



1  
00:00:00,536 --> 00:00:01,806  
Hi I'm Erin Warrilow

2  
00:00:02,036 --> 00:00:05,236  
from Dresden Middle School  
and this is NASA Now.

3  
00:00:06,516 --> 00:00:26,776  
[ Sound Effects ]

4  
00:00:27,276 --> 00:00:31,686  
Hi, I'm Chris and in  
today's program, we will talk

5  
00:00:31,686 --> 00:00:32,646  
with three experts

6  
00:00:32,866 --> 00:00:34,846  
from different fields  
who all work at NASA.

7  
00:00:35,316 --> 00:00:37,116  
We'll find out what  
their jobs entail

8  
00:00:37,176 --> 00:00:40,066  
and why education has been so  
important to their success.

9  
00:00:40,456 --> 00:00:43,686  
That's ahead, but first, here's  
what's happening at NASA Now.

10  
00:00:44,516 --> 00:00:46,936  
[ Sound Effects ]

11  
00:00:47,436 --> 00:00:50,206  
A cosmic coincidence  
leads to new discoveries.

12

00:00:50,716 --> 00:00:52,726

. . While most of us were  
anticipating the flyby

13

00:00:52,726 --> 00:00:56,376

of Asteroid 2012 DA14,  
another cosmic event came

14

00:00:56,376 --> 00:00:57,646

as a complete surprise.

15

00:00:58,226 --> 00:01:02,226

On February 14th, a meteor  
unrelated to DA14 broke

16

00:01:02,286 --> 00:01:04,816

through the Earth's atmosphere;  
crashing down over Russia

17

00:01:04,816 --> 00:01:06,576

and injuring over  
a thousand people.

18

00:01:07,176 --> 00:01:09,756

Russian scientists are  
studying fragments collected

19

00:01:09,756 --> 00:01:11,806

from the meteorite in  
an effort learn more

20

00:01:11,806 --> 00:01:13,776

about its original  
size and composition.

21

00:01:14,316 --> 00:01:17,226

Information gathered from both  
of these events can reveal more

22

00:01:17,226 --> 00:01:19,616

about our universe; even  
helping us to predict

23

00:01:19,616 --> 00:01:21,886

and track more Near Earth  
Objects in the future.

24

00:01:22,516 --> 00:01:25,196

[ Sound Effects ]

25

00:01:25,696 --> 00:01:27,856

You're about to hear from  
three different people,

26

00:01:27,856 --> 00:01:29,596

all working on different  
projects

27

00:01:29,596 --> 00:01:31,126

that are critical  
to NASA's mission.

28

00:01:31,546 --> 00:01:33,966

Whether they are  
underwater, in an observatory

29

00:01:34,066 --> 00:01:37,356

or managing a high tech team,  
they all play a vital role

30

00:01:37,356 --> 00:01:40,646

in furthering our understanding  
of our world and the universe.

31

00:01:41,516 --> 00:01:45,686

[ Music ]

32

00:01:46,186 --> 00:01:49,456

My name is Mitzi Adams,  
I'm an astrophysicist.

33

00:01:49,456 --> 00:01:54,726

The goal of solar studies is

34

00:01:54,856 --> 00:01:58,956

to understand why the  
solar corona is so hot,

35

00:01:59,816 --> 00:02:02,656

to understand why the  
solar cycle occurs,

36

00:02:03,496 --> 00:02:07,026

to understand what causes  
solar flares to occur.

37

00:02:07,686 --> 00:02:10,286

The best part of  
being a scientist is

38

00:02:10,286 --> 00:02:13,736

to make discoveries,  
so when I make any kind

39

00:02:13,736 --> 00:02:16,646

of discovery that's  
the aha moment

40

00:02:16,796 --> 00:02:19,176

or the  
no-one-has-seen-this-before

41

00:02:19,176 --> 00:02:19,526

moment.

42

00:02:20,376 --> 00:02:21,936

That is really, really exciting.

43

00:02:22,646 --> 00:02:25,606

The best advice I can give  
to anyone who is interested

44

00:02:25,606 --> 00:02:30,816

in becoming a scientist is just  
to ask questions, have curiosity

45

00:02:31,716 --> 00:02:33,496

and make sure you have a good,

46

00:02:33,496 --> 00:02:35,526

a very good mathematical  
background.

47

00:02:36,516 --> 00:02:39,546

[ Music ]

48

00:02:40,046 --> 00:02:42,766

My name is Bill Todd and I am  
the program manager for NEEMO.

49

00:02:43,926 --> 00:02:46,806

NEEMO is the NASA Extreme  
Environment Mission Operations

50

00:02:47,346 --> 00:02:50,926

and it is a team of people that  
comes to the field, in this case

51

00:02:50,926 --> 00:02:54,686

to an undersea habitat,  
to execute a mission

52

00:02:54,966 --> 00:02:58,146

with an astronaut crew in an  
environment that we try to make

53

00:02:58,146 --> 00:02:59,886

as space like as possible.

54

00:03:00,766 --> 00:03:04,756

The best part of my job  
has always been that we get

55

00:03:04,846 --> 00:03:08,726

to build a mission from the  
very beginning to the end

56

00:03:08,726 --> 00:03:14,036

and we do it in a short amount  
of time and we get to do it kind

57

00:03:14,036 --> 00:03:16,306

of under pressure, pretty  
quickly with a small team,

58

00:03:17,146 --> 00:03:19,906

but we get involved with  
everyone, we get involved

59

00:03:19,906 --> 00:03:22,916

with the people, the  
engineers and we get involved

60

00:03:22,916 --> 00:03:24,796

with building the tools  
that we're going to use.

61

00:03:25,296 --> 00:03:28,466

I would advise anyone that  
wants to work for NASA

62

00:03:29,436 --> 00:03:31,656

to follow their hearts  
and follow their passions.

63

00:03:32,236 --> 00:03:36,036

Of course it's always good to

be knowledgeable in science

64

00:03:36,036 --> 00:03:38,176  
and engineering and we hear  
that a lot and it's true,

65

00:03:38,616 --> 00:03:41,916  
you need to be, but there  
is so much opportunity

66

00:03:41,916 --> 00:03:43,266  
in so many different areas.

67

00:03:43,266 --> 00:03:46,396  
If your interest is  
medicine there's lots

68

00:03:46,396 --> 00:03:48,186  
of opportunity for  
medical doctors.

69

00:03:48,646 --> 00:03:52,676  
If your interest is education  
there's ways to learn all

70

00:03:52,676 --> 00:03:54,406  
about space exploration  
and blend it

71

00:03:54,476 --> 00:03:56,316  
with your love of education.

72

00:03:56,926 --> 00:04:02,706  
So I would say get really  
passionate and knowledgeable

73

00:04:02,706 --> 00:04:05,596  
about what you love and  
there's probably a place

74

00:04:05,726 --> 00:04:06,976

for you if you seek it out.

75

00:04:07,516 --> 00:04:09,566

[ Music ]

76

00:04:10,066 --> 00:04:13,456

My name is Gary Fleming  
and I'm the Chief Engineer

77

00:04:13,536 --> 00:04:16,316

for the Clouds and Earth's  
Radiant Energy System

78

00:04:16,316 --> 00:04:17,046

Flight Instruments.

79

00:04:17,526 --> 00:04:19,796

The objective of the  
CERES program has been

80

00:04:19,796 --> 00:04:23,616

to fly instruments to  
obtain data that measures

81

00:04:23,616 --> 00:04:24,936

that Earth radiation budget

82

00:04:24,996 --> 00:04:28,726

so climate scientists can get  
the insight and the measurements

83

00:04:28,756 --> 00:04:31,026

that they need to  
validate predictive codes

84

00:04:31,476 --> 00:04:33,566

and understand whether  
Earth's climate is changing.

85

00:04:34,056 --> 00:04:36,916

I've got responsibility for  
the technical performance

86

00:04:36,916 --> 00:04:40,656

of the instrument from  
the design as well

87

00:04:40,656 --> 00:04:43,906

as through the instrument  
build, instrument testing,

88

00:04:44,886 --> 00:04:46,726

and then integration  
of the instrument

89

00:04:46,726 --> 00:04:50,316

to its host spacecraft and  
all the testing that we do

90

00:04:50,316 --> 00:04:53,116

on the spacecraft while it's on  
the ground out through launch.

91

00:04:53,276 --> 00:04:55,886

For me the best part is  
coming to work every day

92

00:04:56,696 --> 00:04:58,466

and just knowing that you're  
part of something big,

93

00:04:58,966 --> 00:05:01,276

knowing that you're part of  
something that is important

94

00:05:01,336 --> 00:05:05,976

to NASA, the nation and  
climate science worldwide.

95

00:05:06,046 --> 00:05:08,726

When I was four, five, and  
six I spent my afternoons

96

00:05:08,996 --> 00:05:10,976

out in the backyard  
flying airplanes

97

00:05:11,356 --> 00:05:13,916

and building model  
rockets and my brother

98

00:05:13,916 --> 00:05:16,516

and I even built a wind tunnel  
in our basement one time

99

00:05:16,516 --> 00:05:17,526

for a science project.

100

00:05:17,906 --> 00:05:20,706

So right off the bat  
I think I was aligned

101

00:05:20,706 --> 00:05:23,916

with the NASA mission, whether  
I knew it or not at the time

102

00:05:24,416 --> 00:05:27,746

and it's just something  
that has been ingrained

103

00:05:27,746 --> 00:05:28,826

with me and I've enjoyed it.

104

00:05:29,516 --> 00:05:32,186

[ Sound Effects ]

105

00:05:32,686 --> 00:05:35,186

Did you know that  
advanced electronics

106  
00:05:35,186 --> 00:05:38,086  
and sensors specially  
designed to operate spacecraft

107  
00:05:38,086 --> 00:05:41,276  
in harsh environments could  
also help improve the delivery

108  
00:05:41,276 --> 00:05:43,156  
of public power and  
the performance

109  
00:05:43,156 --> 00:05:44,556  
of jet engines on aircraft?

110  
00:05:45,466 --> 00:05:48,446  
Silicon carbide electronics  
can compensate more efficiently

111  
00:05:48,516 --> 00:05:49,676  
for local power glitches.

112  
00:05:49,776 --> 00:05:53,026  
As a result, they could  
eventually reduce the amount

113  
00:05:53,026 --> 00:05:55,026  
of extra power generated  
to protect

114  
00:05:55,026 --> 00:05:56,716  
against every day load changes.

115  
00:05:57,566 --> 00:05:59,966  
Silicon carbide sensors  
are also being developed

116  
00:06:00,216 --> 00:06:01,206  
to withstand the heat

117  
00:06:01,206 --> 00:06:03,396  
and pressure inside  
jet aircraft engines.

118  
00:06:04,186 --> 00:06:05,336  
Placed inside the engine,

119  
00:06:05,706 --> 00:06:08,406  
these sensors could help  
the engine use less fuel

120  
00:06:08,626 --> 00:06:10,226  
and produce less air pollution.

121  
00:06:11,046 --> 00:06:11,976  
Now you know.

122  
00:06:12,516 --> 00:06:14,546  
[ Sound Effects ]

123  
00:06:15,046 --> 00:06:18,086  
As you just saw, there are all  
kinds of career opportunities

124  
00:06:18,086 --> 00:06:20,356  
at NASA and they're  
not all in space.

125  
00:06:20,756 --> 00:06:23,036  
Check out this great website  
that's full of stories

126  
00:06:23,036 --> 00:06:25,196  
about the people  
and jobs at NASA.

127

00:06:26,396 --> 00:06:28,536

Teachers, you and your  
students can learn more

128

00:06:28,646 --> 00:06:31,406

about the different types of  
careers available at NASA.

129

00:06:32,116 --> 00:06:34,336

You'll find it by checking  
out the extension activity

130

00:06:34,336 --> 00:06:37,946

for this program on the NASA  
Explorer Schools Virtual Campus.

131

00:06:38,746 --> 00:06:40,176

Well that's it for NASA NOW.

132

00:06:40,396 --> 00:06:42,866

Be sure to visit our facebook  
page and leave a comment.

133

00:06:43,026 --> 00:06:44,936

We'll see you next  
time on NASA NOW!

134

00:06:45,516 --> 00:06:51,986

[ Sound Effects ]