

**Audio of NASA Administrator Charles Bolden live interview by Miles O'Brien on Public Radio International's "The Takeaway" Nov. 24, 2009. Bolden discussed yesterday's launch by President Obama of the "Educate to Innovate" campaign, a nationwide effort to help reach the administration's goal of moving American students from the middle of the pack to the front in science and math achievement over the next decade.**

1  
00:00:13,110 --> 00:00:11,030  
good music the astronauts aboard the

2  
00:00:14,789 --> 00:00:13,120  
international space station a dozen of

3  
00:00:15,990 --> 00:00:14,799  
them in all i've been up for hours

4  
00:00:17,109 --> 00:00:16,000  
already they're in the middle of a busy

5  
00:00:18,710 --> 00:00:17,119  
day they're about to hold a news

6  
00:00:20,230 --> 00:00:18,720  
conference in a little less than 30

7  
00:00:22,070 --> 00:00:20,240  
minutes they're going to talk about the

8  
00:00:24,230 --> 00:00:22,080  
week-long shuttle resupply mission to

9  
00:00:25,589 --> 00:00:24,240  
the station a successful mission

10  
00:00:27,269 --> 00:00:25,599  
i'll be a little busy but if i had a

11  
00:00:29,910 --> 00:00:27,279  
chance to pose them a question i would

12  
00:00:33,510 --> 00:00:29,920  
ask them how they think nasa can help

13  
00:00:36,150 --> 00:00:33,520

stem the tide on the stem problem and by

14

00:00:37,830 --> 00:00:36,160

that i'm referring to science technology

15

00:00:39,910 --> 00:00:37,840

engineering and math education and

16

00:00:42,229 --> 00:00:39,920

acronyms stem well it's nasa yeah you

17

00:00:44,709 --> 00:00:42,239

got to use that right of course american

18

00:00:46,310 --> 00:00:44,719

15 year olds now rank 21st in science

19

00:00:49,350 --> 00:00:46,320

25th and math when compared to their

20

00:00:51,110 --> 00:00:49,360

peers around the world 21st in science

21

00:00:52,549 --> 00:00:51,120

25th of math how did that happen

22

00:00:54,229 --> 00:00:52,559

president obama tackled the issue

23

00:00:56,229 --> 00:00:54,239

yesterday at the white house

24

00:00:58,950 --> 00:00:56,239

this isn't news we've seen worrying

25

00:01:01,270 --> 00:00:58,960

statistics like this for years yet time

26  
00:01:03,830 --> 00:01:01,280  
and again we've let partisan and petty

27  
00:01:05,830 --> 00:01:03,840  
bickering stand in the way of progress

28  
00:01:07,750 --> 00:01:05,840  
and time and again as a nation we've let

29  
00:01:09,590 --> 00:01:07,760  
our children down we can't keep doing

30  
00:01:11,350 --> 00:01:09,600  
that in the audience for that event lots

31  
00:01:13,109 --> 00:01:11,360  
of high school kids or secretaries of

32  
00:01:14,950 --> 00:01:13,119  
education and energy sally ride was

33  
00:01:17,510 --> 00:01:14,960  
there and the nasa administrator charlie

34  
00:01:20,230 --> 00:01:17,520  
bolden former astronaut marine fighter

35  
00:01:21,749 --> 00:01:20,240  
pilot the son of two educators and some

36  
00:01:23,270 --> 00:01:21,759  
full disclosure here i'm on the nasa

37  
00:01:25,350 --> 00:01:23,280  
advisory council heading the committee

38  
00:01:26,710 --> 00:01:25,360

on education and public outreach so i

39

00:01:27,910 --> 00:01:26,720

might have a little bit of a conflict of

40

00:01:29,670 --> 00:01:27,920

interest here good morning charlie good

41

00:01:31,910 --> 00:01:29,680

to have you with us good morning miles

42

00:01:34,390 --> 00:01:31,920

how are you doing i'm doing well um what

43

00:01:36,230 --> 00:01:34,400

can nasa do to inspire and engage kids

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00:01:37,670 --> 00:01:36,240

and get them excited about science as

45

00:01:39,109 --> 00:01:37,680

the president said let's make science

46

00:01:42,069 --> 00:01:39,119

cool again

47

00:01:43,590 --> 00:01:42,079

well our primary intent is to to expose

48

00:01:45,429 --> 00:01:43,600

them to the opportunities that are

49

00:01:47,590 --> 00:01:45,439

available in math and science uh in

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00:01:49,270 --> 00:01:47,600

engineering help them understand exactly

51  
00:01:51,030 --> 00:01:49,280  
what engineering means you know what is

52  
00:01:52,310 --> 00:01:51,040  
it because we we throw the term around

53  
00:01:53,590 --> 00:01:52,320  
but there are a lot of teachers who

54  
00:01:54,789 --> 00:01:53,600  
don't even know what it means to be an

55  
00:01:56,630 --> 00:01:54,799  
engineer so

56  
00:01:59,429 --> 00:01:56,640  
we have lots of assets in the way of

57  
00:02:01,270 --> 00:01:59,439  
astronauts and spaceships and ten

58  
00:02:03,109 --> 00:02:01,280  
centers around the country that we

59  
00:02:05,190 --> 00:02:03,119  
starting this summer are hoping to to

60  
00:02:06,789 --> 00:02:05,200  
use to expose as many kids as possible

61  
00:02:08,630 --> 00:02:06,799  
to to the opportunities available in

62  
00:02:10,630 --> 00:02:08,640  
these fields yeah some of this is is

63  
00:02:12,550 --> 00:02:10,640

beyond nasa's purview because some of it

64

00:02:14,070 --> 00:02:12,560

is the way it is taught in classrooms

65

00:02:15,910 --> 00:02:14,080

but but

66

00:02:18,869 --> 00:02:15,920

nasa is a great reminder to them that

67

00:02:20,949 --> 00:02:18,879

engineering can lead you to great goals

68

00:02:22,550 --> 00:02:20,959

that's correct and you know

69

00:02:24,630 --> 00:02:22,560

just by being in communities the way

70

00:02:26,790 --> 00:02:24,640

that that we are attempting to be by by

71

00:02:28,470 --> 00:02:26,800

allowing astronauts to go into schools

72

00:02:30,630 --> 00:02:28,480

where they would not otherwise see

73

00:02:33,350 --> 00:02:30,640

someone who has attained that particular

74

00:02:35,030 --> 00:02:33,360

height in life um that opens new doors

75

00:02:36,869 --> 00:02:35,040

to kids that never imagined they could

76

00:02:38,630 --> 00:02:36,879

do that before

77

00:02:40,229 --> 00:02:38,640

charlie i mean with all the budgetary

78

00:02:42,309 --> 00:02:40,239

restrictions at nasa and the

79

00:02:44,949 --> 00:02:42,319

frustrations over the last 10 to 15

80

00:02:47,350 --> 00:02:44,959

years is nasa a great place for an

81

00:02:49,350 --> 00:02:47,360

engineer to have a career these days

82

00:02:52,229 --> 00:02:49,360

nasa is a fantastic place for engineers

83

00:02:54,550 --> 00:02:52,239

to have have a place to work in fact

84

00:02:56,790 --> 00:02:54,560

i think in the latest poll of

85

00:02:58,949 --> 00:02:56,800

best places to work in the country

86

00:03:00,869 --> 00:02:58,959

nasa is either number one or number two

87

00:03:03,270 --> 00:03:00,879

as a general rule unless you're working

88

00:03:04,630 --> 00:03:03,280

in washington but but the nasa centers

89

00:03:06,630 --> 00:03:04,640

are great places to work we have

90

00:03:09,910 --> 00:03:06,640

tremendous programs for

91

00:03:11,990 --> 00:03:09,920

college interns and co-ops and

92

00:03:14,710 --> 00:03:12,000

in fact the secretary for the present

93

00:03:16,630 --> 00:03:14,720

crew sts-129 i was listening to her do

94

00:03:18,790 --> 00:03:16,640

an interview yesterday she came to the

95

00:03:20,470 --> 00:03:18,800

nasa family as a high school co-op and

96

00:03:22,550 --> 00:03:20,480

found that it was something that would

97

00:03:24,710 --> 00:03:22,560

allow her to contribute to the space

98

00:03:26,229 --> 00:03:24,720

program and she's just as important as a

99

00:03:27,830 --> 00:03:26,239

as an astronaut on the shuttle all right

100

00:03:29,509 --> 00:03:27,840

well help us out you know john and i are

101  
00:03:31,430 --> 00:03:29,519  
here we we grew up in the generation and

102  
00:03:33,350 --> 00:03:31,440  
you were there too where we watched the

103  
00:03:35,190 --> 00:03:33,360  
space race unfold you know the the

104  
00:03:37,350 --> 00:03:35,200  
sister grace edwards would roll the tv

105  
00:03:39,030 --> 00:03:37,360  
in and we watched the launches we were

106  
00:03:40,789 --> 00:03:39,040  
all engaged because it was so much a

107  
00:03:41,910 --> 00:03:40,799  
part of our lives how do we recreate

108  
00:03:43,430 --> 00:03:41,920  
that

109  
00:03:45,509 --> 00:03:43,440  
well you know miles as you and i have

110  
00:03:47,110 --> 00:03:45,519  
talked in the past we need again we need

111  
00:03:49,270 --> 00:03:47,120  
to get out on the street we need to

112  
00:03:51,430 --> 00:03:49,280  
pound the pavement and help kids

113  
00:03:53,750 --> 00:03:51,440

understand not just kids help kids and

114

00:03:55,429 --> 00:03:53,760

their parents uh understand what we're

115

00:03:57,429 --> 00:03:55,439

trying to do now we're involved in an

116

00:03:59,110 --> 00:03:57,439

incredible and i won't call it a race

117

00:04:01,670 --> 00:03:59,120

but we're involved in an incredible

118

00:04:03,110 --> 00:04:01,680

contest for technological leadership in

119

00:04:04,949 --> 00:04:03,120

the world and the only way we can

120

00:04:06,390 --> 00:04:04,959

maintain that leadership is by

121

00:04:08,070 --> 00:04:06,400

continuing to do the types of

122

00:04:09,990 --> 00:04:08,080

engineering development and innovation

123

00:04:12,309 --> 00:04:10,000

that uh nasa and the nation have always

124

00:04:13,830 --> 00:04:12,319

been known for charles what we intend to

125

00:04:15,750 --> 00:04:13,840

do charles i i need to disclose

126

00:04:18,789 --> 00:04:15,760

something miles disclosed that he's uh

127

00:04:20,469 --> 00:04:18,799

you know on on the commission right yeah

128

00:04:22,790 --> 00:04:20,479

i was one of the um

129

00:04:25,270 --> 00:04:22,800

journalists in space candidates um any

130

00:04:27,430 --> 00:04:25,280

chance i could redeem that for a ride

131

00:04:29,909 --> 00:04:27,440

well you never know john uh you know we

132

00:04:31,830 --> 00:04:29,919

only have a few flights left in 2010 but

133

00:04:34,469 --> 00:04:31,840

but there will be other vehicles so that

134

00:04:37,189 --> 00:04:34,479

the the the message for people is that

135

00:04:39,350 --> 00:04:37,199

uh going into space does not end when

136

00:04:40,950 --> 00:04:39,360

when the shuttle is phased out we're

137

00:04:42,070 --> 00:04:40,960

we're hoping to develop another vehicle

138

00:04:43,590 --> 00:04:42,080

we're going to be dependent on the

139

00:04:45,590 --> 00:04:43,600

russians and and other international

140

00:04:47,590 --> 00:04:45,600

partners for a while but uh nasa

141

00:04:49,030 --> 00:04:47,600

engineers right now are busily working

142

00:04:50,070 --> 00:04:49,040

to try to develop a follow-on for

143

00:04:51,110 --> 00:04:50,080

shuttle all right well let's talk about

144

00:04:53,350 --> 00:04:51,120

that for just a minute because we're

145

00:04:55,830 --> 00:04:53,360

talking about a five maybe seven year

146

00:04:57,670 --> 00:04:55,840

gap there when the shuttle retires

147

00:04:59,350 --> 00:04:57,680

probably 2011 now

148

00:05:01,749 --> 00:04:59,360

to whenever this next vehicle comes

149

00:05:04,230 --> 00:05:01,759

along that's it what do you do to keep

150

00:05:05,909 --> 00:05:04,240

kids engaged keep them excited about

151

00:05:08,870 --> 00:05:05,919

being a part of this whole science and

152

00:05:10,629 --> 00:05:08,880

engineering campaign during that period

153

00:05:12,230 --> 00:05:10,639

well miles will still have astronauts

154

00:05:15,670 --> 00:05:12,240

who are going venturing into space and

155

00:05:16,710 --> 00:05:15,680

will be there 365 days a year american

156

00:05:18,710 --> 00:05:16,720

astronauts

157

00:05:21,510 --> 00:05:18,720

it will be it will be not unlike the

158

00:05:23,990 --> 00:05:21,520

period of time between 1975 when we flew

159

00:05:26,550 --> 00:05:24,000

the last apollo mission in apollo soyuz

160

00:05:28,790 --> 00:05:26,560

in 1981 when we launched shuttle during

161

00:05:29,670 --> 00:05:28,800

that period of time we had no flights we

162

00:05:32,870 --> 00:05:29,680

had no

163

00:05:35,029 --> 00:05:32,880

no americans going into space our soviet

164

00:05:36,710 --> 00:05:35,039

back then counterparts were but

165

00:05:39,110 --> 00:05:36,720

so we're going to go through a period of

166

00:05:41,430 --> 00:05:39,120

time where we don't have a an american

167

00:05:43,749 --> 00:05:41,440

organic capability to get to space but

168

00:05:44,790 --> 00:05:43,759

we have uh scheduled seats on soyuz

169

00:05:47,749 --> 00:05:44,800

where we're going to have american

170

00:05:49,909 --> 00:05:47,759

astronauts going into space 365 days

171

00:05:51,590 --> 00:05:49,919

over the next five minutes marching kids

172

00:05:53,990 --> 00:05:51,600

can do that charlie marching forward

173

00:05:56,150 --> 00:05:54,000

what is nasa's mission is it to go to a

174

00:05:57,510 --> 00:05:56,160

planet or is it to inspire kids and and

175

00:05:59,029 --> 00:05:57,520

have them uh

176

00:06:01,270 --> 00:05:59,039

take up these uh professions of

177

00:06:03,510 --> 00:06:01,280

engineering and mathematics and science

178

00:06:05,510 --> 00:06:03,520

my number one goal miles i i i learned

179

00:06:07,749 --> 00:06:05,520

something and that is you can't inspire

180

00:06:10,790 --> 00:06:07,759

someone if they haven't been exposed to

181

00:06:12,870 --> 00:06:10,800

it so uh again as you've heard us talk

182

00:06:15,029 --> 00:06:12,880

about on the nasa advisory council we

183

00:06:17,670 --> 00:06:15,039

want to find ways to get nasa engineers

184

00:06:19,909 --> 00:06:17,680

uh nasa astronauts out into schools into

185

00:06:21,670 --> 00:06:19,919

communities so that we can let kids know

186

00:06:23,990 --> 00:06:21,680

that there are opportunities there once

187

00:06:25,430 --> 00:06:24,000

we do that then we can inspire them but

188

00:06:26,870 --> 00:06:25,440

we've got to expose them to what's

189

00:06:29,590 --> 00:06:26,880

available we've got to expose them to

190

00:06:31,749 --> 00:06:29,600

airplanes and to to drones or un you

191

00:06:33,830 --> 00:06:31,759

know unmanned aerial vehicles uh rockets

192

00:06:35,110 --> 00:06:33,840

things like that so that's our mars

193

00:06:36,550 --> 00:06:35,120

rover

194

00:06:37,909 --> 00:06:36,560

all right charlie bolden nasa

195

00:06:38,950 --> 00:06:37,919

administrator thanks for your time this

196

00:06:40,390 --> 00:06:38,960

morning