



# SPACESTATION LIVE

1  
00:00:08,709 --> 00:00:06,760  
as we travel farther and deeper into

2  
00:00:10,749 --> 00:00:08,719  
space communication between the ground

3  
00:00:12,940 --> 00:00:10,759  
and astronauts will become more and more

4  
00:00:15,369 --> 00:00:12,950  
complicated how do you feel when you've

5  
00:00:16,690 --> 00:00:15,379  
had a bad phone connection or can't get

6  
00:00:18,460 --> 00:00:16,700  
through to someone you're trying to

7  
00:00:20,320 --> 00:00:18,470  
reach well communication could be

8  
00:00:22,480 --> 00:00:20,330  
critical in handling medical or other

9  
00:00:24,580 --> 00:00:22,490  
emergency situations for astronauts

10  
00:00:26,440 --> 00:00:24,590  
traveling far from Earth a study is

11  
00:00:27,970 --> 00:00:26,450  
looking at how delays in communication

12  
00:00:31,060 --> 00:00:27,980  
may affect astronauts on the space

13  
00:00:32,950 --> 00:00:31,070

station ISS commentator Lori Meggs at

14

00:00:35,590 --> 00:00:32,960

the NASA's Marshall Space Flight Center

15

00:00:38,830 --> 00:00:35,600

spoke to the PI to learn more about the

16

00:00:42,010 --> 00:00:38,840

comm delay assessment it's an evaluation

17

00:00:44,320 --> 00:00:42,020

of the impact of delays and

18

00:00:47,740 --> 00:00:44,330

communication to and from the

19

00:00:51,850 --> 00:00:47,750

International Space Station on human

20

00:00:53,830 --> 00:00:51,860

behavior performance and well-being so

21

00:00:55,960 --> 00:00:53,840

we're saying that the delays and not

22

00:00:58,540 --> 00:00:55,970

being able to communicate it will affect

23

00:01:01,090 --> 00:00:58,550

the behavior of a scholarship well you

24

00:01:03,190 --> 00:01:01,100

know the expectation is that as humans

25

00:01:06,250 --> 00:01:03,200

travel further and further into space

26

00:01:08,680 --> 00:01:06,260

and eventually to Mars that the length

27

00:01:12,219 --> 00:01:08,690

of time it takes to communicate to and

28

00:01:15,940 --> 00:01:12,229

from a space vehicle will grow larger

29

00:01:20,080 --> 00:01:15,950

and larger and in doing so the types of

30

00:01:24,130 --> 00:01:20,090

communications that are normally between

31

00:01:27,460 --> 00:01:24,140

the ground and the space crews will

32

00:01:30,550 --> 00:01:27,470

become compromised by the fact that it

33

00:01:32,320 --> 00:01:30,560

will take longer to ask a question or to

34

00:01:35,440 --> 00:01:32,330

get an answer to a question and

35

00:01:38,890 --> 00:01:35,450

particularly when performing certain

36

00:01:41,859 --> 00:01:38,900

vital tasks that may have implications

37

00:01:44,200 --> 00:01:41,869

for how successful accrue may be in

38

00:01:47,850 --> 00:01:44,210

performing the task how much autonomy

39

00:01:51,789 --> 00:01:47,860

they will have to exercise in order to

40

00:01:54,520 --> 00:01:51,799

complete assigned tasks and potentially

41

00:01:57,850 --> 00:01:54,530

you know the psychological ramifications

42

00:02:01,179 --> 00:01:57,860

that it may have in terms of levels of

43

00:02:03,550 --> 00:02:01,189

stress levels of uncertainty and so

44

00:02:05,200 --> 00:02:03,560

forth so how do you study that on the

45

00:02:08,559 --> 00:02:05,210

space station well on the space station

46

00:02:11,920 --> 00:02:08,569

we've had astronauts perform certain

47

00:02:12,650 --> 00:02:11,930

tasks that we vary in terms of their

48

00:02:16,360 --> 00:02:12,660

novel

49

00:02:20,360 --> 00:02:16,370

and their criticality or complexity

50

00:02:22,790 --> 00:02:20,370

under conditions of normal degrees of

51  
00:02:27,620 --> 00:02:22,800  
communication to and from earth and then

52  
00:02:30,140 --> 00:02:27,630  
a 50-second one-way delay and we monitor

53  
00:02:33,890 --> 00:02:30,150  
the performance of each task through

54  
00:02:37,100 --> 00:02:33,900  
audio recordings but we also at the end

55  
00:02:40,130 --> 00:02:37,110  
of each task ask a both round support

56  
00:02:43,220 --> 00:02:40,140  
personnel as well as the astronauts to

57  
00:02:45,320 --> 00:02:43,230  
complete questionnaires that let us know

58  
00:02:47,840 --> 00:02:45,330  
you know how much difficulty they

59  
00:02:51,500 --> 00:02:47,850  
experience in communicating to and from

60  
00:02:54,770 --> 00:02:51,510  
the ground how it impacted their ability

61  
00:02:58,880 --> 00:02:54,780  
to perform the task how much impact it

62  
00:03:02,660 --> 00:02:58,890  
had on both their own well-being levels

63  
00:03:05,990 --> 00:03:02,670

of stress as well as the morale of the

64

00:03:07,880 --> 00:03:06,000

crew itself from that is are there any

65

00:03:10,430 --> 00:03:07,890

earth applications that this would

66

00:03:13,730 --> 00:03:10,440

relate to well delays in communication

67

00:03:17,170 --> 00:03:13,740

occur for a variety of reasons in all

68

00:03:19,510 --> 00:03:17,180

types of settings so in other remote in

69

00:03:23,390 --> 00:03:19,520

isolated environments on earth

70

00:03:25,790 --> 00:03:23,400

oftentimes even with the advantages of

71

00:03:28,880 --> 00:03:25,800

satellite communications there are

72

00:03:31,400 --> 00:03:28,890

instances when communications can be

73

00:03:33,560 --> 00:03:31,410

delayed for one reason or another you

74

00:03:35,600 --> 00:03:33,570

yourself may experience frustration when

75

00:03:38,620 --> 00:03:35,610

you send out an email and don't receive

76  
00:03:42,040 --> 00:03:38,630  
an instantaneous answer for example

77  
00:03:45,170 --> 00:03:42,050  
there are also maybe applications for

78  
00:03:47,780 --> 00:03:45,180  
individuals who are isolated and

79  
00:03:50,110 --> 00:03:47,790  
confined for a variety of reasons older

80  
00:03:53,720 --> 00:03:50,120  
adults who are homebound for instance

81  
00:03:56,600 --> 00:03:53,730  
who may need information and advice from

82  
00:04:00,290 --> 00:03:56,610  
health care providers or service

83  
00:04:02,390 --> 00:04:00,300  
providers and may experience delays in

84  
00:04:05,680 --> 00:04:02,400  
getting that types of communication

85  
00:04:08,690 --> 00:04:05,690  
we're really attempting to identify

86  
00:04:10,280 --> 00:04:08,700  
countermeasures or strategies which will

87  
00:04:13,370 --> 00:04:10,290  
improve both the quality of

88  
00:04:17,930 --> 00:04:13,380

communication and perhaps reduce some of

89

00:04:21,320 --> 00:04:17,940

the the negative potentially negative

90

00:04:23,930 --> 00:04:21,330

aspects of not getting information in a

91

00:04:26,450 --> 00:04:23,940

timely fashion and needing to exercise

92

00:04:29,390 --> 00:04:26,460

more autonomy how do we prepare

93

00:04:32,210 --> 00:04:29,400

individuals or how do we prepare groups

94

00:04:35,660 --> 00:04:32,220

to do that will be one of the most

95

00:04:36,950 --> 00:04:35,670

important implications from the research