



SOFIA  
STRATOSPHERIC OBSERVATORY
FOR INFRARED ASTRONOMY



1
00:00:10,516 --> 00:00:14,606
[Music]

2
00:00:15,106 --> 00:00:17,496
>> I specialize in current
science and technology.

3
00:00:17,866 --> 00:00:20,456
So we have a stage dedicated
to science in the news.

4
00:00:20,516 --> 00:00:23,116
The latest research on vaccines.

5
00:00:23,116 --> 00:00:24,126
The latest space mission.

6
00:00:24,346 --> 00:00:30,206
So this really fits in exactly
with what we're trying to cover.

7
00:00:30,206 --> 00:00:31,816
>> I've been teaching
astronomy for four years.

8
00:00:31,976 --> 00:00:35,656
My degrees are in physics, but
I did astrophysics specifically

9
00:00:35,866 --> 00:00:38,976
and so it has always
been my love.

10
00:00:39,516 --> 00:00:43,546
[Music]

11
00:00:44,046 --> 00:00:46,946
>> Personally, I'm both a
pilot and an astronomer.

12

00:00:47,166 --> 00:00:49,156

This is an airplane
with a telescope in it.

13

00:00:49,156 --> 00:00:50,626

This was made for me.

14

00:00:50,856 --> 00:00:51,806

They just didn't know it.

15

00:00:52,516 --> 00:00:55,546

[Music]

16

00:00:56,046 --> 00:00:59,086

>> Science isn't for scientists,
it's for society.

17

00:00:59,086 --> 00:01:00,056

It's for people.

18

00:01:00,306 --> 00:01:02,636

People need to be
passionate about science

19

00:01:02,676 --> 00:01:04,976

to see what's going on
that real people are doing.

20

00:01:05,031 --> 00:01:07,031

[Music]

21

00:01:07,046 --> 00:01:07,726

>> Door is open.

22

00:01:07,726 --> 00:01:12,176

You have 10 more
minutes before the turn.

23

00:01:12,176 --> 00:01:13,696

>> I have a live presentation
at the Museum

24

00:01:13,696 --> 00:01:15,866

of Science called
Astronomy at 40,000 feet.

25

00:01:16,316 --> 00:01:18,896

It's about why you would want
to put a telescope on a plane,

26

00:01:19,226 --> 00:01:22,106

how you put a telescope on
a plane, and then what kind

27

00:01:22,106 --> 00:01:24,886

of science SOFIA can do that
can't be done anywhere else

28

00:01:24,886 --> 00:01:26,116

in the world or off of it.

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00:01:26,116 --> 00:01:30,336

So being able to take that show
and put in my own experiences

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00:01:30,336 --> 00:01:33,286

where I've directly seen
the telescope in flight.

31

00:01:33,286 --> 00:01:35,236

I've seen the team
interacting with each other.

32

00:01:35,236 --> 00:01:37,756

I've seen the science come
up on the screen is going

33

00:01:37,756 --> 00:01:39,866
to give it an extra
push that a lot

34
00:01:39,866 --> 00:01:41,676
of our presentations don't have

35
00:01:41,676 --> 00:01:43,336
because we are just
reporting on the science.

36
00:01:43,856 --> 00:01:45,846
>> I think that's the
best we've ever seen.

37
00:01:46,306 --> 00:01:47,206
>> So being able to say

38
00:01:47,206 --> 00:01:51,016
that I was there while it was
being done is just going to give

39
00:01:51,016 --> 00:01:53,996
that really incredible edge
to a lot of the presentation.

40
00:01:53,996 --> 00:01:55,166
>> [Inaudible].

41
00:01:55,166 --> 00:01:55,796
>> Yeah they're way up here.

42
00:01:56,276 --> 00:02:00,806
>> Well, I've integrated a lot
of the information about SOFIA

43
00:02:00,806 --> 00:02:02,946
into my astronomy
elective for this fall.

44

00:02:03,496 --> 00:02:06,116

I'm doing a special elective
this year where we're focusing

45

00:02:06,116 --> 00:02:08,466

on infrared astronomy
and looking at SOFIA,

46

00:02:08,986 --> 00:02:12,976

but in addition, there's
a lot of physics involved

47

00:02:13,046 --> 00:02:16,096

in the running of the
aircraft, the engineering

48

00:02:16,096 --> 00:02:18,576

of the telescope,
and in the science --

49

00:02:18,736 --> 00:02:20,636

the astronomy that
they've done as well.

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00:02:21,216 --> 00:02:23,936

And so I can integrate
that into various units

51

00:02:24,036 --> 00:02:27,016

of the physics curriculum and
give a real world example.

52

00:02:27,016 --> 00:02:29,456

It's something that's
exciting and current

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00:02:29,956 --> 00:02:32,756

that they can be inspired
by, as well as learn from.

54

00:02:33,356 --> 00:02:37,876

>> It could be defraction
but it could be the nebula.

55

00:02:38,586 --> 00:02:41,726

Some opportunity for me to see
science in the active collection

56

00:02:42,546 --> 00:02:45,686

and I need to see that so
that my students will be able

57

00:02:45,686 --> 00:02:49,796

to get a better idea of
what it really is rather

58

00:02:49,796 --> 00:02:53,046

than just reading about science
in a book or on the Internet.

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00:02:53,466 --> 00:02:57,226

My partner and I have been
doing an experiment up here.

60

00:02:57,746 --> 00:03:01,396

And so we've videotaped cosmic
ray hits on a Geiger counter

61

00:03:01,916 --> 00:03:04,846

and matched it with
elevation and time.

62

00:03:05,656 --> 00:03:09,776

And so we're going to hand them
over these videos of the data

63

00:03:09,776 --> 00:03:13,306

and then expect them to come
up with how they're going

64

00:03:13,376 --> 00:03:15,746

to process it, make
sense out of it,

65

00:03:15,956 --> 00:03:19,226

and to see what the
elevation compared

66

00:03:19,276 --> 00:03:21,536

to the cosmic ray
hits with the --

67

00:03:21,626 --> 00:03:24,566

>> Yeah you should see at
least 1, 2, 3, 4 stars.

68

00:03:26,496 --> 00:03:27,676

Five maybe.

69

00:03:27,756 --> 00:03:30,206

>> One, 2, 3, 4.

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00:03:31,596 --> 00:03:32,646

Yeah. All right.

71

00:03:32,646 --> 00:03:34,956

>> Everybody here
is here obviously

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00:03:34,956 --> 00:03:36,076

because they love what they do.

73

00:03:36,846 --> 00:03:38,996

And there all these specialists

74

00:03:38,996 --> 00:03:41,326

and these amazingly
brilliant people

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00:03:42,656 --> 00:03:45,186

but not only are they willing
to talk to you when you come

76

00:03:45,186 --> 00:03:48,376

and ask them questions but
they overhear our conversations

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00:03:48,996 --> 00:03:51,296

because they're monitoring
our chat stations

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00:03:51,296 --> 00:03:52,296

and our discussions here.

79

00:03:52,716 --> 00:03:56,016

And they come up and
give input to us.

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00:03:56,016 --> 00:03:57,316

And they walk us to consoles.

81

00:03:57,316 --> 00:03:58,706

And they show us
how things work.

82

00:03:58,706 --> 00:04:01,596

Everybody has been so
amazingly engaging and friendly.

83

00:04:01,666 --> 00:04:03,296

>> I've done a lot
of things in my life.

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00:04:03,766 --> 00:04:06,336

This is without a doubt one

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00:04:06,336 --> 00:04:08,926

of the most amazing

things I have ever had

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00:04:08,926 --> 00:04:10,586

and I will cherish it
for the rest of my life.

87

00:04:10,586 --> 00:04:13,266

It's just such a privilege.

88

00:04:13,266 --> 00:04:13,656

>> [Music] Here you go.

89

00:04:13,656 --> 00:04:15,406

There's the image
up on the screen.

90

00:04:15,776 --> 00:04:16,526

Beautiful.

91

00:04:16,526 --> 00:04:17,466

>> Oh yeah.

92

00:04:17,466 --> 00:04:18,016

[Inaudible].

93

00:04:18,516 --> 00:04:25,546

[Music]

94

00:04:26,046 --> 00:04:26,956

>> They're looking.