOKING SCIENTISTS

189

00:10:51,399 --> 00:10:53,240

OF THE PAST.

190

00:10:53,240 --> 00:10:56,360

WE KNOW A FEW THINGS FROM  
EDUCATION RESEARCH OF THE LAST

191

00:10:56,360 --> 00:11:00,790

FEW DECADES ABOUT WHAT DRIVES  
PEOPLE AWAY FROM S.T.E.M.

192

00:11:00,790 --> 00:11:04,899

FIELDS, AND ALSO WHAT HELPS THEM  
TO SUCCEED AND WHAT INSPIRES

193

00:11:04,899 --> 00:11:05,910

THEM.

194

00:11:05,910 --> 00:11:09,869

AND IN PARTICULAR, GIRLS AND  
CERTAIN MINORITY GROUPS RESPOND

195

00:11:09,869 --> 00:11:12,019

TO DIFFERENT KINDS OF TEACHING.

196

00:11:12,019 --> 00:11:15,640

SO THE FIRST THING WE HAVE TO DO  
IS CHANGE THE WAY WE TEACH

197

00:11:15,640 --> 00:11:16,640

S.T.E.M.

198

00:11:16,640 --> 00:11:18,610

IN THE CLASSROOM, AND  
THAT'S THROUGHOUT FROM

199

00:11:18,610 --> 00:11:21,369

KINDERGARTEN ALL THE WAY THROUGH  
GRADUATE SCHOOL.

200

00:11:21,369 --> 00:11:25,920

THE CHANGES WE NEED TO MAKE  
INVOLVE GETTING PEOPLE ACTIVELY

201

00:11:25,920 --> 00:11:29,209

INVOLVED, ENGAGING WITH THE

## MATERIAL, DISCOVERING

202

00:11:29,209 --> 00:11:33,140

ENGINEERING THINGS, CREATING  
THINGS, AND NOT JUST READING

203

00:11:33,140 --> 00:11:36,089

ABOUT THINGS IN A TEXTBOOK THAT  
OTHER PEOPLE HAVE EITHER

204

00:11:36,089 --> 00:11:38,410

DISCOVERED OR INVENTED.

205

00:11:38,410 --> 00:11:40,720

THOSE ARE GOOD TEACHING  
TECHNIQUES FOR EVERYONE, BUT

206

00:11:40,720 --> 00:11:43,899

THEY HAVE A DIFFERENTIALLY  
POSITIVE EFFECT ON WOMEN AND

207

00:11:43,899 --> 00:11:45,480

MINORITIES.

208

00:11:45,480 --> 00:11:49,269

SO IF WE START INCORPORATING  
REAL WORLD PROBLEMS INTO OUR

209

00:11:49,269 --> 00:11:52,860

CLASSROOMS, AND HANDS-ON  
RESEARCH, WE'LL BE BREEDING

210

00:11:52,860 --> 00:11:55,119

SCIENTISTS IN A COMPLETELY NEW  
WAY.

211

00:11:55,119 --> 00:11:59,339

WE'LL BE RAISING A GENERATION OF  
SCIENTISTS WHO COME TO US EVEN

212

00:11:59,339 --> 00:12:03,209

BY THE TIME THEY GET TO COLLEGE  
UNDERSTANDING WHAT SCIENCE IS,

213

00:12:03,209 --> 00:12:06,569

WHAT ENGINEERING IS, WHAT IT  
MEANS TO PARTICIPATE, TO BE A

214

00:12:06,569 --> 00:12:11,670

SCIENTIST OR AN ENGINEER AND NOT  
JUST LOOK FROM THE OUTSIDE.

215

00:12:11,670 --> 00:12:14,920

THAT'S A REALLY, REALLY  
IMPORTANT CHANGE.

216

00:12:14,920 --> 00:12:17,839

THE OTHER ASPECT OF WHAT WE DO  
IN OUR CLASSROOMS THAT HAS TO

217

00:12:17,839 --> 00:12:21,480

CHANGE IS WE NEED TO MAKE  
CONNECTIONS BETWEEN THE SCIENCE

218

00:12:21,480 --> 00:12:26,739

AND TECHNOLOGY THAT WE TEACH AND  
THE REAL WORLD THAT IT AFFECTS.

219

00:12:26,739 --> 00:12:31,459

THERE IS EVIDENCE THAT GIRLS AND  
MINORITIES HAVE A GREATER DRIVE

220

00:12:31,459 --> 00:12:36,059

TO SERVE THEIR COMMUNITIES AND  
TO SERVE THE GLOBAL COMMUNITY IN

221

00:12:36,059 --> 00:12:39,899

THEIR JOBS, AND THEIR CAREER  
CHOICES ARE DRIVEN BY THIS MORE

222

00:12:39,899 --> 00:12:43,189

THAN FOR WHITE MEN AND BOYS.

223

00:12:43,189 --> 00:12:46,879

SO AS A RESULT, WE'RE DEPRIVING  
ALL STUDENTS FROM UNDERSTANDING

224

00:12:46,879 --> 00:12:50,930

THOSE CONNECTIONS, BUT  
PARTICULARLY DEPRIVING GIRLS AND

225

00:12:50,930 --> 00:12:53,850

MINORITIES MAY DECIDE NOT TO GO  
INTO S.T.E.M.

226

00:12:53,850 --> 00:12:56,170

CAREERS BECAUSE  
THEY MAY NOT SEE THAT CONNECTION

227

00:12:56,170 --> 00:12:59,839

TO MAKING THE WORLD A BETTER  
PLACE, AND IN FACT S.T.E.M.

228

00:12:59,839 --> 00:13:01,389

IS  
ALL ABOUT MAKING THE WORLD A

229

00:13:01,389 --> 00:13:02,389

BETTER PLACE.

230

00:13:02,389 --> 00:13:06,309

IT IS THE PURSUIT OF KNOWLEDGE,  
BUT IT IS ALSO KNOWLEDGE FOR THE

231

00:13:06,309 --> 00:13:09,059

BENEFIT OF HUMANKIND.

232

00:13:09,059 --> 00:13:12,949

SO THAT'S AN IMPORTANT FIRST

STEP THAT MY OFFICE IS WORKING

233

00:13:12,949 --> 00:13:16,130

ON, TRYING TO CHANGE THE WAY  
THAT WE TEACH.

234

00:13:16,130 --> 00:13:18,110

BUT IT GOES BEYOND THE  
CLASSROOM.

235

00:13:18,110 --> 00:13:24,420

ANOTHER CHANGE WE NEED IS TO  
CHANGE THE IMAGE OF S.T.E.M.

236

00:13:24,420 --> 00:13:25,480

IN  
OUR MEDIA.

237

00:13:25,480 --> 00:13:30,180

WE KNOW ENTERTAINMENT MEDIA HAS  
ALTERED WHAT PEOPLE CONSCIOUSLY

238

00:13:30,180 --> 00:13:34,790

AND UNCONSCIOUSLY PLAN TO DO,  
THINK TO DO AND END UP ACTUALLY

239

00:13:34,790 --> 00:13:36,000

DOING.

240

00:13:36,000 --> 00:13:39,670

SO WE NEED TO WORK TO CHANGE THE  
IMAGES TO MAKE S.T.E.M.

241

00:13:39,670 --> 00:13:42,610

A FIELD  
THAT IS POPULATED IN FICTIONAL

242

00:13:42,610 --> 00:13:47,290

MEDIA WITH THE KIND OF PEOPLE  
WHO REALLY DO S.T.E.M., WHICH IS

243

00:13:47,290 --> 00:13:51,290

A TREMENDOUS VARIETY OF WOMEN  
AND MINORITIES AND PEOPLE FROM

244

00:13:51,290 --> 00:13:52,999

ALL WALKS OF LIFE.

245

00:13:52,999 --> 00:13:57,610

SO THAT'S WHY IT'S VERY EXCITING  
TO HEAR RECENTLY THAT THIS MOVIE

246

00:13:57,610 --> 00:14:02,559

ABOUT KATHERINE JOHNSON IS BEING  
MADE, BECAUSE THAT'S ONE OF OUR

247

00:14:02,559 --> 00:14:07,209

GOALS IN MY OFFICE TO SEE CHANGE  
IN THE WAY S.T.E.M.

248

00:14:07,209 --> 00:14:08,949

AND PEOPLE  
WHO DO S.T.E.M.

249

00:14:08,949 --> 00:14:12,540

ARE REPRESENTED,  
TO INCLUDE A BROADER RANGE OF

250

00:14:12,540 --> 00:14:17,610

OUR STUDENTS AND ULTIMATELY  
ASPIRING SCIENTISTS AND

251

00:14:17,610 --> 00:14:18,610

ENGINEERS.

252

00:14:18,610 --> 00:14:22,079

AND THE THIRD THING IS WE NEED  
TO REMOVE BARRIERS FROM OUR

253

00:14:22,079 --> 00:14:26,989  
EDUCATIONAL INSTITUTIONS SO WE  
DON'T CREATE ARTIFICIAL REASONS

254  
00:14:26,989 --> 00:14:30,920  
FOR WOMEN AND MINORITIES TO GET  
TURNED AWAY FROM S.T.E.M.

255  
00:14:30,920 --> 00:14:34,269  
SOME OF THAT IS JUST  
INSTITUTIONAL STRUCTURES, LIKE

256  
00:14:34,269 --> 00:14:42,209  
HOW WE PLAN PEOPLE'S LIVES  
ACCORDING TO MALE REPRODUCTIVE

257  
00:14:42,209 --> 00:14:45,029  
CALENDARS AND NOT FEMALE  
CALENDARS.

258  
00:14:45,029 --> 00:14:50,029  
AND MANY OTHER THINGS THAT HAVE  
BEEN FOCUSED ON FOR DECADES FOR

259  
00:14:50,029 --> 00:14:53,620  
MEN THAT AREN'T THE BENEFIT TO  
WOMEN, AND VISA VERSA, THINGS

260  
00:14:53,620 --> 00:14:58,249  
THAT WOMEN NEED IN ORDER TO BE  
INTEGRATED INTO THE ACADEMIC

261  
00:14:58,249 --> 00:14:59,249  
S.T.E.M.

262  
00:14:59,249 --> 00:15:02,059  
COMMUNITY, BUT JUST  
ISN'T PROVIDED.

263  
00:15:02,059 --> 00:15:05,439

WE NEED TO TAKE THE ROLE OF  
WOMEN IN ACADEMIC SCIENCE

264

00:15:05,439 --> 00:15:09,249  
THROUGHOUT FROM KINDERGARTEN  
THROUGH GRADUATE SCHOOL AND

265

00:15:09,249 --> 00:15:10,360  
EMPLOYMENT.

266

00:15:10,360 --> 00:15:13,850  
WE NEED TO TAKE THAT ROLE VERY  
SERIOUSLY AND REALIZE THAT IF WE

267

00:15:13,850 --> 00:15:18,559  
DON'T DRAW ON ALL OF THE TALENT  
IN THIS COUNTRY, AND AT LEAST

268

00:15:18,559 --> 00:15:23,110  
HALF OF IT COMES FROM WOMEN, WE  
ARE NOT EXPERIENCING THE KIND†--

269

00:15:23,110 --> 00:15:27,490  
WE WON'T EXPERIENCE THE KIND OF  
GROWTH AND CREATIVITY AND

270

00:15:27,490 --> 00:15:31,930  
INNOVATION THAT OUR COUNTRY HAS  
ALWAYS THRIVED UPON.

271

00:15:31,930 --> 00:15:36,290  
I THINK THERE IS EVIDENCE THAT  
DIVERSITY IS ONE OF THE THINGS

272

00:15:36,290 --> 00:15:40,980  
THAT HAS SEPARATED OUR COUNTRY  
IN INNOVATION FROM ALL OTHER

273

00:15:40,980 --> 00:15:41,980  
COUNTRIES.

274

00:15:41,980 --> 00:15:45,040

WE'RE ALWAYS LOOKED TO AS THE  
MOST INNOVATIVE COUNTRY AND

275

00:15:45,040 --> 00:15:47,910

WE'RE THE ENVY OF THE WORLD FOR  
THAT WITH OUR SCIENCE AND

276

00:15:47,910 --> 00:15:51,079

TECHNOLOGY JUST LEADING THE  
WORLD, AND MANY COUNTRIES HAVE

277

00:15:51,079 --> 00:15:54,299

TRIED TO COPY OUR SYSTEM AND  
THEY'VE TRIED TO COPY OUR

278

00:15:54,299 --> 00:15:56,009

EDUCATIONAL SYSTEM.

279

00:15:56,009 --> 00:15:59,040

THEY'VE TRIED TO CREATE LIBERAL  
ARTS COLLEGES WHICH ARE

280

00:15:59,040 --> 00:16:01,920

SOMETHING VERY SPECIAL TO THE  
UNITED STATES.

281

00:16:01,920 --> 00:16:05,410

THEY'VE LOOKED AT OUR BUSINESS  
MODELS AND TRIED TO COPY OUR

282

00:16:05,410 --> 00:16:06,410

COMPANIES.

283

00:16:06,410 --> 00:16:10,759

BUT I WOULD ASSERT THE ONE THING  
THAT IS THE MOST IMPORTANT

284

00:16:10,759 --> 00:16:14,280  
INNOVATION IN THIS COUNTRY THAT  
PEOPLE CAN'T COPY FROM THE

285  
00:16:14,280 --> 00:16:16,859  
OUTSIDE IS OUR DIVERSITY.

286  
00:16:16,859 --> 00:16:18,959  
THERE IS SCIENTIFIC EVIDENCE TO  
BACK THAT UP.

287  
00:16:18,959 --> 00:16:22,779  
THERE'S A LOT OF EVIDENCE TO SAY  
THAT DIVERSE GROUPS ACTUALLY

288  
00:16:22,779 --> 00:16:26,899  
FUNCTION MUCH BETTER AND ARE  
MORE CREATIVE AND PRODUCE BETTER

289  
00:16:26,899 --> 00:16:30,489  
OUTCOMES MORE CREATIVE AND  
INNOVATIVE OUTCOMES THAN MORE

290  
00:16:30,489 --> 00:16:33,610  
UNIFORM OR HOMOGENEOUS GROUPS.

291  
00:16:33,610 --> 00:16:38,600  
THESE COMPANIES YOU HEAR ABOUT  
THAT ARE ALMOST ALL WHITE MEN

292  
00:16:38,600 --> 00:16:42,860  
ARE DOING THEMSELVES A  
DISSERVICE BY EXCLUDING WHIP AND

293  
00:16:42,860 --> 00:16:46,209  
MINORITIES THAT CAN BE ENRICHING  
THE CONVERSATION AND DIALOGUE

294  
00:16:46,209 --> 00:16:48,730  
AND THE CREATIVITY OF EVERYONE

THERE.

295

00:16:48,730 --> 00:16:52,970

BUT AS A NATION, PERHAPS NOT IN  
EVERY COMPANY, BUT AS A NATION,

296

00:16:52,970 --> 00:16:58,410

WE ARE UNIQUELY DIVERSE AND WE  
NEED TO NOT ONLY TREASURE THAT

297

00:16:58,410 --> 00:17:02,480

AND USE IT FOR BENEFIT, BUT WE  
NEED TO MAKE SURE THAT PEOPLE

298

00:17:02,480 --> 00:17:06,110

KNOW THAT DIVERSITY IS NOT  
SOMETHING THAT WE DO BECAUSE WE

299

00:17:06,110 --> 00:17:07,449

SHOULD DO IT.

300

00:17:07,449 --> 00:17:10,949

WE TAKE CARE OF OUR DIVERSITY  
BECAUSE THAT IS WHAT AMERICA IS

301

00:17:10,949 --> 00:17:15,559

AND THAT'S WHAT MAKES US GREAT,  
AND WE NEED TO LIVE THAT AND

302

00:17:15,559 --> 00:17:18,389

WORK TOWARD A NEW MODEL OF  
S.T.E.M.

303

00:17:18,389 --> 00:17:21,679

WHERE DIVERSITY IS  
VALUED AND ENCOURAGED AND NOT

304

00:17:21,679 --> 00:17:24,449

SEEN AS AN EXTRA.

305

00:17:24,449 --> 00:17:29,049

SO TO THE YOUNG WOMEN HERE WHO  
ARE TOMORROW'S LEADER IN

306

00:17:29,049 --> 00:17:34,309

S.T.E.M., I SAY GO AFTER YOUR  
DREAMS.

307

00:17:34,309 --> 00:17:39,190

WHETHER IT IS DISCOVERING A STAR  
OR TRAVELING TO A PLANET, I SAY

308

00:17:39,190 --> 00:17:40,410

GO FOR IT.

309

00:17:40,410 --> 00:17:44,200

IMAGINE YOURSELF DOING WHATEVER  
IT IS THAT ANYONE CAN DO.

310

00:17:44,200 --> 00:17:48,080

EVEN IF YOU DON'T SEE SOMEONE  
WHO LOOKS JUST LIKE YOU, DOING

311

00:17:48,080 --> 00:17:49,360

WHAT YOU IMAGINED.

312

00:17:49,360 --> 00:17:50,360

THAT'S OKAY.

313

00:17:50,360 --> 00:17:52,059

YOU COULD BE THE FIRST.

314

00:17:52,059 --> 00:17:55,240

AND IF SOMEONE TELLS YOU, YOU  
CAN'T DO THAT, YOUR ANSWER

315

00:17:55,240 --> 00:17:58,149

SHOULD BE†-- YES, I CAN.

316

00:17:58,149 --> 00:18:01,810

AND THAT'S THE ONLY ANSWER YOU  
SHOULD CONSIDER BECAUSE YOU CAN

317

00:18:01,810 --> 00:18:03,830

DO ANYTHING.

318

00:18:03,830 --> 00:18:07,280

TO THE SENIOR WOMEN OF NASA I  
WANT TO AGAIN THANK YOU FOR THE

319

00:18:07,280 --> 00:18:10,460

GREAT WORK YOU'VE DONE AND THE  
LEADERSHIP YOU'VE GIVEN TO THE

320

00:18:10,460 --> 00:18:15,650

ENTIRE EFFORT TO BRING A MORE  
DIVERSE COMMUNITY INTO THE

321

00:18:15,650 --> 00:18:16,650

S.T.E.M.

322

00:18:16,650 --> 00:18:19,600

FIELDS AND TO BE ROLE  
MODELS FOR THE NEXT GENERATION.

323

00:18:19,600 --> 00:18:22,630

SO I'M LOOKING FORWARD TO OUR  
AFTERNOON AND I THANK YOU ALL

324

00:18:22,630 --> 00:18:28,769

FOR BEING HERE AND HAVE FUN.

325

00:18:28,769 --> 00:18:38,490

[†APPLAUSE†]

>>> OKAY.

326

00:18:38,490 --> 00:18:39,789

THANK YOU SO MUCH, DR.

327

00:18:39,789 --> 00:18:42,860

HANDLES MAN, FOR SHARING YOUR  
THOUGHTS WITH US HERE TODAY.

328

00:18:42,860 --> 00:18:46,049

JUST A LITTLE REMINDER, YOU ARE  
WATCHING NASA'S WOMEN IN ACTION

329

00:18:46,049 --> 00:18:49,060

EVENT LIVE FROM NASA'S GODDARD  
SPACEFLIGHT CENTER.

330

00:18:49,060 --> 00:18:55,809

TO ASK ANY QUESTIONS, USE  
#ASKNASA ON SOCIAL MEDIA.

331

00:18:55,809 --> 00:18:58,440

SO NOW HERE TO TAKE THOSE  
QUESTIONS ONCE YOU SEND THEM IN,

332

00:18:58,440 --> 00:19:01,539

WE HAVE FOUR OF OUR NASA LEADERS  
THAT ARE GOING TO BE ANSWERING

333

00:19:01,539 --> 00:19:03,240

THOSE QUESTIONS FOR YOU.

334

00:19:03,240 --> 00:19:08,169

PLEASE WELCOME ME†-- PLEASE HELP  
ME IN WELCOMING, FIRST OF ALL,

335

00:19:08,169 --> 00:19:09,169

DR.

336

00:19:09,169 --> 00:19:10,169

DAVA NEWMAN.

337

00:19:10,169 --> 00:19:13,470

SHE IS OUR DEPUTY NASA  
ADMINISTRATOR AND ALONG WITH

338

00:19:13,470 --> 00:19:15,610  
ADMINISTRATOR CHARLES BOLDEN,  
DR.

339

00:19:15,610 --> 00:19:18,809  
NEWMAN IS RESPONSIBLE FOR  
PROVIDING OVERALL LEADERSHIP,

340

00:19:18,809 --> 00:19:21,160  
PLANNING AND POLICY DIRECTION  
FOR OUR AGENCY.

341

00:19:21,160 --> 00:19:23,560  
HAVE A SEAT.

342

00:19:23,560 --> 00:19:30,529  
NEXT, LISA ROWE, OUR DEPP TIP  
ASSOCIATE ADMINISTRATOR.

343

00:19:30,529 --> 00:19:32,830  
SHE ASSISTS THE ASSOCIATE  
ADMINISTRATOR IN PERFORMING THE

344

00:19:32,830 --> 00:19:36,940  
CHIEF OPERATIONS OFFICER DUTIES  
FOR THE AGENCY AND LEADS SEVERAL

345

00:19:36,940 --> 00:19:39,779  
KEY AGENCY INITIATIVES.

346

00:19:39,779 --> 00:19:41,409  
NEXT WE HAVE DR.

347

00:19:41,409 --> 00:19:44,799  
ELLEN, NASA'S  
CHIEF SCIENTIST.

348

00:19:44,799 --> 00:19:49,450

SHE'S THE PRINCIPAL ADVISOR TO  
THE ADMINISTER ON THE AGENCY

349

00:19:49,450 --> 00:19:53,260

SCIENCE PROGRAM AND SCIENCE  
RELATED ARE STRATEGIC PLANNING

350

00:19:53,260 --> 00:19:54,470

AND INVESTMENT.

351

00:19:54,470 --> 00:19:56,080

AND THEN DR.

352

00:19:56,080 --> 00:20:01,040

ELLEN OCHOA FROM  
JOHNSON SPATE FLIGHT CENTER.

353

00:20:01,040 --> 00:20:05,029

SHE IS THE DIRECTOR OF THE SPATE  
FLIGHT CENTER AND AS A FORMER

354

00:20:05,029 --> 00:20:09,169

ASTRONAUT SHE FLEW ABOARD TWO  
MISSIONS ON "DISCOVERY" AND TWO

355

00:20:09,169 --> 00:20:10,289

ABOARD "ATLANTIS."

356

00:20:10,289 --> 00:20:19,580

SHE IS THE FIRST HISPANIC WOMAN  
EVER TO FLY IN SPACE.

357

00:20:19,580 --> 00:20:23,070

SO I WILL BE MODERATING THE  
PANEL FOR THESE LADIES TODAY.

358

00:20:23,070 --> 00:20:24,740

FIRST START WITH DR.

359

00:20:24,740 --> 00:20:27,080

NEWMAN AND  
GIVE A BRIEF INTRODUCTION,

360

00:20:27,080 --> 00:20:29,039

ONE-MINUTE INTRODUCTION ON  
YOURSELF.

361

00:20:29,039 --> 00:20:30,359

THANK YOU.

362

00:20:30,359 --> 00:20:32,500

>> HELLO, EVERYONE.

363

00:20:32,500 --> 00:20:34,649

HELLO, EVERYONE!

364

00:20:34,649 --> 00:20:37,870

HELLO, OUT THERE!

365

00:20:37,870 --> 00:20:41,000

WE GOT TO JAZZ IT UP HERE!

366

00:20:41,000 --> 00:20:42,460

I AM THRILLED TO BE HERE.

367

00:20:42,460 --> 00:20:47,289

I MEAN WOMEN IN S.T.E.M., JO,  
THANK YOU SO MUCH FOR THAT

368

00:20:47,289 --> 00:20:48,289

INSPIRING TALK.

369

00:20:48,289 --> 00:20:50,900

THAT'S WHAT WE'RE HERE TO DO IS  
CELEBRATE, ACKNOWLEDGE THE WORK

370

00:20:50,900 --> 00:20:55,100  
WE HAVE TO DO AND DO IT ALL  
TOGETHER.

371  
00:20:55,100 --> 00:20:58,230  
SO I AM A FORMER ACADEMIC.

372  
00:20:58,230 --> 00:20:59,230  
REAL QUICK BIO.

373  
00:20:59,230 --> 00:21:03,470  
I GREW UP IN HELENA, MONTANA,  
GREW UP IN BIG SKY COUNTRY.

374  
00:21:03,470 --> 00:21:04,840  
GREW UP DREAMING ABOUT THE  
START.

375  
00:21:04,840 --> 00:21:12,169  
THE APOLLO PROGRAM WAS VERY BIG  
WHEN I WAS A GIRL.

376  
00:21:12,169 --> 00:21:17,000  
I'VE BEEN FOCUSED ON SENDING  
PEOPLE TO MARS†-- NOT EVER

377  
00:21:17,000 --> 00:21:18,000  
SINCE.

378  
00:21:18,000 --> 00:21:21,179  
WHEN I WAS IN HIGH SCHOOL AT  
YOUR AGE, I LOVED BASKETBALL AND

379  
00:21:21,179 --> 00:21:26,890  
SKIING AND THANK GOODNESS  
SCIENCE AND MATH.

380  
00:21:26,890 --> 00:21:33,490  
I KIND OF ENHANCED†-- CALLED IT  
S.T.E.A.M.D.

381

00:21:33,490 --> 00:21:37,509

I BRING IN THE ARTS BECAUSE ALL  
I KNOW IS THE ARTS ARE MY STORY

382

00:21:37,509 --> 00:21:40,330

TELLERS, TELLING US HOW WE'RE  
GOING TO GET TO MARS.

383

00:21:40,330 --> 00:21:47,550

THE ALMOST THE WHOLE TABLE HAS  
SOME DESIGN EXPERIENCE.

384

00:21:47,550 --> 00:21:49,080

SO "D" IS IN.

385

00:21:49,080 --> 00:21:53,220

I'M HERE TO TELL YOU THAT YOU'RE  
ALL IN BECAUSE WE NEED EVERY

386

00:21:53,220 --> 00:21:55,399

SINGLE ONE OF YOU.

387

00:21:55,399 --> 00:21:59,559

FROM FAST FORWARD FROM EARLY  
CAREER IN MONTANA, MY FAMILY

388

00:21:59,559 --> 00:22:00,720

ALSO HAILS FROM CALIFORNIA.

389

00:22:00,720 --> 00:22:01,760

I WENT TO THE MIDWEST.

390

00:22:01,760 --> 00:22:03,450

I HAD NEVER BEEN THERE BEFORE.

391

00:22:03,450 --> 00:22:06,010

A LOT OF CORN FIELDS.

392

00:22:06,010 --> 00:22:10,590

I WENT TO NOTRE DAME AND BECAME  
AN AEROSPACE ENGINEER.

393

00:22:10,590 --> 00:22:12,910

BUT FIRST I WAS A PRELAW MAJOR.

394

00:22:12,910 --> 00:22:13,910

WHAT'S THAT?

395

00:22:13,910 --> 00:22:17,360

MY BROTHER GAVE ME GREAT ADVICE  
AND SAID, YOU'RE GOOD AT SCIENCE

396

00:22:17,360 --> 00:22:18,360

AND MATH.

397

00:22:18,360 --> 00:22:19,360

DO SOMETHING LIKE THAT.

398

00:22:19,360 --> 00:22:20,559

I DIDN'T EVEN KNOW.

399

00:22:20,559 --> 00:22:21,559

IT'S CALLED ENGINEERING.

400

00:22:21,559 --> 00:22:24,149

WELL, IT ALL WORKED OUT WELL.

401

00:22:24,149 --> 00:22:28,640

FROM THERE I WENT TO GRADUATE  
SCHOOL TO M.I.T.

402

00:22:28,640 --> 00:22:31,110

DID TECHNOLOGY AND POLICY  
BECAUSE I WONDERED HOW DO THEY

403

00:22:31,110 --> 00:22:33,350

MAKE THOSE CRAZY DECISIONS IN  
WASHINGTON?

404

00:22:33,350 --> 00:22:36,139

WELL, BE CAREFUL WHAT YOU WISH  
FOR.

405

00:22:36,139 --> 00:22:39,240

BECAUSE 30 YEARS LATER YOU MIGHT  
BE SITTING IN THIS SEAT AND

406

00:22:39,240 --> 00:22:42,960

STILL TRY TO FIGURE OUT HOW WE  
CAN MAKE THE BEST DECISION FOR

407

00:22:42,960 --> 00:22:44,190

THE FUTURE.

408

00:22:44,190 --> 00:22:49,679

CAME DOWN LAST YEAR TO JOIN NASA  
AND I JUST HAVE TO SAY, I'M

409

00:22:49,679 --> 00:22:53,130

HUMBLED, I'M HONORED, BECAUSE IT  
IS THE NASA WOMEN, IT IS THE

410

00:22:53,130 --> 00:22:56,500

NASA TEAM THAT I'VE BEEN ABLE TO  
TEAM AND I THINK I HAVE THE BEST

411

00:22:56,500 --> 00:22:59,759

JOB IN THE WORLD.

412

00:22:59,759 --> 00:23:01,259

>> AWESOME.

413

00:23:01,259 --> 00:23:02,759

LISA.

414

00:23:02,759 --> 00:23:06,110  
>> WELL, I AM DELIGHTED TO BE  
HERE AS WELL.

415  
00:23:06,110 --> 00:23:10,259  
I HAD A GREAT CONVERSATION  
LEARNING ABOUT ALL THAT IS GOING

416  
00:23:10,259 --> 00:23:12,630  
ON IN OUR HIGH SCHOOLS IN  
ENGINEER SOMETHING.

417  
00:23:12,630 --> 00:23:14,710  
I WAS JUST THRILLED TO HEAR  
ABOUT THE DIFFERENT PROGRAMS,

418  
00:23:14,710 --> 00:23:18,620  
THE AEROSPACE PROGRAM THAT'S  
HAPPENING THERE.

419  
00:23:18,620 --> 00:23:22,899  
I AM THE DEPUTY CHIEF OPERATING  
OFFICER, WHEREAS DAVA IS THE

420  
00:23:22,899 --> 00:23:25,230  
DEPUTY CHIEF EXECUTIVE OFFICER  
OF NASA.

421  
00:23:25,230 --> 00:23:27,509  
I'M THE DEPUTY CHIEF OPERATING  
OFFICER.

422  
00:23:27,509 --> 00:23:31,809  
REALLY THAT'S FOCUSED ON THE  
OPERATIONS ACROSS ALL OF NASA'S

423  
00:23:31,809 --> 00:23:35,289  
TEN CENTERS.

424  
00:23:35,289 --> 00:23:40,269

I'VE BEEN FORTUNATE ENOUGH TO  
WORK AT FOUR OF NASA'S CENTERS

425

00:23:40,269 --> 00:23:42,220  
IN MY CAREER.

426

00:23:42,220 --> 00:23:45,809  
ONE OF THOSE BEING NASA LANGLEY  
WHERE I WAS THE CENTER DIRECTOR,

427

00:23:45,809 --> 00:23:49,420  
THE VERY FIRST WOMAN CENTER  
DIRECTOR IN 100 YEARS.

428

00:23:49,420 --> 00:23:54,990  
[†APPLAUSE†]  
>> I WAS ABLE TO DO THAT FOR

429

00:23:54,990 --> 00:23:55,990  
NINE YEARS.

430

00:23:55,990 --> 00:23:57,419  
IT WAS JUST A REALLY EXCITING  
TIME.

431

00:23:57,419 --> 00:24:01,440  
ALSO, I HAVE BEEN VERY FORTUNATE  
AND WORKED AT JOHNSON SPACE

432

00:24:01,440 --> 00:24:03,960  
CENTER ON AND THE KENNEDY SPACE  
CENTER WHERE I WORKED ON THE

433

00:24:03,960 --> 00:24:06,250  
INTERNATIONAL SPACE STATION  
DELIVERING THE VERY FIRST

434

00:24:06,250 --> 00:24:10,960  
RESEARCH TO THE INTERNATIONAL  
SPACE STATION TO GET IT UP AND

435

00:24:10,960 --> 00:24:12,140

GOING.

436

00:24:12,140 --> 00:24:16,059

AND OVER BOTH OF THOSE CENTERS  
HAVE WORKED 38 SHUTTLE FLIGHTS.

437

00:24:16,059 --> 00:24:20,080

38 SHUTTLE MISSIONS IN  
VARIOUS†-- VARIOUS POSITIONS

438

00:24:20,080 --> 00:24:21,080

ALONG THE WAY.

439

00:24:21,080 --> 00:24:24,779

IT'S BEEN A VERY EXCITING CAREER  
AND BEING ABLE TO DO ALL OF

440

00:24:24,779 --> 00:24:25,830

THAT.

441

00:24:25,830 --> 00:24:31,470

I AM MOST PROUD OF MY THREE  
CHILDREN AND YOU GUYS BE SURE

442

00:24:31,470 --> 00:24:34,230

AND TELL THEM THAT.

443

00:24:34,230 --> 00:24:38,450

AND I ALSO AM AN ELECTRICAL  
ENGINEER AND THE VERY, VERY

444

00:24:38,450 --> 00:24:42,259

FIRST IN MY FAMILY TO GRADUATE  
FROM COLLEGE.

445

00:24:42,259 --> 00:24:45,980

SO I'M VERY PROUD OF THE

BACKGROUND THAT I'VE HAD AND THE

446

00:24:45,980 --> 00:24:51,519

EXCITING TIME THAT I'VE HAD AT  
NASA.

447

00:24:51,519 --> 00:24:54,490

[†APPLAUSE†]

>> I'M ELLEN.

448

00:24:54,490 --> 00:24:58,131

AS CHIEF SCIENTIST OF NASA I GET  
TO LOOK ACROSS ALL OF THE

449

00:24:58,131 --> 00:25:03,200

SCIENCE THAT WE DO AT NASA FROM  
STUDYING THE SUN TO STUDYING THE

450

00:25:03,200 --> 00:25:05,169

UNIVERSE, TO STUDY THAT WE DO OF  
THE PLANETS, OF OUR SOLAR

451

00:25:05,169 --> 00:25:08,799

SYSTEM, TO STUDYING OUR FAVORITE  
PLANET, WHICH IS THE EARTH.

452

00:25:08,799 --> 00:25:12,340

I HOPE YOU GUYS ALL AGREE THAT'S  
OUR FAVORITE PLANET.

453

00:25:12,340 --> 00:25:15,720

TO THE WORK THAT WE DO EVERY DAY  
UP ON THE INTERNATIONAL SPACE

454

00:25:15,720 --> 00:25:19,490

STATION TRYING TO UNDERSTAND IS  
THE EFFECTS OF MICROGRAVITY ON

455

00:25:19,490 --> 00:25:20,490

HUMANS.

456

00:25:20,490 --> 00:25:23,879

NOW THE CONNECTION ACROSS ALL  
THOSE DIFFERENT AREAS OF SCIENCE

457

00:25:23,879 --> 00:25:28,399

IS THE FACT THAT AT NASA, WE  
WANT TO SEND HUMANS TO MARS.

458

00:25:28,399 --> 00:25:32,700

NOT JUST ANY HUMANS, WE'RE GOING  
TO NEED SCIENTISTS, ENGINEERS,

459

00:25:32,700 --> 00:25:35,970

TO BE THOSE FIRST PEOPLE TO WALK  
ON THE SURFACE OF MARS.

460

00:25:35,970 --> 00:25:38,730

YOU GUYS ARE JUST ABOUT THE  
RIGHT AGE TO BECOME SOME OF OUR

461

00:25:38,730 --> 00:25:40,789

FIRST MARS ASTRONAUTS.

462

00:25:40,789 --> 00:25:42,870

SO YOU HAVE A LOT OF WORK TO GET  
READY.

463

00:25:42,870 --> 00:25:45,720

IN ABOUT 20 YEARS NASA WILL BE  
READY TO SEND YOU.

464

00:25:45,720 --> 00:25:48,480

I AM A PLANETARY GEOLOGIST.

465

00:25:48,480 --> 00:25:51,340

I STUDY VOLCANOES AROUND THE  
SOLAR SYSTEM, VOLCANOES HERE ON

466

00:25:51,340 --> 00:25:55,419  
EARTH, ON VENUS, ON MARS, AND I  
ALSO STUDY THE SURFACE OF ONE OF

467

00:25:55,419 --> 00:25:59,570  
SATURN'S MOONS CALLED TITAN  
WHERE IT ACTUALLY RAINS LIQUID

468

00:25:59,570 --> 00:26:00,570  
METHANE.

469

00:26:00,570 --> 00:26:05,450  
SORT OF LIKE LIQUID GASOLINE  
FALLS FROM THE SKY.

470

00:26:05,450 --> 00:26:08,259  
PAN AMAZING PLACE.

471

00:26:08,259 --> 00:26:11,120  
I GOT INTO IT BECAUSE I AM A  
NASA BRAT.

472

00:26:11,120 --> 00:26:13,639  
MY FATHER WORKED FOR NASA, MY  
MOTHER WAS A SCIENCE TEACHER.

473

00:26:13,639 --> 00:26:14,929  
THIS DIDN'T AFFECT MY SISTER.

474

00:26:14,929 --> 00:26:17,740  
SHE BECAME AN ATTORNEY.

475

00:26:17,740 --> 00:26:24,519  
I'VE ALWAYS LOVED SCIENCE, AND  
NO ONE EVER TOLD ME I COULDN'T.

476

00:26:24,519 --> 00:26:30,850  
THAT'S AN IMPORTANT THING WE  
WANT TO TALK ABOUT HERE TODAY.

477

00:26:30,850 --> 00:26:33,010

[†APPLAUSE†]

>> GOOD AFTERNOON.

478

00:26:33,010 --> 00:26:35,440

I'M HAPPY TO BE HERE.

479

00:26:35,440 --> 00:26:36,990

MY COLLEGE DEGREE IS IN PHYSICS.

480

00:26:36,990 --> 00:26:39,309

I HAVE A DOCTORATE IN ELECTRICAL  
ENGINEERING.

481

00:26:39,309 --> 00:26:43,450

THE FIRST THREE YEARS OF MY  
CAREER I WAS STUDYING ABOUT

482

00:26:43,450 --> 00:26:46,210

OPTICAL INFORMATION PROCESSING  
PAT A COUPLE OF DIFFERENT

483

00:26:46,210 --> 00:26:47,210

LABORATORIES.

484

00:26:47,210 --> 00:26:51,130

THEN I WAS FORTUNATE ENOUGH TO  
BE SELECTED FOR THE ASTRONAUT

485

00:26:51,130 --> 00:26:52,130

PROGRAM.

486

00:26:52,130 --> 00:26:54,940

SO THAT REALLY CHANGED MY LIFE  
AT THAT POINT.

487

00:26:54,940 --> 00:26:57,409

I SPENT A NUMBER OF YEARS IN THE  
ASTRONAUT OFFICE.

488

00:26:57,409 --> 00:27:01,220

HAD A CHANCE TO FLY ON FOUR  
SPACE SHUTTLE MISSIONS.

489

00:27:01,220 --> 00:27:04,129

MAY HAVE A CHANCE TO TALK ABOUT  
THAT A LITTLE BIT MORE AS WE GO

490

00:27:04,129 --> 00:27:06,500

THROUGH TODAY'S SESSION.

491

00:27:06,500 --> 00:27:09,769

AFTER MY FOUR FLIGHTS I ENDED UP  
GOING INTO MANAGEMENT AND

492

00:27:09,769 --> 00:27:13,129

LEADERSHIP POSITIONS AT JOHNSON  
SPACE CENTER.

493

00:27:13,129 --> 00:27:14,909

JOHNSON OF COURSE IS ONE OF THE  
NASA CENTERS.

494

00:27:14,909 --> 00:27:17,390

YOU CAN SEE THE WHOLE LIST OVER  
THERE JUST TO THE RIGHT OF THE

495

00:27:17,390 --> 00:27:19,210

PODIUM.

496

00:27:19,210 --> 00:27:23,129

JOHNSON'S REALLY INVOLVED IN  
HUMAN SPACEFLIGHT, IN PARTICULAR

497

00:27:23,129 --> 00:27:27,179

HUMAN SPACECRAFT ALL THE WAY  
FROM DESIGN TO OPERATION, AS

498

00:27:27,179 --> 00:27:31,519  
WELL AS THE TRAINING AND  
PREPARATION OF THE ASTRONAUTS,

499  
00:27:31,519 --> 00:27:34,570  
OF ALL THE PEOPLE WHO WORK IN  
MISSION CONTROL AND REALLY

500  
00:27:34,570 --> 00:27:35,570  
CARRYING OUT THE OPERATION.

501  
00:27:35,570 --> 00:27:38,410  
SO A VERY EXCITING PLACE TO BE.

502  
00:27:38,410 --> 00:27:41,800  
AT ONE POINT I WAS LEADING†--  
HEAD OF THE FLIGHT CREW

503  
00:27:41,800 --> 00:27:45,179  
OPERATIONS WHICH IS THE  
ORGANIZATION THAT MANAGES THE

504  
00:27:45,179 --> 00:27:48,690  
ASTRONAUT OFFICE AND OUR  
AIRCRAFT OFFICE DIVISION.

505  
00:27:48,690 --> 00:27:52,880  
AND NOW I'M ACTUALLY THE CENTER  
DIRECTOR THERE, REPRESENTING A

506  
00:27:52,880 --> 00:27:56,830  
GROUP OF INCREDIBLY TALENTED  
PEOPLE AS WE'RE DOING HUMAN

507  
00:27:56,830 --> 00:27:58,450  
SPACE FLIGHTS.

508  
00:27:58,450 --> 00:28:01,159  
[†APPLAUSE†]  
>> OKAY.

509

00:28:01,159 --> 00:28:03,879

THANK YOU.

510

00:28:03,879 --> 00:28:06,789

SO THE FIRST QUESTION FOR YOU  
LADIES, IF YOU CAN THINK BACK TO

511

00:28:06,789 --> 00:28:10,071

WHEN YOU WERE THEIR AGE, BACK IN  
HIGH SCHOOL, WHAT DID YOU LIKE

512

00:28:10,071 --> 00:28:13,510

TO DO BACK IN HIGH SCHOOL AND  
WHAT DID YOU ENVISION YOUR

513

00:28:13,510 --> 00:28:16,070

CAREER WOULD BE LIKE, AND HOW  
DOES THAT COMPARE TO WHERE YOU

514

00:28:16,070 --> 00:28:17,679

ACTUALLY ARE TODAY?

515

00:28:17,679 --> 00:28:19,179

>> I'LL START.

516

00:28:19,179 --> 00:28:24,669

AS I MENTIONED, BACK WHEN I WAS  
IN YOUR SHOES, I WAS AN

517

00:28:24,669 --> 00:28:26,039

EXPLORER.

518

00:28:26,039 --> 00:28:27,720

I WAS THE KID RUNNING UP IN THE  
MOUNTAINS.

519

00:28:27,720 --> 00:28:31,960

I ALWAYS WONDERED LITERALLY WHAT

WAS OVER THE HORIZON OR ON TOP

520

00:28:31,960 --> 00:28:34,059

OF THE MOUNTAIN FROM WHERE I  
GREW UP.

521

00:28:34,059 --> 00:28:39,320

BUT JUST ENJOYING HIGH SCHOOL,  
THINKING ABOUT COLLEGE, BEING

522

00:28:39,320 --> 00:28:42,490

FROM HELENA, MONTANA, THAT'S THE  
CAPITAL BUT STILL FELT SMALL SO

523

00:28:42,490 --> 00:28:47,049

I WAS READY TO GO OUT TO COLLEGE  
AND LEAVE THE STATE AND EXPLORE

524

00:28:47,049 --> 00:28:48,080

THINGS.

525

00:28:48,080 --> 00:28:52,299

I THOUGHT INITIALLY WHEN I WAS A  
TEENAGER.

526

00:28:52,299 --> 00:28:53,669

I THOUGHT I'D BE A LAWYER.

527

00:28:53,669 --> 00:28:55,000

A SPORTS LAWYER.

528

00:28:55,000 --> 00:29:01,429

I WAS GOING TO REPRESENT KAREEM  
ABDUL-JABBAR.

529

00:29:01,429 --> 00:29:05,600

I WAS NEVER GOING TO BE 7'5"  
FEET TALL BUT I DID END UP AT

530

00:29:05,600 --> 00:29:08,690  
NOTRE DAME AND PLAYED BASKETBALL  
FOR A FEW YEARS.

531  
00:29:08,690 --> 00:29:13,549  
I TOOK THE COURSES FRESHMAN  
YEAR, I STILL DIDN'T KNOW WHAT

532  
00:29:13,549 --> 00:29:14,950  
MY FINAL MAJOR WOULD BE.

533  
00:29:14,950 --> 00:29:19,100  
IT HAD TO DO WITH THE NATIONAL  
POLICIES AND POLITICS AND THINGS

534  
00:29:19,100 --> 00:29:20,100  
LIKE THAT.

535  
00:29:20,100 --> 00:29:21,730  
I SAID SPACE POLICY.

536  
00:29:21,730 --> 00:29:24,690  
I WAS SO KEEN ON EXPLORATION, I  
SAID WE NEED TO DO THIS FOR A

537  
00:29:24,690 --> 00:29:27,040  
PEACEFUL HUMAN PURPOSES.

538  
00:29:27,040 --> 00:29:29,649  
SO BY SOPHOMORE YEAR WHEN I  
CHOSE MY MAJOR OF AEROSPACE

539  
00:29:29,649 --> 00:29:30,649  
ENGINEERING.

540  
00:29:30,649 --> 00:29:32,389  
I DIDN'T KNOW WHAT AN ENGINEER  
AS WITH.

541

00:29:32,389 --> 00:29:35,389

REALLY DIDN'T KNOW ANY  
ENGINEERS.

542

00:29:35,389 --> 00:29:38,520

AGAIN WHEN I GOT THE CHANCE TO  
BE A FACULTY MEMBER AT M.I.T., I

543

00:29:38,520 --> 00:29:42,100

WROTE AN ENGINEERING BACK.

544

00:29:42,100 --> 00:29:48,990

I WISH MY 17, 18-YEAR-OLD SELF  
NEEDED TO KNOW WHAT THAT WAS.

545

00:29:48,990 --> 00:29:50,299

YOU DON'T HAVE TO ALL IT ALL  
PLANNED OUT.

546

00:29:50,299 --> 00:29:55,600

YOU CAN ZIG AND ZAG AND DO A  
LITTLE BIT OF THAT.

547

00:29:55,600 --> 00:30:00,610

>> BACK WHETHER I WAS YOUR AGE  
AND IN HIGH SCHOOL, I WAS AT

548

00:30:00,610 --> 00:30:01,710

GAINESVILLE, FLORIDA.

549

00:30:01,710 --> 00:30:05,590

BESIDES WATCHING THE GATORS PLAY  
FOOTBALL, THEY WERE BETTER BACK

550

00:30:05,590 --> 00:30:12,100

THEN, BUT I WAS PRETTY GOOD IN  
MATH AND SCIENCE AND I WASN'T

551

00:30:12,100 --> 00:30:13,919

REALLY SURE WHAT I WANTED TO DO.

552

00:30:13,919 --> 00:30:16,779

THERE WAS COMMUNITY COLLEGE  
HAD†-- OFFERED SOMETHING AT OUR

553

00:30:16,779 --> 00:30:20,080

HIGH SCHOOL WHERE YOU COULD PUT  
IN YOUR INTERESTS.

554

00:30:20,080 --> 00:30:24,020

I KNEW I LIKED TO TRAVEL AS WELL  
AND HAD SOME INTEREST†-- OUT

555

00:30:24,020 --> 00:30:27,330

POPPED ZOOLOGY AND ENGINEERING.

556

00:30:27,330 --> 00:30:31,159

SO WITH THAT†-- WHEN I LOOKED AT  
THE SALARIES OF THOSE TWO THINGS

557

00:30:31,159 --> 00:30:35,749

I DECIDED ENGINEERING WOULD BE A  
BETTER CHOICE.

558

00:30:35,749 --> 00:30:40,370

SO I DIDN'T HAVE ANY IDEA WHAT  
AN ENGINEER WAS BUT I APPLIED TO

559

00:30:40,370 --> 00:30:46,340

UNIVERSITY OF FLORIDA, GOT IN,  
AND DISCOVERED ALONG THE WAY I

560

00:30:46,340 --> 00:30:48,590

STARTED TO REALIZE WHAT  
DIFFERENT KIND OF ENGINEERING

561

00:30:48,590 --> 00:30:49,590

WAS.

562

00:30:49,590 --> 00:30:53,549  
I THOUGHT I WANTED TO BE AN  
ENVIRONMENTAL ENGINEER AND TOOK

563  
00:30:53,549 --> 00:30:56,120  
AN INTRO INTO ENVIRONMENTAL  
ENGINEERING AND DISCOVERED I DID

564  
00:30:56,120 --> 00:30:58,559  
NOT WANT TO BE AN ENVIRONMENTAL  
ENGINEER.

565  
00:30:58,559 --> 00:31:00,890  
BUT I WAS PRETTY GOOD AT  
ELECTRICAL ENGINEERING AND IT

566  
00:31:00,890 --> 00:31:03,910  
SEEMED THAT'S WHERE MY TALENTS  
LIE, AND THAT'S WHERE I ENDED

567  
00:31:03,910 --> 00:31:07,730  
UP, ELECTRICAL ENGINEERING,  
AGAIN NOT NECESSARILY KNOWING

568  
00:31:07,730 --> 00:31:08,899  
WHAT THAT IS.

569  
00:31:08,899 --> 00:31:12,340  
AS DAVA EXPLAINED, I DON'T THINK  
YOU HAVE TO ALL IT ALL PLANNED

570  
00:31:12,340 --> 00:31:17,400  
OUT BUT I WAS ABLE TO GET INTO A  
CO-OP PROGRAM AT NASA.

571  
00:31:17,400 --> 00:31:21,789  
WORKED ONE SEMESTER AND GO BACK  
TO COLLEGE EVERY OTHER SEMESTER.

572  
00:31:21,789 --> 00:31:27,110

AND IN THAT I DISCOVERED THIS IS  
WHAT ENGINEERS DO AND I LOVED

573

00:31:27,110 --> 00:31:28,110

IT.

574

00:31:28,110 --> 00:31:29,110

THERE WAS REALLY EXCITING THINGS  
GOING ON.

575

00:31:29,110 --> 00:31:31,340

I STARTED TO REALIZE IT WAS  
SOMETHING THAT I ACTUALLY COULD

576

00:31:31,340 --> 00:31:33,270

DO.

577

00:31:33,270 --> 00:31:41,000

SO IN ALL OF THAT, I WAS ABLE TO  
MAKE MY DESIRES AS AN EARLY HIGH

578

00:31:41,000 --> 00:31:43,831

SCHOOL STUDENT WHICH I REALLY  
WANTED†-- I COULD†-- THE THING I

579

00:31:43,831 --> 00:31:47,759

COULD VISUALIZE IS REALLY  
TRAVELING THE WORLD AND MAKING A

580

00:31:47,759 --> 00:31:48,759

DIFFERENCE.

581

00:31:48,759 --> 00:31:52,080

AND I TRULY THINK THAT HAVING  
THAT CAREER IN NASA HAS PAID OFF

582

00:31:52,080 --> 00:31:54,639

THAT I REALLY HAVE BEEN ABLE TO  
MAKE THE DIFFERENCE THAT I

583

00:31:54,639 --> 00:31:55,789

ALWAYS ENVISIONED.

584

00:31:55,789 --> 00:31:58,330

NOT ONLY KIND OF TRAVEL THE  
WORLD WITH THINGS I'VE DONE ON

585

00:31:58,330 --> 00:32:02,220

THE INTERNATIONAL SPACE STATION,  
BUT TALK ABOUT WORKING ON THE

586

00:32:02,220 --> 00:32:03,280

WORLD.

587

00:32:03,280 --> 00:32:05,519

NASA CERTAINLY HAS THAT VANTAGE  
POINT.

588

00:32:05,519 --> 00:32:09,100

NOT ONLY THERE AND KIND OF OUR  
UNIVERSE AND BEYOND.

589

00:32:09,100 --> 00:32:12,210

SO I'VE HAD A TREMENDOUS CAREER  
IN BEING ABLE TO ACHIEVE THE

590

00:32:12,210 --> 00:32:15,729

VISION I HAD IN HIGH SCHOOL.

591

00:32:15,729 --> 00:32:17,369

>> WHEN I WAS A YOUNGER KID I  
WAS THE KID THAT WAS ALWAYS

592

00:32:17,369 --> 00:32:18,369

PICKING UP ROCKS.

593

00:32:18,369 --> 00:32:21,590

EVEN TODAY MY HUSBAND SAYS DO WE  
HAVE TO HAVE ROCKS IN EVERY ROOM

594

00:32:21,590 --> 00:32:22,730  
OF THE HOUSE?

595

00:32:22,730 --> 00:32:25,809  
AND THE ANSWER TO THAT IS  
ACTUALLY YES.

596

00:32:25,809 --> 00:32:29,869  
AND I THINK AROUND LATE MIDDLE  
SCHOOL, EARLY HIGH SCHOOL WHERE

597

00:32:29,869 --> 00:32:32,840  
I REALIZED THERE WAS THIS THING  
CALLED A GEOLOGIST WHERE PEOPLE

598

00:32:32,840 --> 00:32:34,580  
GOT PAID FOR PICKING UP ROCKS.

599

00:32:34,580 --> 00:32:38,429  
I THOUGHT, OKAY, SOUNDS LIKE A  
GREAT CAREER TO ME.

600

00:32:38,429 --> 00:32:43,940  
AROUND THE SAME TIME, NASA  
LANDED THE TWO VIKING LANDERS ON

601

00:32:43,940 --> 00:32:46,860  
THE SURFACE OF MARS AND I  
THOUGHT, GEOLOGY PLUS MARS?

602

00:32:46,860 --> 00:32:49,940  
WHAT COULD BE BETTER THAN THAT.

603

00:32:49,940 --> 00:32:52,679  
BUT I WILL SAY, IN HIGH SCHOOL I  
WAS MOSTLY KIND OF FOCUSED ON

604

00:32:52,679 --> 00:32:55,309

SKIING, FOCUSED ON DOING FUN THINGS.

605

00:32:55,309 --> 00:32:59,450

I THOUGHT MATH WAS A TRIAL BUT I KNEW I HAD TO WORK AT IT BECAUSE

606

00:32:59,450 --> 00:33:03,139

IF I WANTED TO BE A SCIENTIST, IF I WANTED TO BE A GEOLOGIST, I

607

00:33:03,139 --> 00:33:06,330

ACTUALLY KNEW THAT MATH WAS A TOOL THAT I HAD TO OVERCOME.

608

00:33:06,330 --> 00:33:08,039

SO I TOOK MATH CLASSES.

609

00:33:08,039 --> 00:33:09,659

I TRIED TO CHALLENGE MYSELF.

610

00:33:09,659 --> 00:33:12,629

I TOOK SOME COMPUTER PROGRAMMING CLASSES SO I WOULD LEARN HOW TO

611

00:33:12,629 --> 00:33:14,029

USE COMPUTERS.

612

00:33:14,029 --> 00:33:15,499

I DIDN'T LOVE IT.

613

00:33:15,499 --> 00:33:18,240

BUT I KNEW I NEEDED TO LEARN IT AND I ALWAYS LIKED SCIENCE

614

00:33:18,240 --> 00:33:20,769

CLASSES SO I KNEW I WAS GOING TO GO DOWN THAT PATH.

615

00:33:20,769 --> 00:33:24,230  
BUT I THINK THE THING IS, JUST  
BECAUSE YOU THINK, I CAN'T BE A

616  
00:33:24,230 --> 00:33:27,230  
SCIENTIST IF I'M NOT GOOD AT  
MATH, OR I DON'T LOVE PHYSICS

617  
00:33:27,230 --> 00:33:29,450  
BECAUSE I CAN'T BE A SCIENTIST  
OR AN ENGINEER.

618  
00:33:29,450 --> 00:33:32,029  
BUT YOU JUST HAVE TO SAY, I'M  
GOING TO GET THROUGH THIS, I'M

619  
00:33:32,029 --> 00:33:34,580  
GOING TO STICK WITH MY GOAL, I'M  
GOING TO STICK WITH MY DREAM AND

620  
00:33:34,580 --> 00:33:36,080  
I'M GOING TO MAKE IT HAPPEN.

621  
00:33:36,080 --> 00:33:37,100  
>> THAT'S GREAT.

622  
00:33:37,100 --> 00:33:38,120  
THANK YOU.

623  
00:33:38,120 --> 00:33:42,120  
>> WELL, IN HIGH SCHOOL I HAD NO  
IDEA WHAT I WOULD WANT TO DO AS

624  
00:33:42,120 --> 00:33:43,120  
A CAREER.

625  
00:33:43,120 --> 00:33:45,080  
I WOULD SAY THE CLASSES I  
ENJOYED THE MOST WERE MY

626

00:33:45,080 --> 00:33:48,009

LITERATURE CLASSES AND ALSO MY  
MATH CLASSES.

627

00:33:48,009 --> 00:33:51,019

I DID GET A CHANCE TO TAKE SOME  
CALCULUS IN HIGH SCHOOL,

628

00:33:51,019 --> 00:33:54,450

ALTHOUGH WE DIDN'T HAVE ANY KIND  
OF ENGINEERING CLASSES THERE.

629

00:33:54,450 --> 00:33:56,769

THE BIG ACTIVITY I WAS IN WAS  
MUSIC.

630

00:33:56,769 --> 00:33:57,769

PLAYED THE FLUTE.

631

00:33:57,769 --> 00:33:59,649

I WAS IN THE CONCERT BAND,  
MARCHING BAND.

632

00:33:59,649 --> 00:34:03,769

I PLAYED IN THE CIVIC YOUTH  
ORCHESTRA IN SAN DIEGO AND

633

00:34:03,769 --> 00:34:05,980

THOUGHT ABOUT MAJORING IN MUSIC.

634

00:34:05,980 --> 00:34:09,490

BUT I REALLY KNEW KIND OF IN MY  
HEART OF HEARTS THAT WAS A

635

00:34:09,490 --> 00:34:13,260

REALLY HARD THING TO DO, TO  
ACTUALLY HAVE A CAREER IN.

636

00:34:13,260 --> 00:34:15,860

SO I CONTINUED TO PLAY ALL MY  
LIFE BUT DIDN'T ACTUALLY MAJOR

637

00:34:15,860 --> 00:34:16,860

IN IT.

638

00:34:16,860 --> 00:34:18,960

SO I WENT OFF TO SAN DIEGO  
STATE.

639

00:34:18,960 --> 00:34:21,780

AGAIN WAS THINKING ABOUT MUSIC,  
MAYBE BUSINESS.

640

00:34:21,780 --> 00:34:23,390

ENDED UP LOOKING INTO  
JOURNALISM.

641

00:34:23,390 --> 00:34:24,390

COMPUTER SCIENCE.

642

00:34:24,390 --> 00:34:27,050

I CHANGED MY MAJOR FIVE TIMES.

643

00:34:27,050 --> 00:34:31,780

SO IF YOU DON'T KNOW WHAT YOU  
WANT TO DO RIGHT NOW, YOU ARE IN

644

00:34:31,780 --> 00:34:33,330

GOOD COMPANY.

645

00:34:33,330 --> 00:34:36,130

BUT IT WAS REALLY THROUGH A  
COUPLE OF DIFFERENT THINGS THAT

646

00:34:36,130 --> 00:34:37,870

GOT ME INTERESTED IN PHYSICS.

647

00:34:37,870 --> 00:34:39,270

ONE WAS THROUGH MY MATH CLASSES.

648

00:34:39,270 --> 00:34:41,170

AS I MENTIONED, I HAD ALWAYS  
LIKED MATH.

649

00:34:41,170 --> 00:34:42,170

I TOOK IT.

650

00:34:42,170 --> 00:34:46,620

I ENDED UP FINISHING UP THE  
CALCULUS SERIES IN COLLEGE AND

651

00:34:46,620 --> 00:34:48,980

BY THE END OF IT REALIZED I WAS  
THE ONLY ONE IN THERE JUST

652

00:34:48,980 --> 00:34:50,590

TAKING IT FOR FUN.

653

00:34:50,590 --> 00:34:54,740

TALKED TO THE OTHER STUDENTS TO  
FIND OUT WHY THEY WERE IN THERE

654

00:34:54,740 --> 00:34:58,160

AND THEY WERE OF COURSE ALL IN  
ENGINEERING OR SCIENCE AND IT

655

00:34:58,160 --> 00:35:00,680

WAS PART OF WHAT THEY NEEDED TO  
DO.

656

00:35:00,680 --> 00:35:04,690

THAT'S ONE OF THE REASONS I  
STARTED TO LOOK INTO PHYSICS.

657

00:35:04,690 --> 00:35:08,390

THEN THERE WAS ALSO A CONFERENCE  
AT SAN DIEGO STATE UNIVERSITY

658

00:35:08,390 --> 00:35:12,320

WHERE I WAS IN SCHOOL WHERE THEY  
HAD SOME WOMEN

659

00:35:12,320 --> 00:35:15,040

SCIENTIST/ENGINEERS COME IN AND  
TALK ABOUT THEIR CAREERS.

660

00:35:15,040 --> 00:35:16,430

THAT'S REALLY IMPORTANT.

661

00:35:16,430 --> 00:35:19,990

LIKE YOU'VE KIND OF HEARD FROM  
THE REST OF THE PANEL, I REALLY

662

00:35:19,990 --> 00:35:21,810

HAD NO IDEA WHAT AN ENGINEER  
DID.

663

00:35:21,810 --> 00:35:25,400

I HAD NO CONCEPT, YOU GET UP IN  
THE MORNING, YOU GO TO WORK.

664

00:35:25,400 --> 00:35:28,201

WHAT IS IT YOU'RE ACTUALLY DOING  
IF YOU'RE AN ENGINEER?

665

00:35:28,201 --> 00:35:29,510

OR IF YOU'RE A PHYSICIST?

666

00:35:29,510 --> 00:35:33,500

IT WAS REALLY NICE TO HEAR FROM  
THESE OTHER WOMEN WHAT THAT WAS

667

00:35:33,500 --> 00:35:34,500

LIKE.

668

00:35:34,500 --> 00:35:36,860

IT WAS REALLY THE COMBINATION OF

## THOSE THINGS THAT GOT ME

669

00:35:36,860 --> 00:35:38,910

INTERESTED IN PHYSICS.

670

00:35:38,910 --> 00:35:41,700

THEN I HAD A CHANCE TO HAVE A  
COUPLE OF SUMMER JOBS WHERE I

671

00:35:41,700 --> 00:35:44,800

WORKED IN LABORATORIES AND SO  
THAT HELPED CONVINC ME THAT I

672

00:35:44,800 --> 00:35:46,710

WANTED TO GO TO GRADUATE SCHOOL.

673

00:35:46,710 --> 00:35:49,220

BECAUSE THE PEOPLE WHO ARE  
REALLY LEADING THE RESEARCH IN

674

00:35:49,220 --> 00:35:52,270

THE LABORATORIES ARE THE ONES  
THAT HAVE THE ADVANCED DEGREES.

675

00:35:52,270 --> 00:35:57,190

SO WENT OFF TO STANFORD AND GOT  
A MASTERS AND A Ph.D.

676

00:35:57,190 --> 00:35:59,870

AND THE FIRST YEAR I WAS AT  
STANFORD WAS THE YEAR THE SPACE

677

00:35:59,870 --> 00:36:01,700

SHUTTLE FLEW FOR THE FIRST TIME.

678

00:36:01,700 --> 00:36:06,970

SO THAT WAS THE FIRST NEW  
SPACECRAFT IN A DECADE AT NASA,

679

00:36:06,970 --> 00:36:09,200  
SO IT WAS REALLY BIG NEWS.

680  
00:36:09,200 --> 00:36:12,200  
AND OF COURSE, ALSO, JUST THREE  
YEARS BEFORE THAT, THERE HAD

681  
00:36:12,200 --> 00:36:14,250  
BEEN AN ASTRONAUT SELECTION.

682  
00:36:14,250 --> 00:36:16,560  
THAT WAS WHEN THE FIRST WOMEN  
AND THE FIRST MINORITY

683  
00:36:16,560 --> 00:36:18,280  
ASTRONAUTS WERE SELECTED.

684  
00:36:18,280 --> 00:36:21,420  
SO THAT WAS ANOTHER REALLY BIG  
DEAL.

685  
00:36:21,420 --> 00:36:24,620  
AND A COUPLE YEARS AFTER THE  
SHUTTLE FLEW FOR THE FIRST TIME,

686  
00:36:24,620 --> 00:36:27,980  
NASA WAS DOING ANOTHER ASTRONAUT  
SELECTION AND SOME OF THE OTHER

687  
00:36:27,980 --> 00:36:30,610  
GRADUATE STUDENTS I KNEW WERE  
APPLYING.

688  
00:36:30,610 --> 00:36:34,180  
THAT'S REALLY WHEN I STARTED TO  
THINK, WOW!

689  
00:36:34,180 --> 00:36:37,700  
WHAT A FANTASTIC CAREER THAT  
WOULD BE AND GOT THE INFORMATION

690

00:36:37,700 --> 00:36:41,860

FROM NASA AND MADE THE DECISION  
THAT AS SOON AS I FINISHED UP MY

691

00:36:41,860 --> 00:36:43,990

DOCTORATE, I WOULD APPLY TO THE  
ASTRONAUT PROGRAM.

692

00:36:43,990 --> 00:36:44,990

>> GREAT.

693

00:36:44,990 --> 00:36:46,540

THANK YOU ALL VERY MUCH.

694

00:36:46,540 --> 00:36:47,810

GREAT ANSWERS THERE.

695

00:36:47,810 --> 00:36:50,410

SO, ALL OF YOU CAN KIND OF SEE  
FROM THE ANSWERS THAT THEY'VE

696

00:36:50,410 --> 00:36:53,590

PROVIDED HERE, NOT ANYBODY  
SITTING UP ON THIS STAGE

697

00:36:53,590 --> 00:36:56,490

PROBABLY KNEW WHEN THEY WERE  
YOUR AGE THAT THEY WERE GOING TO

698

00:36:56,490 --> 00:36:58,760

END UP IN THESE POSITIONS UP  
HERE ON THIS STAGE.

699

00:36:58,760 --> 00:37:01,400

SO THAT LETS YOU KNOW THAT THERE  
IS DEFINITELY TIME FOR YOU TO

700

00:37:01,400 --> 00:37:03,090

CONSIDER WHAT IT IS YOU WANT TO DO.

701

00:37:03,090 --> 00:37:06,130

BUT EACH OF THEM ALSO TALKED ABOUT EXPOSING YOURSELVES,

702

00:37:06,130 --> 00:37:09,590

GIVING YOURSELVES OPPORTUNITY FOR WORKING IN THE SUMMER TIMES

703

00:37:09,590 --> 00:37:12,560

AND JUST EXPOSING YOURSELF TO THINGS IN THE S.T.E.M.

704

00:37:12,560 --> 00:37:13,810

CAREER, BECAUSE THAT IS KIND OF WHAT

705

00:37:13,810 --> 00:37:16,670

HOOKS YOU, WHEN YOU'RE ACTUALLY THERE PHYSICALLY DOING IT AND

706

00:37:16,670 --> 00:37:19,970

YOU GET A CHANCE TO SEE HOW FUN IT IS, HOW CLOSE AND PERSONAL,

707

00:37:19,970 --> 00:37:22,070

IT IS SOMETHING YOU NEVER WANT TO LET GO OF.

708

00:37:22,070 --> 00:37:25,460

NOW JUST A REMINDER FOR THOSE PEOPLE ON NASA-TV, YOU ARE

709

00:37:25,460 --> 00:37:28,850

WATCHING THE NASA WOMEN AND ACTION EVENT LIVE FROM GODDARD

710

00:37:28,850 --> 00:37:31,110

SPACEFLIGHT CENTER HERE IN  
GREENBELT, MARYLAND.

711

00:37:31,110 --> 00:37:33,710

WE CERTAINLY WANT YOU TO  
PARTICIPATE ALONG WITH US, SO IF

712

00:37:33,710 --> 00:37:38,800

YOU HAVE ANY QUESTIONS, PLEASE  
SEND THEM TO #WOMENATNASA†-- NO,

713

00:37:38,800 --> 00:37:41,380

I'M SORRY.

714

00:37:41,380 --> 00:37:42,670

#ASKNASAWOMEN.

715

00:37:42,670 --> 00:37:43,970

OKAY.

716

00:37:43,970 --> 00:37:45,890

LET'S GET SOME QUESTIONS FROM  
OUR STUDENTS.

717

00:37:45,890 --> 00:37:48,360

OUR FIRST QUESTION.

718

00:37:48,360 --> 00:37:49,360

>> HI.

719

00:37:49,360 --> 00:37:50,750

MY NAME IS TIFFANY JACKSON.

720

00:37:50,750 --> 00:37:52,970

I'M A SENIOR.

721

00:37:52,970 --> 00:37:57,390

MY QUESTION IS, WHAT QUALITIES  
THINK PUT YOU ABOVE OTHERS FOR

722

00:37:57,390 --> 00:38:01,480

YOUR POSITION IN LEADERSHIP?

723

00:38:01,480 --> 00:38:06,580

>> SENSE OF HUMOR.

724

00:38:06,580 --> 00:38:08,270

>> TEAMWORK.

725

00:38:08,270 --> 00:38:11,000

>> TEAMWORK SOMEBODY DEFINITELY  
ONE.

726

00:38:11,000 --> 00:38:12,000

TEAMWORK.

727

00:38:12,000 --> 00:38:13,000

>> YEAH.

728

00:38:13,000 --> 00:38:14,690

AND LISTENING.

729

00:38:14,690 --> 00:38:17,000

CONSENSUS BUILDING.

730

00:38:17,000 --> 00:38:18,950

>> I THINK IT PARTLY STARTS WITH  
YOUR EDUCATION.

731

00:38:18,950 --> 00:38:21,480

I THINK THAT WAS IMPORTANT TO  
ALL OF US IN GETTING THE

732

00:38:21,480 --> 00:38:24,240

POSITION THAT WE ARE.

733

00:38:24,240 --> 00:38:26,720

PART OF YOUR EARLY CAREER IS  
SORT OF BUILDING THAT

734

00:38:26,720 --> 00:38:29,110  
CREDIBILITY, SHOWING THAT YOU  
CAN APPLY WHAT YOU LEARNED IN

735

00:38:29,110 --> 00:38:34,190  
SCHOOL TO THE PROBLEM SOLVING  
THAT IS SO MUCH A PART OF WHAT

736

00:38:34,190 --> 00:38:37,130  
WE DO AT NASA AND WHAT IS DONE  
IN OTHER S.T.E.M.

737

00:38:37,130 --> 00:38:38,130  
CAREERS.

738

00:38:38,130 --> 00:38:40,530  
THEN I WOULD ADD WHAT EVERYBODY  
ELSE SAID AS WELL.

739

00:38:40,530 --> 00:38:46,100  
>> TAKE OPPORTUNITIES TO JUST  
SEND A MESSAGE TO Y'ALL, YOU

740

00:38:46,100 --> 00:38:48,940  
DON'T HAVE TO BE THE BEST IN  
MATH AND SCIENCE.

741

00:38:48,940 --> 00:38:51,362  
THAT'S MAYBE WHAT PEOPLE THAT I  
HEARD.

742

00:38:51,362 --> 00:38:53,790  
THAT TENDS TO WEED PEOPLE OUT OF  
THE S.T.E.M.

743

00:38:53,790 --> 00:38:54,790  
FIELD.

744

00:38:54,790 --> 00:38:58,980

THEY'RE IMPORTANT SO YOU NEED TO  
TAKE THOSE AS TOOLS, BUT DON'T

745

00:38:58,980 --> 00:39:00,810

WORRY ABOUT BEING NUMBER ONE AND  
TWO.

746

00:39:00,810 --> 00:39:02,290

IT'S TRAINING, SKILL  
DEVELOPMENT.

747

00:39:02,290 --> 00:39:06,611

BUT AGAIN, YOU CAN LOVE THE  
ARTS, DESIGN, MAKE THINGS, HELP

748

00:39:06,611 --> 00:39:07,611

PEOPLE IN HUMANKIND.

749

00:39:07,611 --> 00:39:10,500

THAT'S WHAT DOCTORS, ENGINEERS,  
SCIENTISTS, THAT'S WHAT WE ALL

750

00:39:10,500 --> 00:39:11,500

DO.

751

00:39:11,500 --> 00:39:12,740

SO THAT SHOULD BE THE PASSION.

752

00:39:12,740 --> 00:39:13,740

GO WITH THAT.

753

00:39:13,740 --> 00:39:14,740

BE PROFICIENT.

754

00:39:14,740 --> 00:39:18,110

DON'T WORRY ABOUT BEING THE  
BEST.

755

00:39:18,110 --> 00:39:19,410

I THINK YOU'LL GET THAT.

756

00:39:19,410 --> 00:39:21,290

I WANT TO PASS THAT ON.

757

00:39:21,290 --> 00:39:24,840

WE WANT TO CHANGE THE  
CONVERSATION WITH YOU.

758

00:39:24,840 --> 00:39:25,840

YOU'RE ALL IN.

759

00:39:25,840 --> 00:39:28,150

YOU'RE ALL SUPER TALENTED,  
YOU'RE HERE AND WE NEED EVERY

760

00:39:28,150 --> 00:39:29,600

SINGLE ONE OF YOU.

761

00:39:29,600 --> 00:39:31,540

>> THANK YOU FOR YOUR QUESTIONS.

762

00:39:31,540 --> 00:39:33,450

APPRECIATE THAT.

763

00:39:33,450 --> 00:39:39,490

>> OUR NEXT QUESTION.

764

00:39:39,490 --> 00:39:42,311

>> MY QUESTION IS, HOW WOULD YOU  
ADJUST TO WORKING IN A

765

00:39:42,311 --> 00:39:45,310

MALE-DOMINATED CAREER FIELD AND  
HAVE YOU EVER HAD TO CONFORM

766

00:39:45,310 --> 00:39:49,060  
YOUR PERSONALITY OR IDEAS WHILE  
WORKING IN THIS FIELD?

767  
00:39:49,060 --> 00:39:50,290  
>> WOW.

768  
00:39:50,290 --> 00:39:52,750  
GOOD QUESTION.

769  
00:39:52,750 --> 00:39:56,370  
>> I THINK WE SHOULD ALL COMMENT  
ON THAT.

770  
00:39:56,370 --> 00:40:02,270  
I WAS DEFINITELY IN MALE  
DOMINATED AEROSPACE ALL MY LIFE.

771  
00:40:02,270 --> 00:40:06,550  
I WAS 1 OF 2 WOMEN IN AEROSPACE  
ENGINEERING FOR UNDERGRADUATE.

772  
00:40:06,550 --> 00:40:10,580  
THEN IT GOT A LITTLE BIT BETTER  
IN GRADUATE SCHOOL BUT I WAS THE

773  
00:40:10,580 --> 00:40:17,830  
FIRST WOMAN FACULTY MEMBER, 1 OF  
35.

774  
00:40:17,830 --> 00:40:20,230  
I LIKE MEN.

775  
00:40:20,230 --> 00:40:21,320  
THAT'S GOOD.

776  
00:40:21,320 --> 00:40:23,060  
LIKE WORKING WITH EVERYBODY.

777

00:40:23,060 --> 00:40:24,330  
BUT IT'S VERY NOTICEABLE.

778  
00:40:24,330 --> 00:40:25,330  
I HAVE TO SAY.

779  
00:40:25,330 --> 00:40:36,360  
NOW OVER MY CAREER, WHEN IT-- I  
DISTINCTLY REMEMBER THE DAY I

780  
00:40:36,360 --> 00:40:40,320  
HAD A MAJORITY OF WOMEN IN MY  
GRADUATE COURSE, MAJORITY OF

781  
00:40:40,320 --> 00:40:41,780  
WOMEN THAN MEN.

782  
00:40:41,780 --> 00:40:42,780  
WOW.

783  
00:40:42,780 --> 00:40:49,380  
SO THIS ALSO TAUGHT ME A LOT.

784  
00:40:49,380 --> 00:40:50,380  
DON'T CHANGE YOURSELF.

785  
00:40:50,380 --> 00:40:51,380  
YOU KNOW?

786  
00:40:51,380 --> 00:40:55,810  
YOU GOT TO BE TRUE TO YOURSELF  
AND DON'T LET ANYONE CHANGE YOU.

787  
00:40:55,810 --> 00:40:57,480  
THAT SERVED ME WELL.

788  
00:40:57,480 --> 00:41:02,080  
YOU DON'T NEED TO BE LIKE THEM.

789

00:41:02,080 --> 00:41:04,840

SOMETIMES I CRY AT WORK.

790

00:41:04,840 --> 00:41:06,600

SOME OTHER†-- SOME PEOPLE WOULD  
GET IN A FIGHT AND THAT WOULD

791

00:41:06,600 --> 00:41:07,600

HURT MY FEELINGS.

792

00:41:07,600 --> 00:41:09,090

THEY WEREN'T EVEN TALKING TO ME.

793

00:41:09,090 --> 00:41:10,830

I'M CRYING.

794

00:41:10,830 --> 00:41:12,580

OH, GOODNESS?

795

00:41:12,580 --> 00:41:16,069

YOU KNOW, THAT'S OKAY.

796

00:41:16,069 --> 00:41:22,770

>> I THINK FOR ME, MINE HAS BEEN  
THAT I DON'T REALLY NOTICE I'M A

797

00:41:22,770 --> 00:41:23,860

WOMAN IN THE ROOM.

798

00:41:23,860 --> 00:41:25,810

I'M A PERSON ON THE TEAM.

799

00:41:25,810 --> 00:41:28,760

AND BECAUSE I MEAN FROM  
ELECTRICAL ENGINEERING IN

800

00:41:28,760 --> 00:41:33,050

COLLEGE, I WAS THE ONLY†-- MOST

OF THE TIMES THE ONLY WOMAN IN

801

00:41:33,050 --> 00:41:36,350

THE ROOM OR 1 OF 2 MAYBE  
PERHAPS.

802

00:41:36,350 --> 00:41:41,020

BUT I MIGHT†-- IT'S MORE IN  
HINDSIGHT THAT I REMEMBER THAT.

803

00:41:41,020 --> 00:41:44,070

WHEN I WAS IN THE ROOM, IT MIGHT  
BE JUST A REAL QUICK THOUGHT BUT

804

00:41:44,070 --> 00:41:48,790

I DIDN'T REALLY EVEN†-- IT  
DIDN'T FAZE ME IN ANY WAY.

805

00:41:48,790 --> 00:41:51,730

AND THEN WITHIN NASA, I'VE  
ALWAYS BEEN ONE ON THE TEAM.

806

00:41:51,730 --> 00:41:54,950

I'VE BEEN ONE OF THE PEOPLE ON  
THE TEAM GETTING THE JOB DONE.

807

00:41:54,950 --> 00:41:58,510

AND SO I'VE NEVER REALLY THOUGHT  
ABOUT OUR TEAM AS MEN AND WOMEN

808

00:41:58,510 --> 00:42:02,140

OR DIFFERENT COLORS OF PEOPLE OR  
ANYTHING ELSE.

809

00:42:02,140 --> 00:42:03,140

RIGHT?

810

00:42:03,140 --> 00:42:07,170

IT WAS JUST WE ALL HAVE A JOB TO  
DO AND WE NEED ALL OF US.

811

00:42:07,170 --> 00:42:08,900

WE DO REALLY HARD THINGS IN  
NASA.

812

00:42:08,900 --> 00:42:11,760

REALLY AMAZING THINGS, THINGS  
THAT NOBODY ELSE DOES.

813

00:42:11,760 --> 00:42:14,940

AND SO WE REALLY NEED THAT TEAM  
ALL COMING TOGETHER AND MAKING

814

00:42:14,940 --> 00:42:15,940

IT HAPPEN.

815

00:42:15,940 --> 00:42:20,120

SO I THINK THAT'S FOR ME HOW  
IT-- IT'S BEEN REALLY GOOD FOR

816

00:42:20,120 --> 00:42:25,310

ME AND I DIDN'T NECESSARILY-- I  
KNOW SOME PEOPLE NEED TO SEE

817

00:42:25,310 --> 00:42:29,620

THAT THERE IS A WOMAN IN THE  
ROLE BEFORE YOU FEEL CONFIDENT

818

00:42:29,620 --> 00:42:30,620

IN BEING THERE PERHAPS.

819

00:42:30,620 --> 00:42:31,950

I MEAN I'VE LEARNED THAT ALONG  
THE WAY.

820

00:42:31,950 --> 00:42:32,950

I NEVER DID.

821

00:42:32,950 --> 00:42:34,500

I NEVER THOUGHT ABOUT IT THAT WAY.

822

00:42:34,500 --> 00:42:40,510

IT JUST WAS†-- SO I THINK FOR ME IT REALLY HASN'T BEEN A BARRIER

823

00:42:40,510 --> 00:42:41,510

OR ANYTHING.

824

00:42:41,510 --> 00:42:46,070

BUT I THINK AS ELLEN SAID†-- I MEAN DAVA SAID, BE YOURSELF AND

825

00:42:46,070 --> 00:42:49,560

I THINK THAT'S WHAT'S MOST IMPORTANT.

826

00:42:49,560 --> 00:42:52,110

>> SOMETIMES ESPECIALLY EARLY IN MY CAREER, I WOULD BE FEELING

827

00:42:52,110 --> 00:42:56,120

LIKE I WAS ONE OF THE TEAM AND JUST LIKE EVERYBODY ELSE.

828

00:42:56,120 --> 00:42:58,400

AND ONE OF THE MEN WOULD MAKE A COMMENT THAT WOULD MAKE ME STOP

829

00:42:58,400 --> 00:43:01,720

AND THINK, OH, YEAH, THE REST OF THE PEOPLE IN THIS ROOM DON'T

830

00:43:01,720 --> 00:43:02,720

LOOK LIKE ME.

831

00:43:02,720 --> 00:43:06,100

THEY WOULD MAKE ME FEEL, OH, YEAH, YOU'RE A GIRL.

832

00:43:06,100 --> 00:43:08,340

SO A LOT OF THE TIMES,  
ESPECIALLY EARLY IN MY CAREER

833

00:43:08,340 --> 00:43:10,320

WHEN I WASN'T VERY  
SELF-CONFIDENT, I WOULD FEEL

834

00:43:10,320 --> 00:43:14,920

LIKE I HAD TO WORK TWICE AS HARD  
JUST TO BE TAKEN HALF AS

835

00:43:14,920 --> 00:43:15,920

SERIOUSLY.

836

00:43:15,920 --> 00:43:19,300

BUT AS I GOT MORE CONFIDENT, AS  
I WENT ON IN MY CAREER AND

837

00:43:19,300 --> 00:43:23,500

REALIZE THEY ACTUALLY NEED ME  
HERE IN THE ROOM, AND I NOW LOOK

838

00:43:23,500 --> 00:43:27,920

BACK AT PEOPLE LIKE KATHERINE  
JOHNSON WHO, AN PROGRAM WOMAN IN

839

00:43:27,920 --> 00:43:30,280

THE EARLY 1960s.

840

00:43:30,280 --> 00:43:32,520

A LOT OF THE TIME SHE WAS NOT  
MADE TO FEEL WELCOME IN THE

841

00:43:32,520 --> 00:43:33,520

ROOM.

842

00:43:33,520 --> 00:43:34,520

PEOPLE INTERVIEWED HER.

843

00:43:34,520 --> 00:43:38,580

SHE SAID, I KNEW I BELONGED  
THERE.

844

00:43:38,580 --> 00:43:41,820

SO NOW ESPECIALLY WHEN I GET A  
CHANCE TO TALK TO KIDS LIKE YOU,

845

00:43:41,820 --> 00:43:44,860

I SAW CHANNEL YOUR INNER  
KATHERINE JOHNSON.

846

00:43:44,860 --> 00:43:48,750

IF ANYBODY EVER MAKES YOU FEEL  
LIKE YOU DON'T BELONG IN THAT

847

00:43:48,750 --> 00:43:52,600

ROOM, REMEMBER HER AND SAY, I'M  
GOING TO BE LIKE KATHERINE

848

00:43:52,600 --> 00:43:56,690

JOHNSON AND I'M GOING TO FEEL  
LIKE I BELONG BECAUSE I DO AND

849

00:43:56,690 --> 00:44:00,060

THEY ACTUALLY NEED ME HERE TO  
GET THIS WORK DONE.

850

00:44:00,060 --> 00:44:03,300

>> YEAH, I WOULD SAY IT'S  
CHANGED A LOT THROUGHOUT MY

851

00:44:03,300 --> 00:44:04,300

CAREER.

852

00:44:04,300 --> 00:44:05,510

IT WAS HARDER WHEN I WAS YOUNG.

853

00:44:05,510 --> 00:44:07,930

I WOULD SAY WHEN I WAS IN  
COLLEGE AND GRADUATE SCHOOL AND

854

00:44:07,930 --> 00:44:12,720

EARLY ON IN MY CAREER, I WAS  
OFTEN THE ONLY WOMAN IN A CLASS

855

00:44:12,720 --> 00:44:14,660

OR 1 OF 2 AND I FELT  
SELF-CONSCIOUS.

856

00:44:14,660 --> 00:44:17,530

I FELT LIKE I STOOD OUT.

857

00:44:17,530 --> 00:44:20,840

IT MADE ME A LITTLE BIT  
RELUCTANT TO RACE MY HAND AND

858

00:44:20,840 --> 00:44:24,200

ASK QUESTIONS OR TO MAKE A  
COMMENT.

859

00:44:24,200 --> 00:44:26,840

ONE OF THE THINGS I DIDN'T GET  
AROUND TO WHEN I WAS IN SCHOOL,

860

00:44:26,840 --> 00:44:29,800

ALL PROFESSORS HAVE OFFICE HOURS  
WHEN YOU'RE IN COLLEGE.

861

00:44:29,800 --> 00:44:33,440

IF I HAD A QUESTION I WOULD GO  
SEE A PROFESSOR.

862

00:44:33,440 --> 00:44:38,240

TURNS OUT PROFESSORS LOVE IT  
WHEN STUDENTS COME TALK TO THEM!

863

00:44:38,240 --> 00:44:40,710  
PEOPLE SOMETIMES HAVE IN IDEA OF  
LIKE, ONLY PEOPLE WHO ARE

864  
00:44:40,710 --> 00:44:44,391  
STRUGGLING GO AND THEY'LL THINK  
SOMETHING†-- BUT ACTUALLY IF YOU

865  
00:44:44,391 --> 00:44:47,460  
TALK TO ANY PROFESSOR, THEY  
ACTUALLY LOVE IT WHEN PEOPLE

866  
00:44:47,460 --> 00:44:51,130  
COME AND TALK TO THEM BECAUSE IT  
SAYS YOU'RE REALLY INTERESTED IN

867  
00:44:51,130 --> 00:44:53,230  
WHAT THEY'RE TRYING TO TEACH AND  
YOU'RE TRYING TO GET THE MOST

868  
00:44:53,230 --> 00:44:54,970  
OUT OF THAT CLASS.

869  
00:44:54,970 --> 00:44:56,150  
THAT WAS ONE THING THAT HELPED.

870  
00:44:56,150 --> 00:45:00,770  
ONCE I STARTED WORKING, ONE OF  
THE PIECES OF ADVICE THAT A

871  
00:45:00,770 --> 00:45:04,240  
COUPLE OF MY EARLIER SUPERVISORS  
TOLD ME IS, YOU HAVE TO SPEAK UP

872  
00:45:04,240 --> 00:45:05,680  
WHEN YOU'RE MEETING.

873  
00:45:05,680 --> 00:45:07,260  
THAT WAS HARD FOR ME.

874

00:45:07,260 --> 00:45:08,930

I DON'T THINK IT WAS SO MUCH  
THAT I WAS A WOMAN.

875

00:45:08,930 --> 00:45:11,560

I WAS JUST NATURALLY A QUIET  
PERSON.

876

00:45:11,560 --> 00:45:14,860

DIDN'T NORMALLY RAISE MY HAND  
AND TALK.

877

00:45:14,860 --> 00:45:17,790

SO THAT WAS SOMETHING THAT I  
KIND OF NEEDED TO FORCE MYSELF

878

00:45:17,790 --> 00:45:21,070

TO DO A LITTLE BIT EARLIER IN MY  
CAREER.

879

00:45:21,070 --> 00:45:24,430

IT IS ACTUALLY GOTTEN LOTS AND  
LOTS EASIER AS I'VE GONE THROUGH

880

00:45:24,430 --> 00:45:25,510

MY CAREER.

881

00:45:25,510 --> 00:45:28,080

THAT'S ANOTHER THING THAT I  
WOULD TELL YOU, THAT IF YOU DO

882

00:45:28,080 --> 00:45:30,670

FEEL THAT WAY AT THE BEGINNING,  
IT IS NOT ALWAYS GOING TO FEEL

883

00:45:30,670 --> 00:45:32,490

THAT WAY.

884

00:45:32,490 --> 00:45:38,030

AND NOW I REALLY DON'T THINK  
ABOUT IT AT ALL.

885

00:45:38,030 --> 00:45:42,560

I'M A MEMBER OF THE TEAM AND IT  
IS NOT SOMETHING THAT IS REALLY

886

00:45:42,560 --> 00:45:47,140

PART OF WHAT I THINK ABOUT DAY  
TO DAY AT WORK.

887

00:45:47,140 --> 00:45:48,310

>> THANK YOU ALL VERY MUCH.

888

00:45:48,310 --> 00:45:49,860

THAT WAS WONDERFUL.

889

00:45:49,860 --> 00:45:50,860

WONDERFUL.

890

00:45:50,860 --> 00:45:52,350

[†APPLAUSE†]

>> NOW WE'RE GOING TO GO TO

891

00:45:52,350 --> 00:45:55,720

SOCIAL MEDIA AND ASK QUESTIONS  
FROM SOCIAL MEDIA.

892

00:45:55,720 --> 00:46:03,110

>> SO WE'VE BEEN WATCHING THE  
ASK WOMEN HASHTAG.

893

00:46:03,110 --> 00:46:09,010

KATHY FLYNN WANTS TO KNOW WHAT'S  
YOUR FAVORITE INVENTION?

894

00:46:09,010 --> 00:46:15,290

FROM EACH PANELIST.

895

00:46:15,290 --> 00:46:18,990  
>> YOU KNOW, ONE OF MY FAVORITE  
NASA INVENTIONS IS TWO

896  
00:46:18,990 --> 00:46:22,740  
PROFESSORS AT M.I.T., ONE OF  
WHOM IS AT NASA NOW THEY HAD THE

897  
00:46:22,740 --> 00:46:23,860  
STUDENTS FROM M.I.T.

898  
00:46:23,860 --> 00:46:26,070  
MUCH WITH A  
THE "STAR WARS" VIDEO WHERE LUKE

899  
00:46:26,070 --> 00:46:31,970  
SKYWALKER IS TRAINING WITH THAT  
LITTLE BALL AND LIGHT SABER.

900  
00:46:31,970 --> 00:46:35,900  
THERE WAS A LITTLE BALL THAT WAS  
FLOATING AROUND THAT HE WAS

901  
00:46:35,900 --> 00:46:36,900  
PRACTICING WITH.

902  
00:46:36,900 --> 00:46:40,930  
HE TOLD THE STUDENTS I WANT YOU  
TO INVENT ONE OF THOSE.

903  
00:46:40,930 --> 00:46:42,650  
IT'S CALLED SPHERES.

904  
00:46:42,650 --> 00:46:43,650  
IF YOU GOOGLE IT.

905  
00:46:43,650 --> 00:46:45,190  
IT IS LIVE UP ON THE SPACE  
STATION.

906

00:46:45,190 --> 00:46:51,640

STUDENTS GET TO OPERATE IT AND  
WE'RE EVEN USING IT TO SAY HOW

907

00:46:51,640 --> 00:46:55,010

CAN WE USE LITTLE ROBOTS LIKE  
THAT TO ACTUALLY DO WORK UP ON

908

00:46:55,010 --> 00:46:56,010

THE SPACE STATION.

909

00:46:56,010 --> 00:46:59,920

DAVA TALKED EARLIER ABOUT THE  
IMPORTANCE OF ARTS.

910

00:46:59,920 --> 00:47:01,580

THAT'S WHY IT IS SO CRITICAL.

911

00:47:01,580 --> 00:47:04,960

YOU HAVE TO IMAGINE SOMETHING  
BEFORE YOU INVENT IT.

912

00:47:04,960 --> 00:47:08,410

WHETHER WE GET OUR IDEAS FROM  
SCIENCE FICTION OR FROM

913

00:47:08,410 --> 00:47:12,830

INNOVATIVE FUTURE ENGINEER LIKE  
ONE OF YOU, IT IS THOSE GREAT

914

00:47:12,830 --> 00:47:17,010

IDEAS THAT TURN INTO INVENTIONS  
AND THAT'S WHAT'S SO IMPORTANT.

915

00:47:17,010 --> 00:47:21,050

>> I DON'T HAVE A FAVORITE PAST  
ONE BUT A FAVORITE FUTURE ONE

916

00:47:21,050 --> 00:47:26,980

WOULD BE TELEPORTING.

917

00:47:26,980 --> 00:47:33,870

I SENT MY CHILDREN A TEXT AND I  
MEANT TO SAY TELEWORKING AND IT

918

00:47:33,870 --> 00:47:37,250

SAID TELEPORTING.

919

00:47:37,250 --> 00:47:44,760

>> I DON'T HAVE A FAVORITE.

920

00:47:44,760 --> 00:47:49,571

ONE OF THE ANCILLARY JOBS THAT I  
HAVE IS I'M ON THE NOMINATION

921

00:47:49,571 --> 00:47:53,410

EVALUATION COMMITTEE FOR THE  
NATIONAL MEDAL OF TECHNOLOGY AND

922

00:47:53,410 --> 00:47:54,410

INNOVATION.

923

00:47:54,410 --> 00:47:57,100

SO OUR COMMITTEE MAKES  
RECOMMENDATIONS FIRST TO THE

924

00:47:57,100 --> 00:48:00,140

SECRETARY OF COMMERCE, AND THEN  
TO THE PRESIDENT.

925

00:48:00,140 --> 00:48:03,930

AND ONE OF THE CRITERIA IS THAT  
IT NEEDS TO HAVE MADE A MAJOR

926

00:48:03,930 --> 00:48:07,140

IMPACT ON SOCIETY.

927

00:48:07,140 --> 00:48:10,400

AND SO A LOT OF THE NOMINATIONS  
THAT WE GET ARE FROM WORK THAT

928

00:48:10,400 --> 00:48:14,550

WE'VE DONE 30 YEARS AGO BECAUSE  
OF THE FACT THAT THAT WORK†--

929

00:48:14,550 --> 00:48:20,300

THAT INVENTIONS HAVE NOW SEEPED  
INTO COMPANIES THAT MAY NOW BE

930

00:48:20,300 --> 00:48:23,030

VERY LARGE MULTI-NATIONAL  
COMPANIES.

931

00:48:23,030 --> 00:48:26,390

BECAUSE OF THAT, VERY FEW OF THE  
PEOPLE THAT WE READ ABOUT ARE

932

00:48:26,390 --> 00:48:27,390

WOMEN.

933

00:48:27,390 --> 00:48:30,710

AND SO I ALWAYS SIT THERE AND  
THINK, WELL, I CERTAINLY HOPE

934

00:48:30,710 --> 00:48:33,590

THAT AS WE'RE DOING THIS 20  
YEARS FROM NOW THAT WE'LL SEE A

935

00:48:33,590 --> 00:48:37,750

LOT MORE WOMEN WHO HAVE BEEN  
INVOLVED IN INVENTIONS THAT HAVE

936

00:48:37,750 --> 00:48:41,840

NOW GROWN INTO COMPANIES OR  
PRODUCTS OR THINGS THAT HAVE A

937

00:48:41,840 --> 00:48:44,850

GREAT IMPACT ON OUR SOCIETY.

938

00:48:44,850 --> 00:48:48,820

>> ONE GREAT EXAMPLE OF THAT IS  
THE JAWS OF LIFE.

939

00:48:48,820 --> 00:48:49,820

ARE YOU FAMILIAR WITH THAT?

940

00:48:49,820 --> 00:48:53,430

THE JAWS OF LIFE THAT PEOPLE USE  
TO CUT PEOPLE OUT OF VEHICLES?

941

00:48:53,430 --> 00:48:57,050

WE HAD TO INVENT THAT AS A PART  
OF NASA WORK BECAUSE WE HAD THE

942

00:48:57,050 --> 00:49:00,750

IMPOSSIBLE TASK OF TRYING TO CUT  
METAL ON THE INTERNATIONAL SPACE

943

00:49:00,750 --> 00:49:03,170

STATION IN A WEIGHTLESS  
ENVIRONMENT.

944

00:49:03,170 --> 00:49:05,740

SO WE DEVELOPED IT FOR THAT AND  
TRANSFERRED IT TO THE PRIVATE

945

00:49:05,740 --> 00:49:09,010

INDUSTRY SO WE'RE SAVING LIVES  
EVERY DAY WHEN PEOPLE GET IN

946

00:49:09,010 --> 00:49:12,020

THOSE ACCIDENTS AND CARS ARE ALL  
MANGLED UP AND YOU HAVE TO HAVE

947

00:49:12,020 --> 00:49:13,890

PEOPLE CUT OUT OF THE VEHICLES.

948

00:49:13,890 --> 00:49:16,780  
SO THE NEXT QUESTION THAT I HAVE  
FOR YOU†-- WELL, FIRST OF ALL IN

949  
00:49:16,780 --> 00:49:20,300  
THE AUDIENCE HERE, WE HAVE MANY  
GIRLS HERE, AND THEY TALKED TO

950  
00:49:20,300 --> 00:49:23,030  
YOU ABOUT WHERE THEY WERE WHEN  
THEY WERE IN YOUR SEATS IN HIGH

951  
00:49:23,030 --> 00:49:24,030  
SCHOOL.

952  
00:49:24,030 --> 00:49:25,360  
HOW MANY OF YOU HAVE THOUGHT  
ABOUT WHAT IT IS THAT YOU WANT

953  
00:49:25,360 --> 00:49:28,630  
TO DO WHEN YOU BECOME AN ADULT,  
A FULL ADULT?

954  
00:49:28,630 --> 00:49:30,670  
ARE ANY OF YOU INTERESTED IN  
S.T.E.M.

955  
00:49:30,670 --> 00:49:31,810  
FIELDS ALREADY?

956  
00:49:31,810 --> 00:49:32,920  
YAY!

957  
00:49:32,920 --> 00:49:35,060  
LOOK AT ALL THESE HANDS!

958  
00:49:35,060 --> 00:49:36,110  
S.T.E.M.-RELATED FIELDS.

959

00:49:36,110 --> 00:49:38,920  
ONE THING I'D LIKE TO ASK OF THE  
PANEL MEMBERS, WHAT ONE PIECE OF

960  
00:49:38,920 --> 00:49:41,880  
ADVICE WOULD YOU GIVE TO THE  
YOUNG GIRLS OUT THERE WHO ARE

961  
00:49:41,880 --> 00:49:45,130  
INTERESTED OR NOT EVEN YET  
INTERESTED BUT WHO ARE THINKING

962  
00:49:45,130 --> 00:49:46,130  
ABOUT S.T.E.M.

963  
00:49:46,130 --> 00:49:47,600  
RELATED CAREERS?

964  
00:49:47,600 --> 00:49:48,600  
WHAT ONE PIECE OF.

965  
00:49:48,600 --> 00:49:50,270  
ADVICE WOULD YOU OFFER THEM?

966  
00:49:50,270 --> 00:49:52,690  
>> MINE'S SIMPLE.

967  
00:49:52,690 --> 00:49:53,690  
YOU CAN DO IT.

968  
00:49:53,690 --> 00:49:55,340  
THEY ARE THE MOST FUN FIELDS.

969  
00:49:55,340 --> 00:49:56,490  
I'M VERY BIASED.

970  
00:49:56,490 --> 00:50:00,320  
BUT I SAY GO FOR IT AND YOU CAN  
ABSOLUTELY DO IT.

971

00:50:00,320 --> 00:50:01,320  
YOU'LL NEVER REGRET IT.

972

00:50:01,320 --> 00:50:04,440  
YOU'LL NEVER LOOK BACK.

973

00:50:04,440 --> 00:50:06,770  
>> I COMPLETELY AGREE WITH THAT.

974

00:50:06,770 --> 00:50:11,860  
MAINLY, DON'T LET FEAR GET IN  
YOUR WAY.

975

00:50:11,860 --> 00:50:13,010  
THAT'S A NORMAL FEELING.

976

00:50:13,010 --> 00:50:16,560  
IT MEANS YOU'RE DOING SOMETHING  
THAT'S HARD AND IT'S OKAY.

977

00:50:16,560 --> 00:50:18,200  
THAT MEANS YOU'RE CHALLENGING  
YOURSELF.

978

00:50:18,200 --> 00:50:23,590  
SO DON'T LET FEAR STOP YOU FROM  
DOING THINGS.

979

00:50:23,590 --> 00:50:24,590  
>> THE S.T.E.M.

980

00:50:24,590 --> 00:50:26,510  
FIELDS ARE A  
TOOL THAT WE USE TO HELP MAKE

981

00:50:26,510 --> 00:50:29,110  
THE WORLD A BETTER PLACE,  
WHETHER IT'S STUDYING CLIMATE

982

00:50:29,110 --> 00:50:32,290

CHANGE, WHETHER IT'S INVENTIONS  
THAT SPIN OFF FROM NASA THAT

983

00:50:32,290 --> 00:50:34,850

HELP US CLEAN WATER IN  
DEVELOPING COUNTRIES AROUND THE

984

00:50:34,850 --> 00:50:35,850

WORLD.

985

00:50:35,850 --> 00:50:38,520

SO PLEASE GO INTO THEM BECAUSE  
WE HAVE ALL THESE CHALLENGES IN

986

00:50:38,520 --> 00:50:42,460

FRONT OF US FROM CLIMATE CHANGE,  
GETTING HUMANS TO MARS, TO

987

00:50:42,460 --> 00:50:44,530

LIVING IN THIS VERY  
TECHNOLOGICAL WORLD.

988

00:50:44,530 --> 00:50:48,780

I REALLY WANT YOU GUYS TO STICK  
WITH IT, FOLLOW YOUR DREAMS AND

989

00:50:48,780 --> 00:50:51,059

BECOME AN ENGINEER OR A  
SCIENTIST.

990

00:50:51,059 --> 00:50:52,059

>> WONDERFUL.

991

00:50:52,059 --> 00:50:54,910

>> I'D LIKE TO SAY MAKE SURE YOU  
KEEP YOUR OPTIONS OPEN.

992

00:50:54,910 --> 00:50:59,100  
THAT HAS A LOT TO DO WITH  
CLASSES YOU TAKE IN HIGH SCHOOL

993  
00:50:59,100 --> 00:51:03,010  
AND WHAT YOU END UP TAKING IN  
COLLEGE.

994  
00:51:03,010 --> 00:51:05,510  
IT IS IMPORTANT NOT TO NARROW  
DOWN TOO SOON AND TO REALIZE

995  
00:51:05,510 --> 00:51:09,350  
YOUR INTERESTS MAY CHANGE, THE  
WORLD MAY CHANGE, AND IF YOU

996  
00:51:09,350 --> 00:51:12,240  
HAVE SOME OF THAT BEHIND YOU,  
YOU HAVE SO MUCH MORE OPTIONS

997  
00:51:12,240 --> 00:51:13,690  
AVAILABLE TO YOU.

998  
00:51:13,690 --> 00:51:14,690  
>> GREAT.

999  
00:51:14,690 --> 00:51:16,740  
WELL, I'D LIKE TO THANK YOU,  
PANEL MEMBERS, SO MUCH FOR

1000  
00:51:16,740 --> 00:51:20,310  
JOINING US HERE FOR THIS NASA  
WOMEN IN ACTION ACTIVITY.

1001  
00:51:20,310 --> 00:51:22,780  
THANK YOU ALL SO MUCH IN THE  
AUDIENCE FOR JOINING US AND

1002  
00:51:22,780 --> 00:51:30,490  
THANK YOU TO ALL OF YOU OUT

THERE ON NASA-TV FOR JOINING US.

1003

00:51:30,490 --> 00:51:34,400

[†APPLAUSE†]

I'D ALSO LIKE TO THANK DR.

1004

00:51:34,400 --> 00:51:35,880

JO

HANDLESMAN FOR JOINING US.

1005

00:51:35,880 --> 00:51:42,330

WE REALLY APPRECIATE YOU JOINING  
US AND TAKING THE TIME TO BE

1006

00:51:42,330 --> 00:51:43,330

WITH US TODAY.

1007

00:51:43,330 --> 00:51:45,120

AND FOR THOSE OF YOU WHO OUT  
THERE WHO MISSED IT OR YOU CAME

1008

00:51:45,120 --> 00:51:46,330

IN LATE, DON'T WORRY.

1009

00:51:46,330 --> 00:51:47,960

WE'VE ACTUALLY RECORDED THIS.

1010

00:51:47,960 --> 00:51:53,560

YOU CAN WATCH THIS ON NASA-TV AT  
NASA.GOV/NASATV.

1011

00:51:53,560 --> 00:51:55,180

THANK YOU VERY MUCH FOR JOINING  
US.