1
00:00:08,870 --> 00:00:06,230
and chances are most folks would love to

2
00:00:10,310 --> 00:00:08,880
have an all-access pass to a concert or

3
00:00:11,190 --> 00:00:10,320
some other event that you're excited

4
00:00:12,950 --> 00:00:11,200
about

5
00:00:14,709 --> 00:00:12,960
well scientists who are looking for data

6
00:00:17,029 --> 00:00:14,719
from experiments that happen in space

7
00:00:17,990 --> 00:00:17,039
are no different and nasa has just a

8
00:00:20,630 --> 00:00:18,000
thing

9
00:00:23,029 --> 00:00:20,640
gene lab is giving scientists that kind

10
00:00:25,589 --> 00:00:23,039
of access and the ability to share data

11
00:00:27,269 --> 00:00:25,599
on molecular biology experiments

12
00:00:29,509 --> 00:00:27,279
my colleague lori meggs at the marshall

13
00:00:32,389 --> 00:00:29,519

space flight center recently got an

14
00:00:34,069 --> 00:00:32,399
all-access pass to a nasa supercomputer

15
00:00:36,549 --> 00:00:34,079
at the ames research center in

16
00:00:38,470 --> 00:00:36,559
california where this important research

17
00:00:41,270 --> 00:00:38,480
information is stored

18
00:00:45,350 --> 00:00:41,280
what is gene lab what is gene lab

19
00:00:47,590 --> 00:00:45,360
gene lab is a platform for nasa to

20
00:00:49,750 --> 00:00:47,600
collect and distribute the valuable

21
00:00:51,270 --> 00:00:49,760
space station research data to the

22
00:00:52,790 --> 00:00:51,280
broader public

23
00:00:54,389 --> 00:00:52,800
why do we need something like that i

24
00:00:55,990 --> 00:00:54,399
mean i guess once you have the

25
00:00:57,990 --> 00:00:56,000
information that the scientists have

26
00:00:59,830 --> 00:00:58,000
garnered in space other people want to

27
00:01:02,150 --> 00:00:59,840
use it too right oh they do of course

28
00:01:05,429 --> 00:01:02,160
they do and they want to understand it

29
00:01:07,030 --> 00:01:05,439
beyond just the complicated uh

30
00:01:08,630 --> 00:01:07,040
ways that the data is described for the

31
00:01:10,870 --> 00:01:08,640
international space station science

32
00:01:13,350 --> 00:01:10,880
community so there's a broader community

33
00:01:14,710 --> 00:01:13,360
a community of biomedical researchers

34
00:01:16,950 --> 00:01:14,720
that really don't understand space

35
00:01:18,870 --> 00:01:16,960
station and the space station related

36
00:01:20,789 --> 00:01:18,880
experimental data we would like to

37
00:01:22,870 --> 00:01:20,799
format that data and make it available

38
00:01:25,350 --> 00:01:22,880

to the broader public in a way that they

39
00:01:27,109 --> 00:01:25,360
would understand it and also define what

40
00:01:29,190 --> 00:01:27,119
the unique space

41
00:01:30,390 --> 00:01:29,200
conditions are so that data can be made

42
00:01:33,109 --> 00:01:30,400
useful

43
00:01:34,469 --> 00:01:33,119
we're standing inside the 11th fastest

44
00:01:36,310 --> 00:01:34,479
computer in the world it's a

45
00:01:38,230 --> 00:01:36,320
supercomputer what happens here well

46
00:01:41,109 --> 00:01:38,240
this is nasa's supercomputer so we do

47
00:01:43,510 --> 00:01:41,119
nasa work here we do aerospace earth

48
00:01:45,510 --> 00:01:43,520
science space science and life science

49
00:01:47,270 --> 00:01:45,520
research on these computers around us

50
00:01:49,270 --> 00:01:47,280
that's a lot of data a lot of super

51
00:01:50,870 --> 00:01:49,280
computing that's right you can hear and

52
00:01:53,270 --> 00:01:50,880
feel it with the air blowing around all

53
00:01:55,350 --> 00:01:53,280
the data on the systems so what do we

54
00:01:58,230 --> 00:01:55,360
use this for well we use it for our

55
00:02:00,389 --> 00:01:58,240
science scientists log in from all over

56
00:02:02,310 --> 00:02:00,399
the united states accessing these

57
00:02:05,350 --> 00:02:02,320
systems to do their science that

58
00:02:07,109 --> 00:02:05,360
requires large-scale computing resources

59
00:02:09,029 --> 00:02:07,119
so here's where the data is stored in

60
00:02:10,790 --> 00:02:09,039
the supercomputer but how does that fit

61
00:02:11,910 --> 00:02:10,800
into genelab i'm glad you asked that

62
00:02:14,550 --> 00:02:11,920
lori

63
00:02:17,589 --> 00:02:14,560

one of our i.t folks in genelab

64
00:02:18,949 --> 00:02:17,599
takes the proteomic and the

65
00:02:21,350 --> 00:02:18,959
genomic data

66
00:02:22,470 --> 00:02:21,360
they process it and the processing takes

67
00:02:25,350 --> 00:02:22,480
place here

68
00:02:27,430 --> 00:02:25,360
um this processing gets completed and

69
00:02:30,229 --> 00:02:27,440
then it it will be available for a

70
00:02:32,550 --> 00:02:30,239
genelab portal so researcher

71
00:02:36,070 --> 00:02:32,560
has their data and it goes into these

72
00:02:39,110 --> 00:02:36,080
tapes right correct um researchers

73
00:02:41,589 --> 00:02:39,120
as well as samples that are obtained

74
00:02:43,430 --> 00:02:41,599
from space flight missions as well as

75
00:02:46,710 --> 00:02:43,440
ground samples are

76
00:02:49,190 --> 00:02:46,720
processed in gene lab in this place and

77
00:02:51,190 --> 00:02:49,200
then they're moved to a portal so that

78
00:02:53,030 --> 00:02:51,200
researchers in the scientific community

79
00:02:55,190 --> 00:02:53,040
will have access to it and that's the

80
00:02:57,190 --> 00:02:55,200
point so everyone has access to this