

ORATION
INTO THE FUTURE



1
00:00:48,489 --> 00:01:03,289
YURI FIRST FLEW IN SPACE IN 1994
ON THE MIR 16 MISSION.

2
00:01:03,289 --> 00:01:06,560
THIS CREW WILL SPEND SIX MONTHS
ON THE STATION WITH A SCHEDULED

3
00:01:06,560 --> 00:01:11,150
LANDING IN MAY OF 2016.

4
00:01:11,150 --> 00:01:16,960
>> GOOD AFTERNOON.

5
00:01:16,960 --> 00:01:19,221
THANK YOU FOR JOINING US HERE AT
NASA JOHNSON SPACE CENTER.

6
00:01:19,221 --> 00:01:24,560
WE ARE EXCITED TO BE JOINED BY
THE EXPEDITION 46/47 CREW WHO

7
00:01:24,560 --> 00:01:26,790
WILL BE HEADING TO THE
INTERNATIONAL SPACE STATION WITH

8
00:01:26,790 --> 00:01:32,270
THEIR LAUNCH FROM THE COSMODOME
IN KAZAKHSTAN ON DECEMBER 15th.

9
00:01:32,270 --> 00:01:36,950
WITH US, WE HAVE VETERAN
ASTRONAUT TIM KOPRA OF NASA WHO

10
00:01:36,950 --> 00:01:40,490
WILL BE THE FLIGHT ENGINEER FOR
EXPEDITION 47 AND COMMANDER OF

11
00:01:40,490 --> 00:01:41,750

46.

12

00:01:41,750 --> 00:01:47,470

WE HAVE YURI MALENCHENKO OF THE
RUSSIAN FEDERAL SPACE AGENCY,

13

00:01:47,470 --> 00:01:51,240

THE SOYUZ COMMANDER AS WELL AS
FLIGHT ENGINEER FOR EXPEDITIONS

14

00:01:51,240 --> 00:01:52,319

46 AND 47.

15

00:01:52,319 --> 00:01:57,869

AND ASTRONAUT TIMOTHY PEAKE OF
THE EUROPEAN SPACE AGENCY.

16

00:01:57,869 --> 00:02:02,170

TIM WILL BE THE SECOND BRIT
ASTRONAUT TO GO TO SPACE AND THE

17

00:02:02,170 --> 00:02:04,590

FIRST TO FLY TO THE
INTERNATIONAL SPACE STATION.

18

00:02:04,590 --> 00:02:09,479

TIM WILL ALSO BE A FLIGHT
ENGINEER FOR EXPEDITION 46/47.

19

00:02:09,479 --> 00:02:10,940

WITH THAT, LET'S TURN TO TIM
KOPRA.

20

00:02:10,940 --> 00:02:13,910

TIM, COULD YOU TELL US A LITTLE
BIT ABOUT THE MAJOR MILESTONES

21

00:02:13,910 --> 00:02:15,720

THAT YOU'LL HAVE DURING YOUR
FIVE MONTHS ON ORBIT?

22
00:02:15,720 --> 00:02:17,130
>> I'D BE HAPPY TO.

23
00:02:17,130 --> 00:02:20,400
BEFORE THAT, I'D LIKE TO SAY HOW
HAPPY I AM THAT I GET TO FLY

24
00:02:20,400 --> 00:02:22,760
WITH YURI AND TIM.

25
00:02:22,760 --> 00:02:25,621
YURI HAS BEEN A COMMANDER OF THE
MIR SPACE STATION AND THE

26
00:02:25,621 --> 00:02:28,850
INTERNATIONAL SPACE STATION, AND
TIM IS AN EXPERIENCED --

27
00:02:28,850 --> 00:02:32,510
EXPERIMENTAL TEST PILOT, AS WELL
AS A FELLOW APACHE HELICOPTER

28
00:02:32,510 --> 00:02:33,510
PILOT.

29
00:02:33,510 --> 00:02:36,100
SO I'M VERY HAPPY TO HAVE THAT
OPPORTUNITY.

30
00:02:36,100 --> 00:02:38,769
IN TERMS OF OUR MISSION, WE'RE
GOING TO INTEND FIVE MONTHS ON

31
00:02:38,769 --> 00:02:39,840
BOARD THE SPACE STATION.

32
00:02:39,840 --> 00:02:43,090
WE'LL HAVE A PLETHORA OF

RESUPPLY VEHICLES.

33

00:02:43,090 --> 00:02:46,790
NOW THEY'RE GETTING ON TRACK
AGAIN WITH THE SUPPLY CHAIN, AS

34

00:02:46,790 --> 00:02:48,989
WELL AS POTENTIALLY A COUPLE
EVAs.

35

00:02:48,989 --> 00:02:53,370
BUT THE PRIMARY JOB WE HAVE IS
TO -- FOR THE UTILIZATION OF

36

00:02:53,370 --> 00:02:56,620
SPACE STATION BECAUSE NOW WE
HAVE THIS ORBITING LABORATORY

37

00:02:56,620 --> 00:03:02,239
AND INTEND TO DO OUR JOB AND TO
PRODUCE GOOD SCIENCE.

38

00:03:02,239 --> 00:03:06,939
SO YURI, WOULD YOU LIKE TO SAY
ANYTHING, AS WELL?

39

00:03:06,939 --> 00:03:20,040
[SPEAKING RUSSIAN]
[SPEAKING RUSSIAN]

40

00:03:20,040 --> 00:03:42,259
>> Translator: YES, OF COURSE
I'M GLAD TO

41

00:03:42,259 --> 00:03:43,420
BE PART OF THE
EXPEDITION.

42

00:03:43,420 --> 00:03:45,389
IT WILL BE MY SIXTH SPACEFLIGHT.

43

00:03:45,389 --> 00:03:47,449

I'M LOOKING FORWARD TO IT.

44

00:03:47,449 --> 00:03:49,680

IT'S GOING TO BE AN INTERESTING
MISSION.

45

00:03:49,680 --> 00:03:53,739

WE'RE GOING TO HAVE SEVERAL
EVAs, AND IT'S GOING TO BE AN

46

00:03:53,739 --> 00:03:55,699

INTENSE SCIENCE RESEARCH
PROGRAM.

47

00:03:55,699 --> 00:03:58,160

WE'RE COMPLETING TRAINING AND
GET COULD READY TO LAUNCH --

48

00:03:58,160 --> 00:04:00,860

GETTING READY TO LAUNCH SOON.

49

00:04:00,860 --> 00:04:03,180

EVERY SPACEFLIGHT IS A VERY
INTERESTING FLIGHT.

50

00:04:03,180 --> 00:04:06,530

IN THIS CASE, IT'S GOING TO BE A
PARTICULARLY INTERESTING

51

00:04:06,530 --> 00:04:08,290

MISSION.

52

00:04:08,290 --> 00:04:14,320

>> FOR MYSELF, I CONSIDER MYSELF
REALLY THE LUCKY PERSON IN THE

53

00:04:14,320 --> 00:04:15,320

ROOM.

54
00:04:15,320 --> 00:04:17,989
I THINK NOT ONLY TO HAVE THE
WONDERFUL PRIVILEGE OF FLYING TO

55
00:04:17,989 --> 00:04:20,120
SPACE AND REPRESENTING THE U.K.

56
00:04:20,120 --> 00:04:24,229
AND EUROPEAN SPACE AGENCY BUT
ALSO HAVING THE FROIFLG FLY WITH

57
00:04:24,229 --> 00:04:28,040
SUCH AN -- THE PRIVILEGE TO FLY
WITH SUCH AN EXPERIENCED TEAM.

58
00:04:28,040 --> 00:04:31,289
WE'VE ALL DONE GREAT TRAINING
OVER THE LAST 2.5 YEARS.

59
00:04:31,289 --> 00:04:34,280
OUR GROUND TEAMS AND TRAINING
INSTRUCTORS HAVE DONE A

60
00:04:34,280 --> 00:04:35,400
WONDERFUL JOB?

61
00:04:35,400 --> 00:04:37,910
PREPARING US FOR THIS MISSION --
WONDERFUL JOB IN PREPARING US

62
00:04:37,910 --> 00:04:38,910
FOR THIS MISSION.

63
00:04:38,910 --> 00:04:40,809
WE'RE READY TO GO AND GET
STARTED.

64

00:04:40,809 --> 00:04:42,470
>> THANK YOU, GENTLEMEN.

65
00:04:42,470 --> 00:04:45,020
WE WILL TAKE QUESTIONS FOR THE
CREW.

66
00:04:45,020 --> 00:04:48,060
WE'LL START WITH MEDIA HERE AT
JOHNSON SPACE CENTER.

67
00:04:48,060 --> 00:04:50,729
THEN WE'LL TAKE QUESTIONS FROM
THE REPORTERS ON THE PHONE

68
00:04:50,729 --> 00:04:53,690
BRIDGE, SOME SOCIAL MEDIA
QUESTIONS THAT HAVE BEEN SENT IN

69
00:04:53,690 --> 00:04:54,690
TO US IN HOUSTON.

70
00:04:54,690 --> 00:04:57,010
WE ALSO HAVE SPECIAL GUESTS IN
THE AUDIENCE FROM THE TEXAS

71
00:04:57,010 --> 00:05:00,130
NATIONAL GUARD, THE WOUNDED
WARRIORS, SOME GEORGIA TECH

72
00:05:00,130 --> 00:05:02,919
ALUMNI, AND SOME NASA INTERNS.

73
00:05:02,919 --> 00:05:06,479
TO ASK A QUESTION ON SOCIAL
MEDIA, PLEASE USE THE HASH TAG

74
00:05:06,479 --> 00:05:07,819
#ASKNASA.

75
00:05:07,819 --> 00:05:12,210
FOR THE PEOPLE ON THE PHONE
BRIDGE, PLEASE PRESS STAR-ONE IF

76
00:05:12,210 --> 00:05:15,370
YOU HAVE A QUESTION AND STAR-TWO
TO WITHDRAW YOUR QUESTION IF

77
00:05:15,370 --> 00:05:16,930
IT'S ALREADY BEEN ANSWERED.

78
00:05:16,930 --> 00:05:22,310
DO WE HAVE ANY QUESTIONS IN THE
ROOM?

79
00:05:22,310 --> 00:05:26,069
>> HI, ROBERT -- WITH REGARDS TO
YOUR ARRIVAL ON THE STATION, I

80
00:05:26,069 --> 00:05:29,120
THINK NOW YOU'RE SCHEDULED FOR A
DIRECT HAND OVER SO AT THAT

81
00:05:29,120 --> 00:05:32,289
STATION WILL HAVE NINE PEOPLE ON
BOARD, MAYBE THAT'S NOT CORRECT.

82
00:05:32,289 --> 00:05:36,830
CAN YOU EXPLAIN WHY THE DIRECT
HAND OVER -- IS THERE A

83
00:05:36,830 --> 00:05:42,450
PARTICULAR REASON IN TERMS OF
TIME OFFING OR WHERE THE HAND

84
00:05:42,450 --> 00:05:44,759
OFFBEING ARRANGED -- HANDOFF IS
BEING ARRANGED THAT WAY?

85

00:05:44,759 --> 00:05:48,249
>> FROM A CREW PERSPECTIVE,
WE'RE HAPPY TO GET TIME WITH THE

86
00:05:48,249 --> 00:05:49,249
CREW ON BOARD.

87
00:05:49,249 --> 00:05:50,400
HAVE NINE PEOPLE ON BOARD.

88
00:05:50,400 --> 00:05:52,180
IT'S A BIG STATION, AND THERE'S
ROOM.

89
00:05:52,180 --> 00:05:54,889
YOU MIGHT AS WELL HAVE A FULL
COMPLEMENT.

90
00:05:54,889 --> 00:05:57,300
IN TERMS OF WHY WE'RE DOING A
DIRECT HAND OVER, I THINK IT'S

91
00:05:57,300 --> 00:06:00,370
TO GIVE THE CREW THE OPPORTUNITY
TO HAVE THE LENGTH OF TIME SINCE

92
00:06:00,370 --> 00:06:04,280
THEIR FLY WAS DELAYED INTO JULY.

93
00:06:04,280 --> 00:06:07,419
WE WANT TO MAXIMIZE UTILIZATION
ON STATION.

94
00:06:07,419 --> 00:06:09,729
WE CAN DO THAT WITH NINE PEOPLE
VERY EASILY.

95
00:06:09,729 --> 00:06:10,729
>> MARK?

96

00:06:10,729 --> 00:06:11,729

>> THANK YOU.

97

00:06:11,729 --> 00:06:14,029

MARK FOR AVIATION WEEK.

98

00:06:14,029 --> 00:06:18,340

[INAUDIBLE]

WHAT DO YOU EXPECT THE FLYING

99

00:06:18,340 --> 00:06:20,060

SITUATION TO BE LIKE?

100

00:06:20,060 --> 00:06:24,850

I KNOW YOU'VE STILL BEEN IN THE
RECOVERY MODE, BUT DO YOU SORT

101

00:06:24,850 --> 00:06:38,680

OF ANTICIPATE THAT AND CATCH-UP
IN ORDER TO MEET THE RESEARCH

102

00:06:38,680 --> 00:06:39,680

DEMANDS YOU'RE LOOKING AT IS
WHAT'S KIND OF YOUR ANTICIPATION

103

00:06:39,680 --> 00:06:40,680

WITH THAT?

104

00:06:40,680 --> 00:06:41,680

>> THE ANTICIPATION IN TERMS OF
THE SUPPLY CHAIN IS THAT WE'RE

105

00:06:41,680 --> 00:06:42,680

ON TRACK.

106

00:06:42,680 --> 00:06:44,949

IN FACT, WE JUST HAD A BRIEFING
FROM OUR INCREMENT MANAGERS

107
00:06:44,949 --> 00:06:49,120
YESTERDAY TALKING ABOUT THE
STOCK LEVEL OF THE SUPPLIES ON

108
00:06:49,120 --> 00:06:50,120
BOARD.

109
00:06:50,120 --> 00:06:53,400
SO WE'RE LOOKING REALLY STRONG,
ESPECIALLY ONCE WE HAVE THE NEXT

110
00:06:53,400 --> 00:06:55,220
PROGRESS VEHICLE GET ON BOARD.

111
00:06:55,220 --> 00:06:59,169
WE ANTICIPATE OA-4 TO ARRIVE
SOON, AS WELL.

112
00:06:59,169 --> 00:07:00,169
>> YES?

113
00:07:00,169 --> 00:07:01,949
>> ERIC WITH "EASTYON
CHRONICLE."

114
00:07:01,949 --> 00:07:07,610
TEMPERATURE, COULD YOU TALK --
TIM, COULD YOU TALK ABOUT YOUR

115
00:07:07,610 --> 00:07:12,830
DISAPPOINTMENT IN 2011 AND HOW
YOU CAME BACK MENTALLY AND NOW

116
00:07:12,830 --> 00:07:17,270
WHAT IT'S LIKE TO BE ABLE TO
FINALLY FLY AGAIN AFTER THAT

117
00:07:17,270 --> 00:07:18,610
ACCIDENT.

118

00:07:18,610 --> 00:07:19,930

>> IT'S A FAIR QUESTION.

119

00:07:19,930 --> 00:07:22,689

YOU KNOW, AS YOU CAN PROBABLY
IMAGINE, THERE'S PROBABLY NOT A

120

00:07:22,689 --> 00:07:25,539

BIGGER DISAPPOINTMENT,
ESPECIALLY FOR AN ASTRONAUT, TO

121

00:07:25,539 --> 00:07:29,229

LOSE A FLIGHT SO CLOSE TO THE
LAUNCH DATE.

122

00:07:29,229 --> 00:07:34,449

BUT HAVING SOME TIME SEPARATED
BETWEEN THAT EVENT AND THIS

123

00:07:34,449 --> 00:07:39,830

FLIGHT, I THINK I'VE GAINED AN
APPRECIATION FOR THE JOB THAT WE

124

00:07:39,830 --> 00:07:40,830

HAVE.

125

00:07:40,830 --> 00:07:43,470

NOT TO SAY THAT I TOOK MY JOB
FOR GRANTED BEFORE, BUT I

126

00:07:43,470 --> 00:07:46,439

DEFINITELY AM PROBABLY MORE
GRATEFUL FOR THIS FLIGHT

127

00:07:46,439 --> 00:07:48,840

ATTENTION AS A CONSEQUENCE.

128

00:07:48,840 --> 00:07:52,449

[INAUDIBLE]

>> NOPE, TRYING TO LIVE IN

129

00:07:52,449 --> 00:07:54,749

BUBBLE WRAP UNTIL WE LAUNCH.

130

00:07:54,749 --> 00:08:01,630

>> ANY OTHER MEDIA QUESTIONS
HERE AT JOHNSON?

131

00:08:01,630 --> 00:08:02,959

WE'LL GO TO SOCIAL MEDIA.

132

00:08:02,959 --> 00:08:06,400

>> WE HAVE SOME QUESTIONS ON
TWITTER.

133

00:08:06,400 --> 00:08:09,749

THE FIRST IS FROM SEE ANNEA
REGAN FOR TIM KOPRA.

134

00:08:09,749 --> 00:08:12,900

HOW DO YOU FEEL YOUR TRAINING AT
WEST POINT HAS HELPED YOUR

135

00:08:12,900 --> 00:08:16,699

CAREER AS AN ASTRONAUT?

136

00:08:16,699 --> 00:08:20,969

>> YOU KNOW, WEST POINT IS A
VERY CHALLENGING ENVIRONMENT FOR

137

00:08:20,969 --> 00:08:22,319

YOUNG PEOPLE.

138

00:08:22,319 --> 00:08:26,580

THE VAST MAJORITY OF THE STUDENT
BODY IS BETWEEN 18 AND 22.

139

00:08:26,580 --> 00:08:28,889
MAYBE SOMEONE HAS FORMER
MILITARY EXPERIENCE AND GOES A

140
00:08:28,889 --> 00:08:29,889
LITTLE BIT LATER.

141
00:08:29,889 --> 00:08:32,810
IN GENERAL, IT'S A YOUNG GROUP.

142
00:08:32,810 --> 00:08:35,870
I THINK THE THING THAT YOU LEARN
THAT'S MOST VALUABLE FROM THAT

143
00:08:35,870 --> 00:08:40,680
EXPERIENCE IS ABOUT GETTING YOUR
JOB DONE AND BEING DISCIPLINED.

144
00:08:40,680 --> 00:08:44,050
THE FACT THAT IT'S A TEAM
EFFORT, THE COMMON EXPRESSION AT

145
00:08:44,050 --> 00:08:46,531
WEST POINT IS COOPERATE AND
GRADUATE.

146
00:08:46,531 --> 00:08:48,170
I THINK THAT STUCK WITH ME.

147
00:08:48,170 --> 00:08:51,880
THEN FINALLY, PERSEVERANCE
BECAUSE YOU HAVE TO STICK WITH

148
00:08:51,880 --> 00:08:54,990
IT IN ORDER TO MAKE IT THROUGH.

149
00:08:54,990 --> 00:08:59,279
>> AND WE HAVE ANOTHER ONE FROM
THE DEPUTY BRITISH AMBASSADOR ON

150

00:08:59,279 --> 00:09:02,540

TWITTER WHO WANTS TO KNOW FROM
TIMOTHY PEAKE, WHAT WILL YOU

151

00:09:02,540 --> 00:09:07,420

TAKE INTO SPACE TO REMIND YOU OF
BRITAIN?

152

00:09:07,420 --> 00:09:10,529

>> WE ACTUALLY HAVE A GOT
DELEGATION TO TAKE UP WITH US.

153

00:09:10,529 --> 00:09:13,220

A NUMBER OF THINGS PACKED UP
WITH ME.

154

00:09:13,220 --> 00:09:17,220

I THINK IN TERMS OF WHAT'S GOING
TO REMIND ME OF BRITAIN IS THE

155

00:09:17,220 --> 00:09:20,330

FACT THAT I'VE BEEN ABLE TO TAKE
UP MY CHOICE OF TEA.

156

00:09:20,330 --> 00:09:23,690

I'LL BE HAVING TWO CUPS OF TEA
EVERY DAY WHICH WILL DEFINITELY

157

00:09:23,690 --> 00:09:25,560

REMIND ME OF THE U.K.

158

00:09:25,560 --> 00:09:28,850

>> DO WE HAVE ANY OTHER
QUESTIONS?

159

00:09:28,850 --> 00:09:29,850

YES?

160

00:09:29,850 --> 00:09:33,459

>> JIM WITH "SPECTRUM" MAGAZINE.

161

00:09:33,459 --> 00:09:47,670

YOU'LL BE ARRIVING, THE FINAL
FEW MONTHS OF THE YEAR ON CREW.

162

00:09:47,670 --> 00:09:59,840

I'D LIKE TO ASK YOU ALL AND
PARTICULARLY YURI, WITH YOUR

163

00:09:59,840 --> 00:10:07,040

EXPERIENCE IN LONG FLIGHTS, WHAT
KIND OF THINGS DO YOU WANT TO DO

164

00:10:07,040 --> 00:10:17,260

TO HELP THE LONG-TERM CREW GET
TO THE FINISH LINE?

165

00:10:17,260 --> 00:10:19,630

[SPEAKING RUSSIAN]

>> Translator: INDEED IT'S GOING

166

00:10:19,630 --> 00:10:23,430

TO BE THE FINAL STAGE OF
ONE-YEAR MISSION.

167

00:10:23,430 --> 00:10:28,279

BY THE TIME THE CREW OF THE
ONE-YEAR MISSION WILL HAVE VERY

168

00:10:28,279 --> 00:10:36,470

EXTENSIVE EXPERIENCE OF WORKING
ON BOARD THE ISS.

169

00:10:36,470 --> 00:10:42,050

[SPEAKING RUSSIAN]

>> Translator: IN A SENSE, IT

170

00:10:42,050 --> 00:10:46,670

WILL BE EASIER FOR US TO WORK

SIDE BY SIDE WITH THE CREW

171

00:10:46,670 --> 00:10:49,110
BECAUSE THEY'LL BE VERY
EXPERIENCED AND SUPPORTIVE

172

00:10:49,110 --> 00:10:52,320
COLLEAGUES.

173

00:10:52,320 --> 00:11:02,880
[SPEAKING RUSSIAN]
>> Translator: AT THE SAME TIME,

174

00:11:02,880 --> 00:11:06,529
FOR A CREW WHO HAVE BEEN WORKING
ON BOARD FOR SUCH AN EXTENSIVE

175

00:11:06,529 --> 00:11:10,770
PERIOD OF TIME, THEY PROBABLY
WILL HAVE ACCUMULATED FATIGUE,

176

00:11:10,770 --> 00:11:14,959
AND WE'RE EXPECTING THIS CREW TO
HAVE SOME OF THAT, AS WELL.

177

00:11:14,959 --> 00:11:23,279
[SPEAKING RUSSIAN]
>> Translator: IN A SENSE, WE'RE

178

00:11:23,279 --> 00:11:27,100
GOING TO BE VERY SUPPORTIVE OF
EACH OTHER, AND WE'RE GOING TO

179

00:11:27,100 --> 00:11:32,420
BE HELPING EACH OTHER.

180

00:11:32,420 --> 00:11:35,880
>> ANY OTHER QUESTIONS FROM
JOHNSON SPACE CENTER?

181
00:11:35,880 --> 00:11:36,880
YES?

182
00:11:36,880 --> 00:11:44,290
>> THIS QUESTION IS FOR ANYBODY
WHO WOULD LIKE TO ANSWER.

183
00:11:44,290 --> 00:11:50,040
WHAT DO YOU FIND GIVES YOU THE
MENTAL FORTITUDE TO GET THROUGH

184
00:11:50,040 --> 00:11:51,040
EVERYTHING?

185
00:11:51,040 --> 00:11:56,639
I'VE LEARNED SO MUCH ABOUT WHAT
IT TAKES TO BECOME AN ASTRONAUT

186
00:11:56,639 --> 00:11:57,639
TODAY.

187
00:11:57,639 --> 00:11:59,160
SO IS THERE A PARTICULAR MEMORY,
OR WHAT DRIVES YOU AND KEEPS YOU

188
00:11:59,160 --> 00:12:01,629
GOING?

189
00:12:01,629 --> 00:12:02,800
>> I CAN START WITH THAT
QUESTION.

190
00:12:02,800 --> 00:12:05,200
IT'S A GOOD ONE.

191
00:12:05,200 --> 00:12:07,630
IT'S A HARD JOB, BUT IT'S A COOL
JOB, TOO.

192

00:12:07,630 --> 00:12:12,470

I MEAN, I THINK ALL OF US HAVE
REALLY STRIVED TO GET TO THE

193

00:12:12,470 --> 00:12:14,949

POSITION TO BE ABLE TO FLY IN
SPACE.

194

00:12:14,949 --> 00:12:19,570

I THINKING ABOUT SO MOTIVATED TO
GET TO THAT PLACE IS REALLY THE

195

00:12:19,570 --> 00:12:22,440

SAME KIND OF DRIVE THAT HELPS
YOU GET THROUGH ALL THE TRAINING

196

00:12:22,440 --> 00:12:25,040

AND HELPS YOU PERFORM
SPACEFLIGHT.

197

00:12:25,040 --> 00:12:27,950

I THINK THE MAIN THING IS WE'RE
PASSIONATE ABOUT OUR JOB.

198

00:12:27,950 --> 00:12:29,920

WE THINK IT'S IMPORTANT.

199

00:12:29,920 --> 00:12:32,959

A LOT OF PEOPLE COUNT ON US.

200

00:12:32,959 --> 00:12:35,480

WE'RE MOST VISIBLE PORTION OF
HUMAN SPACEFLIGHT, BUT IT IS A

201

00:12:35,480 --> 00:12:36,480

HUGE TEAM.

202

00:12:36,480 --> 00:12:39,470

ESPECIALLY NOW THAT WE USE SPACE

STATION AS AN ORBITING

203

00:12:39,470 --> 00:12:40,470
LABORATORY.

204

00:12:40,470 --> 00:12:43,910
THERE ARE LOTS OF INVESTIGATORS
ON THE GROUND, SCIENTISTS ON THE

205

00:12:43,910 --> 00:12:45,779
GROUND SUPPORTING OUR
EXPERIMENTS.

206

00:12:45,779 --> 00:12:51,849
I THINK ALL OF US FEEL OBLIGATED
TO DO A GOOD JOB FOR THEM.

207

00:12:51,849 --> 00:12:55,130
>> I THINK I WOULD REITERATE
WHAT TIM SAID THERE, AS WELL.

208

00:12:55,130 --> 00:12:58,490
AS A FIRST-TIME FLYER, OBVIOUSLY
THERE'S A HUGE INCENTIVE OF

209

00:12:58,490 --> 00:13:04,230
WANTING TO GET TO SPACE AND VIEW
PLANET EARTH, AND ALONG THE

210

00:13:04,230 --> 00:13:07,260
ROUTE, OF COURSE, I'M LEARNING
FROM MY EXPERIENCED CREW

211

00:13:07,260 --> 00:13:08,260
MEMBERS.

212

00:13:08,260 --> 00:13:10,330
THAT HELPS ME GET INTO THE
CORRECT MINDSET DURING THE

213

00:13:10,330 --> 00:13:13,269

TRAINING OF WHAT I NEED TO
LEARN.

214

00:13:13,269 --> 00:13:16,530

ALSO KNOWING WHAT I SHOULD
EXPECT ON BOARD AND THE

215

00:13:16,530 --> 00:13:19,389

CONDITIONS THAT I SHOULD EXPECT
ON BOARD THE SPACE STATION.

216

00:13:19,389 --> 00:13:23,829

AND WE WORK CLOSELY TOGETHER NOT
JUST AS A CREW BUT IN THE WHOLE

217

00:13:23,829 --> 00:13:25,490

ASTRONAUT OFFICE.

218

00:13:25,490 --> 00:13:29,370

THAT'S NOT JUST HOUSTON, THAT'S
IN EUROPE AND CANADA, JAPAN, AND

219

00:13:29,370 --> 00:13:30,370

RUSSIA.

220

00:13:30,370 --> 00:13:31,370

WE REALLY HELP EACH OTHER OUT.

221

00:13:31,370 --> 00:13:34,500

AND FOR ME, THAT'S BEEN VERY
IMPORTANT IN THE SORT OF MENTAL

222

00:13:34,500 --> 00:13:39,470

PREPARATION FOR GETTING TO
SPACE.

223

00:13:39,470 --> 00:13:41,039

>> ANY OTHER QUESTIONS FROM THE

AUDIENCE?

224

00:13:41,039 --> 00:13:44,420

>> I HAVE A QUESTION.

225

00:13:44,420 --> 00:13:47,500

WHEN YOU GO TO SPACE, SAY
THERE'S A PARTICULAR AMOUNT OF

226

00:13:47,500 --> 00:13:49,490

EXPERIMENT THAT'S YOU'RE WORKING
ON.

227

00:13:49,490 --> 00:13:53,400

IS THERE ANY LIKE EXPERIMENT
THAT YOU KNOW ABOUT THAT YOU

228

00:13:53,400 --> 00:13:55,420

HOLD A PERSONAL STOCK IN?

229

00:13:55,420 --> 00:13:59,350

LIKE A CURE FOR SOMETHING OR
SOMETHING THAT -- AN EXPERIMENT

230

00:13:59,350 --> 00:14:02,829

THAT ANY ONE OF YOU ARE REALLY
LOOKING FORWARD TO SEE THE

231

00:14:02,829 --> 00:14:04,109

RESULTS OF?

232

00:14:04,109 --> 00:14:05,109

>> SURE.

233

00:14:05,109 --> 00:14:10,100

FOR ME PERSONALLY, I LIKE THE
EXPERIMENTS THAT ARE HANDS ON.

234

00:14:10,100 --> 00:14:14,079

SEVERAL OF THE HANDS-ON
EXPERIMENTS ARE WHERE WE'RE THE

235

00:14:14,079 --> 00:14:15,079

SUBJECT.

236

00:14:15,079 --> 00:14:18,120

SO THERE'S THINGS THAT HAPPEN IN
ZERO GRAVITY ENVIRONMENT THAT

237

00:14:18,120 --> 00:14:19,580

WE'RE STILL LEARNING ABOUT.

238

00:14:19,580 --> 00:14:24,699

THERE'S AN EFFECT ON YOUR EYE
HEALTH, ON YOUR BONE DENSITY, ON

239

00:14:24,699 --> 00:14:27,430

MUSCLE STRENGTH, AND A LOT OF
THE INVESTIGATIONS THAT WE'RE

240

00:14:27,430 --> 00:14:32,060

DOING NOW HAVE A GREAT FORM
SOLVE PROBLEMS HERE ON EARTH,

241

00:14:32,060 --> 00:14:34,790

BUT ALSO FOR US TO BE ABLE TO
CONTINUE OUR EXPLORATION OF

242

00:14:34,790 --> 00:14:38,100

SPACE BEYOND LOWER EARTH ORBIT.

243

00:14:38,100 --> 00:14:41,420

>> I CAN PICK UP WHERE TIM LEFT
OFF.

244

00:14:41,420 --> 00:14:43,050

THE HUMAN PHYSIOLOGY IS GREAT.

245

00:14:43,050 --> 00:14:46,709
IN ADDITION TO THAT, THERE'S A
COUPLE OF OTHER EXPERIMENTS I'M

246
00:14:46,709 --> 00:14:48,550
LOOKING FORWARD TO.

247
00:14:48,550 --> 00:14:50,569
ONE OF WHICH IS MEDICAL
RESEARCH.

248
00:14:50,569 --> 00:14:53,910
WE'RE GROWING PROTEIN CRYSTALS
IN SPACE.

249
00:14:53,910 --> 00:14:57,259
THE REASON WHY WE GO TO SPACE TO
DO THAT IS BECAUSE YOU HAVE NO

250
00:14:57,259 --> 00:14:59,590
SEDIMENTATION, NO CONVECTION.

251
00:14:59,590 --> 00:15:03,240
SO YOU CAN GROW LARGE, PURE
CRYSTALS.

252
00:15:03,240 --> 00:15:08,970
AND WE THEN USE SPECTROSCOPY TO
IDENTIFY THE DRUGS.

253
00:15:08,970 --> 00:15:13,759
THE BEST DRUGS THAT CAN COUNTER
THOSE DISEASE-CAUSING PROTEINS.

254
00:15:13,759 --> 00:15:17,399
AND OF COURSE THE BETTER THE
PROTEIN CRYSTAL, THE BETTER THE

255
00:15:17,399 --> 00:15:18,399
DRUG.

256

00:15:18,399 --> 00:15:20,629

IT'S LIKE A JIGSAW PIECE
MATCHING TOGETHER.

257

00:15:20,629 --> 00:15:23,600

I THINK THAT'S FASCINATING
RESEARCH AND HAS, YOU KNOW, HUGE

258

00:15:23,600 --> 00:15:24,970

POTENTIAL.

259

00:15:24,970 --> 00:15:28,580

ADDITIONALLY, BEING A PILOT, OF
COURSE, I LOVE ENGINEERING AND

260

00:15:28,580 --> 00:15:29,779

TECHNOLOGY.

261

00:15:29,779 --> 00:15:33,329

AND SOME OF THE RESEARCH WITH
METAL ALLOYS FOR EXAMPLE, USING

262

00:15:33,329 --> 00:15:37,860

THE ELECTROMAGNETIC LEVITATOR IN
THE LABORATORY IS EXCITING

263

00:15:37,860 --> 00:15:38,860

RESEARCH.

264

00:15:38,860 --> 00:15:42,690

>> WE HAVE A FEW MORE FROM
SOCIAL MEDIA?

265

00:15:42,690 --> 00:15:43,690

>> YES.

266

00:15:43,690 --> 00:15:46,060

WE HAVE A COUPLE QUESTIONS FROM

INSTAGRAM.

267

00:15:46,060 --> 00:15:48,370

RILEY WANTS TO KNOW FOR EACH OF
YOU, WHEN DID YOU DECIDE TO

268

00:15:48,370 --> 00:15:50,899

BECOME AN ASTRONAUT, AND WHAT
STEPS DID YOU TAKE TO GET WHERE

269

00:15:50,899 --> 00:15:52,310

YOU ARE?

270

00:15:52,310 --> 00:15:53,410

>> I STARTED A LITTLE BIT LATE.

271

00:15:53,410 --> 00:15:55,979

I THINK I WAS ABOUT 6.

272

00:15:55,979 --> 00:15:59,470

[LAUGHTER]

>> AND THANKFULLY, THE PATH THAT

273

00:15:59,470 --> 00:16:02,490

I TOOK NEVER PRECLUDED APPLYING
TO BE AN ASTRONAUT.

274

00:16:02,490 --> 00:16:05,379

AT SOME POINT, BECAME MORE
EXCITED.

275

00:16:05,379 --> 00:16:08,709

GOING TO THE SCHOOLS THAT I WENT
TO, GOING GEORGIA TECH WAS A

276

00:16:08,709 --> 00:16:10,240

GREAT ACADEMIC BACKGROUND.

277

00:16:10,240 --> 00:16:12,769

NAVY TUFTS PILOT SCHOOL.

278

00:16:12,769 --> 00:16:15,740

THOSE THINGS HELPED PAVE THE WAY
FOR ME.

279

00:16:15,740 --> 00:16:17,209

>> YURI?

280

00:16:17,209 --> 00:16:25,999

[SPEAKING RUSSIAN]

>> Translator: FOR ME, THIS

281

00:16:25,999 --> 00:16:33,379

OCCUPATION WAS ALWAYS VERY
INTERESTING.

282

00:16:33,379 --> 00:16:41,709

IN SCHOOL, I WAS THINKING IT
WOULD BE GREAT TO BE AN

283

00:16:41,709 --> 00:16:44,489

ASTRONAUT ONE DAY AND FLY INTO
SPACE.

284

00:16:44,489 --> 00:16:57,889

[SPEAKING RUSSIAN]

>> Translator: SO I FLY TO THE

285

00:16:57,889 --> 00:17:02,860

ARMENIA PILOT SCHOOL AND WAS
ACCEPTED AND TRAINED BY PILOT

286

00:17:02,860 --> 00:17:03,860

SCHOOL.

287

00:17:03,860 --> 00:17:08,750

THAT WAS THE PATH THAT I TOOK TO
BECOME A COSMONAUT.

288

00:17:08,750 --> 00:17:12,291

>> AND I THINK IT'S RARE THAT
YOU HAVE THREE PEOPLE WHO ARE

289

00:17:12,291 --> 00:17:14,810

GOING TO GIVE YOU THE SAME
ANSWER FOR THIS QUESTION.

290

00:17:14,810 --> 00:17:19,829

LIKEWISE, FOR ME, FLYING WAS AN
ABSOLUTE PASSION.

291

00:17:19,829 --> 00:17:22,660

AS A YOUNG BOY AND AS A
TEENAGER.

292

00:17:22,660 --> 00:17:25,620

I WAS FLYING SOLO BEFORE I COULD
DRIVE A CAR.

293

00:17:25,620 --> 00:17:28,660

AND I DECIDED EARLY ON THAT I
WANTED A CAREER AS A MILITARY

294

00:17:28,660 --> 00:17:31,400

PILOT AND INSTRUCTOR AND TEST
PILOT.

295

00:17:31,400 --> 00:17:35,960

THAT PAVED THE WAY BY GOING DOWN
THAT SPECIALIZATION TO BECOMING

296

00:17:35,960 --> 00:17:39,150

AN ASTRONAUT LATER IN LIFE.

297

00:17:39,150 --> 00:17:42,560

>> WE HAVE ANOTHER ON INSTAGRAM
FROM KEVIN -- HOW IS MUSCLE AND

298

00:17:42,560 --> 00:17:45,790
BONE MASS AFFECTED IN SPACE, AND
WHAT ARE SAFETY PRECAUTIONS YOU

299

00:17:45,790 --> 00:17:49,890
TAKE BEFORE TAKEOFF?

300

00:17:49,890 --> 00:17:53,830
>> SO BEFORE TAKEOFF, YOU KNOW,
WE NEED TO MAKE SURE THAT WE'RE

301

00:17:53,830 --> 00:17:54,830
HEALTHY.

302

00:17:54,830 --> 00:17:58,520
THAT WE UNDERSTAND THE EXERCISE
PROTOCOL THAT WE USE ON BOARD,

303

00:17:58,520 --> 00:18:02,720
AND THAT'S REALLY THE MAIN WEIGH
THAT WE'RE ABLE TO COUNTERACT

304

00:18:02,720 --> 00:18:05,760
THE LOSS OF BONE DENSITY AND
MUSCLE MASS.

305

00:18:05,760 --> 00:18:08,840
WE EXERCISE AT LEAST A COUPLE
HOURS EVERY DAY, BOTH

306

00:18:08,840 --> 00:18:09,840
WEIGHTLIFT:SOUNDS STRANGE TO
LIFT -- WEIGHTLIFTING, WHICH

307

00:18:09,840 --> 00:18:14,000
SOUNDS STRANGE TO LIFT WEIGHTS
IN SPACE, BUT A DEVICE MAKES IT

308

00:18:14,000 --> 00:18:17,410
FEEL JUST LIKE LIFTING WEIGHTS

ON PLANET EARTH.

309

00:18:17,410 --> 00:18:19,230
THEN AEROBIC EXERCISE.

310

00:18:19,230 --> 00:18:23,970
BOTH A TREADMILL THAT WE BUNGEE
DOWN TO, AND A BICYCLE.

311

00:18:23,970 --> 00:18:27,559
THOSE ARE THE MAIN
COUNTERMEASURES WE HAVE.

312

00:18:27,559 --> 00:18:31,539
>> YES, MARK?

313

00:18:31,539 --> 00:18:39,500
>> MARK FROM "AVIATION WEEK."

314

00:18:39,500 --> 00:18:45,679
YOU'LL BE THE FIRST FROM YOUR
COUNTRY TO SPEND TIME ON THE

315

00:18:45,679 --> 00:18:46,679
SPACE STATION, I UNDERSTAND.

316

00:18:46,679 --> 00:18:51,580
WHAT WOULD YOU LIKE THAT TO MEAN
ESPECIALLY TO THE PEOPLE OF

317

00:18:51,580 --> 00:18:54,510
GREAT BRITAIN TO SEE SOMEBODY IN
SPACE FROM THEIR COUNTRY FOR

318

00:18:54,510 --> 00:18:56,010
THAT AMOUNT OF TIME?

319

00:18:56,010 --> 00:18:59,790
DOES IT SYMBOLIZE THE GROWING

INTEREST IN SPACE IN GREAT

320

00:18:59,790 --> 00:19:00,790

BRITAIN?

321

00:19:00,790 --> 00:19:05,240

DOES IT JUST SORT OF CAT LIES
THE INTEREST THAT'S THERE?

322

00:19:05,240 --> 00:19:08,639

WHAT DO YOU WANT THAT TO MEAN TO
YOUR COUNTRY?

323

00:19:08,639 --> 00:19:10,490

>> YES, IT'S A GREAT QUESTION.

324

00:19:10,490 --> 00:19:15,799

FOR ME, IT'S VERY IMPORTANT THAT
WE'VE TAKEN THIS STEP.

325

00:19:15,799 --> 00:19:16,799

AND OF COURSE THE U.K.

326

00:19:16,799 --> 00:19:18,779

HAS
ALWAYS BEEN PART OF THE EUROPEAN

327

00:19:18,779 --> 00:19:20,460

SPACE AGENCY.

328

00:19:20,460 --> 00:19:23,630

ONLY RECENTLY HAS IT BEEN PART
OF THE HUMAN SPACEFLIGHT

329

00:19:23,630 --> 00:19:24,660

PROGRAM.

330

00:19:24,660 --> 00:19:26,800

AND THAT REALLY OPENS THE DOOR

FOR GREAT BRITAIN.

331

00:19:26,800 --> 00:19:31,789

IT OPEN THE DOOR IN TERMS OF THE
SCIENTIFIC COMMUNITY, WE CAN NOW

332

00:19:31,789 --> 00:19:33,900

PARTICIPATE IN ENJOYING THE
SCIENTIFIC RESEARCH WE DO ON

333

00:19:33,900 --> 00:19:35,980

BOARD THE SPACE STATION.

334

00:19:35,980 --> 00:19:37,150

OPENS THE DOOR FOR U.K.

335

00:19:37,150 --> 00:19:39,990

INDUSTRY
TO BE INVOLVED IN SOME OF THE

336

00:19:39,990 --> 00:19:42,909

ENGINEERING AND TECHNOLOGICAL
WORK THAT'S BEING DONE ON BOARD

337

00:19:42,909 --> 00:19:44,040

THE SPACE STATION.

338

00:19:44,040 --> 00:19:47,309

AND YOU WERE ALLUDING TO, AS
WELL, THIS ELEMENT OF

339

00:19:47,309 --> 00:19:51,190

EDUCATIONAL OUTREACH AND
INSPIRATION WHICH HOPEFULLY WILL

340

00:19:51,190 --> 00:19:53,840

HAVE A BIG IMPACT IN THE U.K.

341

00:19:53,840 --> 00:19:57,789

AND PAVE THE WAY FOR OUR
CONTINUED INVOLVEMENT IN HUMAN

342

00:19:57,789 --> 00:20:01,400
SPACEFLIGHT AND EXPLORATION INTO
THE NEXT FEW DECADES WHICH ARE

343

00:20:01,400 --> 00:20:04,379
LOOKING INCREDIBLY EXCITING.

344

00:20:04,379 --> 00:20:07,030
>> GENTLEMAN IN THE BACK ROW?

345

00:20:07,030 --> 00:20:08,030
>> HEY.

346

00:20:08,030 --> 00:20:09,080
MY NAME IS MUHAMMAD.

347

00:20:09,080 --> 00:20:15,559
THIS IS FOR ALL THE CREW.

348

00:20:15,559 --> 00:20:20,159
YOU ALL HAVE VARIOUS BACKGROUNDS
-- OF COURSE, I KNEW TIM KOPRA

349

00:20:20,159 --> 00:20:22,740
AT WEST POINT.

350

00:20:22,740 --> 00:20:26,179
AND OF COURSE --
[INAUDIBLE]

351

00:20:26,179 --> 00:20:30,840
WHAT IS ONE KEY THING THAT YOU
ALL TAKE FROM YOUR EVEN MILITARY

352

00:20:30,840 --> 00:20:34,150
BACKGROUND, MILITARY SCHOOLS,

THAT KEY VALUE AND TRAIT THAT

353

00:20:34,150 --> 00:20:35,950

HELPED YOU GET HERE AND WHAT YOU
STILL HOLD VALUE TO YOU

354

00:20:35,950 --> 00:20:38,759

PERSONALLY IN YOUR FUTURE
MISSIONS?

355

00:20:38,759 --> 00:20:42,860

>> I GUESS I COULD START WITH
THAT.

356

00:20:42,860 --> 00:20:47,110

I WOULD SAY THE MOST IMPORTANT
SKILL SET FOR AN ASTRONAUT IS TO

357

00:20:47,110 --> 00:20:50,140

BE ABLE TO GET ALONG WITH
OTHERS, ESPECIALLY NOW LIVING ON

358

00:20:50,140 --> 00:20:51,679

SPACE STATION.

359

00:20:51,679 --> 00:20:56,930

SO DURING ASTRONAUT SELECTION, I
THINK THE FOLKS THAT LOOK AT THE

360

00:20:56,930 --> 00:20:59,600

CANDIDATES IN THE BACK OF THEIR
MINDS ARE THINKING WHO WOULD I

361

00:20:59,600 --> 00:21:02,070

WANT TO GO CAMPING WITH.

362

00:21:02,070 --> 00:21:04,179

YOU WANT PEOPLE WHO CAN GET
ALONG.

363

00:21:04,179 --> 00:21:08,280

FRANKLY, ANY TECHNICAL FIELD
BENEFITS FROM PEOPLE THAT CAN

364

00:21:08,280 --> 00:21:11,450

GET ALONG WITH OTHERS BECAUSE
THE TEAM IS MUCH MORE EFFECTIVE

365

00:21:11,450 --> 00:21:14,420

THAN AN INDIVIDUAL.

366

00:21:14,420 --> 00:21:18,359

>> TIM OR YURI?

367

00:21:18,359 --> 00:21:21,480

>> I THINK TIM HAS ANSWERED THE
QUESTION PERFECTLY THERE.

368

00:21:21,480 --> 00:21:25,280

AND ONE THING THAT WAS
NOTICEABLE WITH OUR EUROPEAN

369

00:21:25,280 --> 00:21:28,260

COLLEAGUES WHEN WE WERE SELECTED
IN THE CLASS OF 2009, WE CAME

370

00:21:28,260 --> 00:21:31,750

FROM VERY DIFFERENT BACKGROUNDS,
ENGINEERING, SCIENTIFIC,

371

00:21:31,750 --> 00:21:34,149

MILITARY, AS WELL.

372

00:21:34,149 --> 00:21:38,260

WE HAD ALL HAD SOME EXPERIENCE
WORKING IN A MULTICULTURAL

373

00:21:38,260 --> 00:21:44,090

ENVIRONMENT IN TEAMWORK,

FELLOWSHIP-TYPE SCENARIOS.

374

00:21:44,090 --> 00:21:48,070

I THINK THAT WAS A VERY STRONG
CHARACTERISTIC THAT THE SPACE

375

00:21:48,070 --> 00:21:55,470

AGENCY WAS LOOKING FOR IN ALL OF
THEIR ASTRONAUT CANDIDATES.

376

00:21:55,470 --> 00:22:13,030

[SPEAKING RUSSIAN]

>> Translator: I CAN ONLY ADD

377

00:22:13,030 --> 00:22:17,560

THAT I VERY MUCH AGREE WITH THE
ANSWERS THAT TIM AND TIM

378

00:22:17,560 --> 00:22:18,560

PROVIDED.

379

00:22:18,560 --> 00:22:21,850

I SHOULD SAY THAT TRAINING TAKES
A LOT OF TIME OF IN A PERSON'S

380

00:22:21,850 --> 00:22:23,820

LIFE.

381

00:22:23,820 --> 00:22:34,429

[SPEAKING RUSSIAN]

>> Translator: AND THE TIME THAT

382

00:22:34,429 --> 00:22:38,750

PEOPLE SPEND WORKING AND
TRAINING THAT SHAPES PEOPLE TO

383

00:22:38,750 --> 00:22:42,570

HAVE SPECIFIC QUALITIES THAT
ASTRONAUTS AND COSMONAUTS ARE

384
00:22:42,570 --> 00:22:58,520
EXPECTED

385
00:22:58,520 --> 00:22:59,759
TO HAVE.

386
00:22:59,759 --> 00:23:03,290
[SPEAKING RUSSIAN]
>> TRANSHATER: THIS EXPERIENCE

387
00:23:03,290 --> 00:23:07,120
WORKING TOGETHER AND TRAINING
TOGETHER OVER TIME SHAPES

388
00:23:07,120 --> 00:23:08,120
PEOPLE.

389
00:23:08,120 --> 00:23:10,960
IN ABOUT TEN YEARS, TO HAVE FOR
EACH PERSON SHOULD HAVE THE

390
00:23:10,960 --> 00:23:18,690
QUALITIES THAT ARE A GREAT ASSET
FOR US AS WE WORK TOGETHER.

391
00:23:18,690 --> 00:23:20,909
>> WE HAVE A CALL ON THE PHONE
BRIDGE.

392
00:23:20,909 --> 00:23:21,909
SARAH?

393
00:23:21,909 --> 00:23:25,990
>> HI, THIS IS SARAH LEWIS FROM
SPACE.COM.

394
00:23:25,990 --> 00:23:28,940
I WAS WONDERING WHAT'S BEEN THE
MOST CHALLENGING ASPECT OF

395

00:23:28,940 --> 00:23:30,840

TRAINING.

396

00:23:30,840 --> 00:23:34,779

>> THE MOST CHALLENGING ASPECT
OF TRAINING?

397

00:23:34,779 --> 00:23:39,260

YOU KNOW, I THINK FROM A
PHYSICAL STANDPOINT, WE TRAIN

398

00:23:39,260 --> 00:23:42,529

REALLY HARD IN NEUTRAL BUOYANCY
LAB FOR SPACE WALKS.

399

00:23:42,529 --> 00:23:44,830

IT'S A CHALLENGING JOB.

400

00:23:44,830 --> 00:23:47,710

ALL OF US GET TO A PLACE WHERE
WE'RE READY TO GO OUTSIDE AND DO

401

00:23:47,710 --> 00:23:49,670

A REAL SPACE WALK.

402

00:23:49,670 --> 00:23:52,740

IN TERMS OF THE OVERALL TRAINING
PACE, IT'S A BIT OF A CHALLENGE

403

00:23:52,740 --> 00:23:56,390

TO DO ALL THE TRAVEL THAT WE
CURRENTLY HAVE FOR SPACE

404

00:23:56,390 --> 00:23:57,700

TRAINING, FOR SPACEFLIGHT.

405

00:23:57,700 --> 00:24:00,980

I'VE SPENT A LOT OF TIME IN

RUSSIA.

406

00:24:00,980 --> 00:24:02,179

TIM HAS, AS WELL.

407

00:24:02,179 --> 00:24:05,580

SPENT A GOOD BIT OF TIME IN
JAPAN AND EUROPE.

408

00:24:05,580 --> 00:24:08,330

AND YURI SPENT TIME IN THOSE
LOCATIONS, AS WELL.

409

00:24:08,330 --> 00:24:09,880

IT'S SOMETHING THAT'S PART OF
THE JOB.

410

00:24:09,880 --> 00:24:10,880

WE EVENTUALLY GET USED TO.

411

00:24:10,880 --> 00:24:11,880

>> OKAY.

412

00:24:11,880 --> 00:24:12,880

YES, SIR?

413

00:24:12,880 --> 00:24:13,880

>> FOR THE ENTIRE CREW, WHAT ARE
YOU MOST LOOKING FORWARD TO --

414

00:24:13,880 --> 00:24:29,760

RECENTLY A LOT OF ASTRONAUTS
HAVE BEEN SHARING PHOTOS ON

415

00:24:29,760 --> 00:24:30,930

TWITTER.

416

00:24:30,930 --> 00:24:38,600

>> FOR ME AS A ROOKIE ASTRONAUT,

IT'S GOT TO BE GOING TO THE

417

00:24:38,600 --> 00:24:40,950

CUPOLA AND LOOKING DOWN ON
PLANET EARTH.

418

00:24:40,950 --> 00:24:44,840

AND I DOUBT THAT EXPERIENCE WILL
EVER LEAVE YOU.

419

00:24:44,840 --> 00:24:46,980

IT'S PROBABLY SOMETHING THAT
THESE GUYS ARE EQUALLY LOOKING

420

00:24:46,980 --> 00:24:50,070

FORWARD TO, AS WELL, BECAUSE IT
IS A UNIQUE PRIVILEGE.

421

00:24:50,070 --> 00:24:53,060

LIVING AND WORKING IN
WEIGHTLESSNESS AS WELL IS GOING

422

00:24:53,060 --> 00:24:55,760

TO BE INCREDIBLY EXCITING.

423

00:24:55,760 --> 00:24:59,080

I'VE ONLY EXPERIENCED IT BRIEFLY
WHEN WE DO OUR PARABOLIC FLIGHT

424

00:24:59,080 --> 00:25:01,919

TRAINING IN THE BACK OF
AIRCRAFT.

425

00:25:01,919 --> 00:25:06,000

TO ACTUALLY LET YOUR ENTIRE BODY
ADAPT TO THIS NEW ENVIRONMENT

426

00:25:06,000 --> 00:25:11,380

AND TO EXPERIENCE SLEEPING AND
EATING AND WORKING, THAT'S GOING

427

00:25:11,380 --> 00:25:16,359
TO BE AMAZING.

428

00:25:16,359 --> 00:25:17,700
>> ONE MORE OPERATIONAL
QUESTION.

429

00:25:17,700 --> 00:25:24,760
WHEN MISSION COMMAND SAID, TIM,
YOU DO IT, HOW DO YOU TELL WHICH

430

00:25:24,760 --> 00:25:25,760
ONE?

431

00:25:25,760 --> 00:25:26,799
DO YOU HAVE DIFFERENT CALL
SIGNS?

432

00:25:26,799 --> 00:25:28,700
>> YOU KNOW, WE DON'T HAVE CALL
SIGNS.

433

00:25:28,700 --> 00:25:31,450
I THINK THE WAY IT WILL WORK IS
ESPECIALLY WHEN IT'S THE GROUND,

434

00:25:31,450 --> 00:25:34,650
IF THEY WANT OUR ATTENTION, I
THINK THEY'LL USE FIRST AND LAST

435

00:25:34,650 --> 00:25:35,650
NAME.

436

00:25:35,650 --> 00:25:36,660
FROM THEN ON OUT IT WILL BE
CONVERSATIONAL.

437

00:25:36,660 --> 00:25:38,170

I THINK IT'S GOING TO WORK OUT.

438

00:25:38,170 --> 00:25:39,170

>> ERIC?

439

00:25:39,170 --> 00:25:40,170

>> YEAH.

440

00:25:40,170 --> 00:25:43,500

ERIC BURGER AGAIN WITH "THE
CHRONICLE."

441

00:25:43,500 --> 00:25:45,090

QUESTION FOR ANYONE WHO WANTS TO
TACKLE IT.

442

00:25:45,090 --> 00:25:48,370

YOU ARE GOING TO BE A COUPLE
HUNDRED MILES OVER EARTH LOOKING

443

00:25:48,370 --> 00:25:49,730

DOWN.

444

00:25:49,730 --> 00:25:53,020

AND IN THIS COUNTRY THERE'S A
BIG DEBATE NOW ABOUT BORDERS AND

445

00:25:53,020 --> 00:25:54,020

FENCES.

446

00:25:54,020 --> 00:25:57,510

IN EUROPE THERE'S A BIG DEBATE
ABOUT MIGRANTS AND WAR-TORN

447

00:25:57,510 --> 00:26:01,610

SYRIA THAT INVOLVES RUSSIA, AS
WELL.

448

00:26:01,610 --> 00:26:05,769

WHAT -- WHAT MESSAGE DOES THE
SPACE STATION AND INTERNATIONAL

449

00:26:05,769 --> 00:26:11,090

PARTNERS COMING TOGETHER IN
SPACE, WHAT MESSAGE WOULD YOU

450

00:26:11,090 --> 00:26:16,549

LIKE TO SEE SENT TO THE WORLD I
GUESS, WHERE THERE'S A MYRIAD OF

451

00:26:16,549 --> 00:26:17,549

PROBLEMS.

452

00:26:17,549 --> 00:26:22,070

>> YOU KNOW, IN MY OPINION, IT'S
NOT SO MUCH ABOUT LOOKING DOWN

453

00:26:22,070 --> 00:26:25,370

ON THE PLANET AND BORDERS OR NOT
SEEING BORDERS.

454

00:26:25,370 --> 00:26:31,000

TO ME, THE MESSAGE IS THAT WE
HAVE A VERY INTERNATIONAL CREW.

455

00:26:31,000 --> 00:26:34,169

BEHIND EACH OF THOSE CREW
MEMBERS IS AN ENTIRE TEAM AND

456

00:26:34,169 --> 00:26:37,169

SET OF ORGANIZATIONS THAT
SUPPORTS THAT CREW MEMBER AND

457

00:26:37,169 --> 00:26:40,029

THE SCIENCE THAT'S BEING
CONDUCTED ON BOARD.

458

00:26:40,029 --> 00:26:44,820

SO FOR ME, THE MESSAGE IS THAT

WE CAN WORK TOGETHER IN A VERY

459

00:26:44,820 --> 00:26:47,370

EFFECTIVE AND SUCCESSFUL WAY.

460

00:26:47,370 --> 00:26:55,270

JUST A MATTER OF HAVING THE
RESOLVE TO MAKE THAT HAPPEN.

461

00:26:55,270 --> 00:26:57,049

>> ANY OTHER QUESTIONS IN THE
ROOM?

462

00:26:57,049 --> 00:27:01,019

DO YOU HAVE ANY MORE FOR SOCIAL
MEDIA, MEGAN?

463

00:27:01,019 --> 00:27:02,019

>> YEAH.

464

00:27:02,019 --> 00:27:04,710

WE HAVE ONE, ANOTHER ONE ON
TWITTER FROM KELLY BENTUBO.

465

00:27:04,710 --> 00:27:07,610

WHAT'S THE FIRST THING YOU WANT
TO DO IN SPACE THAT'S NOT A

466

00:27:13,659 --> 00:27:12,019

MISSION TASK?

467

00:27:13,659 --> 00:27:17,970

I AM LOOKING FORWARD TO JUST
CALLING FRIENDS AND FAMILY AND

468

00:27:17,970 --> 00:27:20,620

HAVING THE OPPORTUNITY TO SHARE
THE EXPERIENCE AS MUCH AS

469

00:27:20,620 --> 00:27:21,860
POSSIBLE.

470
00:27:21,860 --> 00:27:25,279
I THINK THAT'S GOING TO BE
AMAZING TO BE ABLE TO SPEAK TO

471
00:27:25,279 --> 00:27:26,279
PEOPLE.

472
00:27:26,279 --> 00:27:29,990
IT'S A TESTAMENT OF HOW FOR THE
SPACE STATION HAS COME NOW THAT

473
00:27:29,990 --> 00:27:33,019
WE HAVE THIS GREAT COMMUNICATION
LINK TO EARTH THAT WE CAN

474
00:27:33,019 --> 00:27:39,970
ACTUALLY CALL FRIENDS AND FAMILY
AT ANY TIME.

475
00:27:39,970 --> 00:27:42,600
>> THEN ANOTHER ONE FROM ALBERTA
SCIENCE TEACHER.

476
00:27:42,600 --> 00:27:47,039
MY STUDENTS WANT TO KNOW WHAT
SCIENCE LAB WOULD YOU DESIGN

477
00:27:47,039 --> 00:27:51,060
ABOARD THE SPACE STATION IF YOU
COULD DESIGN ONE?

478
00:27:51,060 --> 00:27:57,580
[INAUDIBLE]
>> THAT'S A TOUGH QUESTION.

479
00:27:57,580 --> 00:28:03,280
RIGHT NOW, WE HAVE 100

U.S.-BASED EXPERIMENTS, 160 THAT

480

00:28:03,280 --> 00:28:08,150

ARE INTERNATIONALLY BASED, 50
ARE NOW DURING THIS EXPEDITION.

481

00:28:08,150 --> 00:28:11,559

THAT REALLY COVERS A HUGE GAMUT.

482

00:28:11,559 --> 00:28:16,679

I THINK THAT IT'S MORE OF THE
KID INSIDE ME THAN IT IS AN

483

00:28:16,679 --> 00:28:17,679

EXPERIMENT.

484

00:28:17,679 --> 00:28:22,350

IT'S FUN TO PLAY WITH WATER
BECAUSE WITH THE SURFACE TENSION

485

00:28:22,350 --> 00:28:25,630

BUT NOT THE GRAVITATIONAL
EFFECT, WATER IS A VERY STRANGE

486

00:28:25,630 --> 00:28:27,190

THING IN SPACE.

487

00:28:27,190 --> 00:28:30,920

IT'S FUN TO PLAY WITH AND
UNDERSTAND IT BETTER.

488

00:28:30,920 --> 00:28:32,549

>> YES, TIM?

489

00:28:32,549 --> 00:28:34,980

>> A FINAL QUESTION.

490

00:28:34,980 --> 00:28:41,860

LEAVING BORDERS BEHIND, WHEN

YOU'RE OPERATE MONTH SPACE, IS

491

00:28:41,860 --> 00:28:44,200

THERE ANY OPERATIONAL OR
PROCEDURAL CONSTRAINTS THAT ANY

492

00:28:44,200 --> 00:28:47,690

OF YOU WOULD BE IN ANY SECTION
OF THE STATION?

493

00:28:47,690 --> 00:28:49,090

>> NO.

494

00:28:49,090 --> 00:28:50,490

NO.

495

00:28:50,490 --> 00:29:01,109

>> I WAS GOING ABOUT THAT AND
WANT TO ASK PEOPLE -- THANK YOU.

496

00:29:01,109 --> 00:29:02,109

>> SURE.

497

00:29:02,109 --> 00:29:03,109

>> ANY OTHERS IN THE ROOM?

498

00:29:03,109 --> 00:29:04,109

YES, MA'AM?

499

00:29:04,109 --> 00:29:05,190

>> THIS IS --
[INAUDIBLE]

500

00:29:05,190 --> 00:29:07,340

[LAUGHTER]
>> TIMOTHY PEAKE, I SHOULD

501

00:29:07,340 --> 00:29:08,340

CLARIFY.

502

00:29:08,340 --> 00:29:10,440

I'M A NASA INTERN.

503

00:29:10,440 --> 00:29:14,789

AND JUST TO PLAY OFF ANOTHER
QUESTION.

504

00:29:14,789 --> 00:29:20,179

BEING A BRIT IN SPACE, IS THERE
ANYTHING BESIDES HAVING YOUR

505

00:29:20,179 --> 00:29:24,360

COUPLE CUPS OF TEA A DAY THAT
YOU WILL DO ANY DAYS OF

506

00:29:24,360 --> 00:29:27,440

CELEBRATION TO HONOR EVERYBODY
BACK HOME?

507

00:29:27,440 --> 00:29:29,710

>> YEAH, I MEAN, I'M ENGLISH.

508

00:29:29,710 --> 00:29:31,240

SO THERE WILL BE ST.

509

00:29:31,240 --> 00:29:33,620

GEORGE'S
DAY WHICH I WILL CELEBRATE IN

510

00:29:33,620 --> 00:29:34,620

MARCH.

511

00:29:34,620 --> 00:29:37,390

BUT I WOULD JUST LIKE TO SAY I'M
NOT THE FIRST BRIT IN SPACE.

512

00:29:37,390 --> 00:29:39,740

WE HAD HELEN SHARMA FLY IN 1991.

513

00:29:39,740 --> 00:29:43,600

OF COURSE, THE FIRST BRIT
REPRESENTED BY THE U.K.

514

00:29:43,600 --> 00:29:44,840

GOVERNMENT.

515

00:29:44,840 --> 00:29:49,309

OTHER THAN THAT, I THINK OUR
HOLIDAYS ARE FAIRLY EQUAL IN

516

00:29:49,309 --> 00:29:53,240

TERMS OF WE'LL OBVIOUSLY
CELEBRATE CHRISTMAS AND NEW

517

00:29:53,240 --> 00:29:54,640

YEAR.

518

00:29:54,640 --> 00:30:00,220

BUT NOTHING SORT OF STANDS OUT
OTHER THAN THAT.

519

00:30:00,220 --> 00:30:01,450

>> ANY OTHER QUESTIONS IN THE
ROOM?

520

00:30:01,450 --> 00:30:02,589

YES, SIR?

521

00:30:02,589 --> 00:30:04,299

>> FROM WOUNDED WARRIORS.

522

00:30:04,299 --> 00:30:08,370

I'VE GOT ONE QUESTION FOR YOU.

523

00:30:08,370 --> 00:30:10,220

I KNOW YOU CAN'T REALLY HAVE
YOUR LAST MEAL RIGHT BEFORE YOU

524

00:30:10,220 --> 00:30:11,860

TAKE OFF.

525

00:30:11,860 --> 00:30:14,669

BUT WHAT MEAL WOULD YOU WANT
WHEN YOU GUYS COME BACK?

526

00:30:14,669 --> 00:30:18,419

WHAT'S GOING TO BE YOUR FIRST
MEAL TO GO FOR?

527

00:30:18,419 --> 00:30:21,519

AND THEN DO YOU ALSO DIET RIGHT
BEFORE YOU GO SINCE YOU'RE GOING

528

00:30:21,519 --> 00:30:23,900

TO BE LIVING ON THAT SPACE FOOD?

529

00:30:23,900 --> 00:30:25,940

THANK YOU.

530

00:30:25,940 --> 00:30:30,720

>> SO BEFORE WE GO, WE'RE VERY
WELL FED.

531

00:30:30,720 --> 00:30:34,940

WE WENT AS THE BACKUP CREW, WE
WERE THERE FOR NEARLY TWO WEEKS.

532

00:30:34,940 --> 00:30:36,260

THE FOOD WAS ACTUALLY
OUTSTANDING.

533

00:30:36,260 --> 00:30:37,929

IT WASN'T A PARTICULAR DIET.

534

00:30:37,929 --> 00:30:39,539

WE'RE JUST WELL FED.

535

00:30:39,539 --> 00:30:42,330

IN TERMS OF FAVORITE MEAL COMING
HOME, I WOULDN'T MIND A GOOD

536

00:30:42,330 --> 00:30:47,040

STEAK AND FRESH SALAD.

537

00:30:47,040 --> 00:30:50,200

>> AND I THINK PIZZA IS
SOMETHING THAT THE CREW CRAVES.

538

00:30:50,200 --> 00:30:53,690

IN FACT, WE HAD THE OPPORTUNITY
TO SPEAK TO THE CREW RECENTLY

539

00:30:53,690 --> 00:30:56,150

JUST AS PART OF OUR HAND OVER
TRAINING.

540

00:30:56,150 --> 00:30:58,519

THAT WAS SOMETHING, WE SAID IS
THERE ANYTHING WE CAN DO TO HELP

541

00:30:58,519 --> 00:31:01,409

OUT, ANYTHING WE CAN BRING THAT
YOU MIGHT NEED.

542

00:31:01,409 --> 00:31:08,460

AND PIZZA WAS
THE ONLY REQUEST.

543

00:31:08,460 --> 00:31:09,460

>> YURI?

544

00:31:09,460 --> 00:31:20,830

[SPEAKING RUSSIAN]

>> Translator: YOU KNOW, AFTER

545

00:31:20,830 --> 00:31:25,240
FLIGHT, ANY FOOD IS VERY TASTY
IF IT'S FRESH.

546
00:31:25,240 --> 00:31:28,159
SO ANY FRESH FOOD IS HIGHLY
APPRECIATED.

547
00:31:28,159 --> 00:31:30,169
>> YES, SIR?

548
00:31:30,169 --> 00:31:32,179
>> MUHAMMAD AGAIN.

549
00:31:32,179 --> 00:31:39,240
THIS QUESTION TO EACH OF YOU
ALL.

550
00:31:39,240 --> 00:31:43,880
OF THE EXPERIMENT, IS THERE
ANYTHING, ANY EXPERIMENT THAT

551
00:31:43,880 --> 00:31:48,139
YOU'RE EXCITED TO WORK ON?

552
00:31:48,139 --> 00:31:54,570
>> WE'RE GOING TO MAKE THE
PRINCIPAL INVESTIGATORS JEALOUS.

553
00:31:54,570 --> 00:31:55,960
THE DIFFERENT SCIENTISTS, YOU
KNOW.

554
00:31:55,960 --> 00:31:57,320
OF COURSE WE DON'T HAVE A
FAVORITE.

555
00:31:57,320 --> 00:31:59,250
IT'S LIKE HAVING A FAVORITE
CHILD.

556

00:31:59,250 --> 00:32:01,340

>> GOOD ANSWER.

557

00:32:01,340 --> 00:32:05,470

>> I THINK IF YOU THINK ABOUT
OUR ROLE ON A SPACE STATION,

558

00:32:05,470 --> 00:32:08,759

WE'RE MORE LIKE A LAB TECHNICIAN
AND FACILITY MANAGER MORE OFTEN

559

00:32:08,759 --> 00:32:10,980

THAN WE ARE A SCIENTIST.

560

00:32:10,980 --> 00:32:14,789

BECAUSE FOR ALL THESE
EXPERIMENT, THEY REQUIRE LITTLE

561

00:32:14,789 --> 00:32:18,220

BIT OF HELP TO GET IT SET UP, OR
PERHAPS THEY'RE EXTERNAL FROM

562

00:32:18,220 --> 00:32:20,080

THE VEHICLE AND WE DON'T HAVE
INVOLVEMENT.

563

00:32:20,080 --> 00:32:24,169

YOU KNOW, ME PERSONALLY, I LIKE
THE THINGS WHERE I CAN SET IT UP

564

00:32:24,169 --> 00:32:26,559

MYSELF AND IT'S HANDS ON.

565

00:32:26,559 --> 00:32:29,860

WE HAVE ONE EXPERIMENT WHERE WE
USE ULTRASOUND.

566

00:32:29,860 --> 00:32:32,220

WE HAVE COORDINATION WITH A
PERSON ON THE GROUND THAT'S

567

00:32:32,220 --> 00:32:34,190
HELPING GUIDE THE ULTRASOUND
DEVICE.

568

00:32:34,190 --> 00:32:35,840
THAT'S PRETTY DARN COOL.

569

00:32:35,840 --> 00:32:38,809
AND THE SAME THING FOR OCULAR
HEALTH OR EYE HEALTH.

570

00:32:38,809 --> 00:32:42,110
WE ACTUALLY TAKE PICTURES OF
INSIDE OUR EYES REAL TIME.

571

00:32:42,110 --> 00:32:45,080
AND TO BE ABLE TO HAVE THAT
CAPABILITY ON STATION IS PRETTY

572

00:32:45,080 --> 00:32:46,750
NEAT.

573

00:32:46,750 --> 00:32:50,970
>> FOR MYSELF, AS WELL.

574

00:32:50,970 --> 00:32:52,460
THE EXPERIMENTS ARE GREAT.

575

00:32:52,460 --> 00:32:55,049
I MENTIONED A COUPLE OF
EXPERIMENTS I'M EXCITED ABOUT.

576

00:32:55,049 --> 00:32:58,450
THE PROTEIN CRYSTALS AND THE
METAL ALLOY.

577

00:32:58,450 --> 00:33:01,330
ALL THINGS GOING WELL, I'LL HAVE
THE OPPORTUNITY TO INSTALL A

578
00:33:01,330 --> 00:33:05,620
FURNACE INTO THE JAPANESE MODULE
WHICH IS QUITE A LARGE PIECE OF

579
00:33:05,620 --> 00:33:06,620
HARDWARE.

580
00:33:06,620 --> 00:33:10,330
AND WE'LL SUBSEQUENTLY RUN
EXPERIMENTS LOOKING AT FLAME

581
00:33:10,330 --> 00:33:15,990
COMBUSTION AND ALSO MELTING
ALLOYS AND COMPOSITE MATERIALS.

582
00:33:15,990 --> 00:33:19,549
THAT'S GREAT WHEN YOU GET THE
OPPORTUNITY TO ACTUALLY INSTALL

583
00:33:19,549 --> 00:33:36,370
SOMETHING FOR THE FIRST TIME AND
THEN SUBSEQUENTLY RUN

584
00:33:36,370 --> 00:33:38,399
THE
EXPERIMENT.

585
00:33:38,399 --> 00:33:42,870
>> ANY OTHERS IN THE ROOM?

586
00:33:42,870 --> 00:33:46,000
[SPEAKING RUSSIAN]
>> Translator: FOR MYSELF,

587
00:33:46,000 --> 00:33:48,039
SHOULD SAY WE RUN WATER

EXPERIMENTS ON BOARD.

588

00:33:48,039 --> 00:33:51,110

WE CAN BREAK THEM DOWN INTO
RELATIVE GROUPS.

589

00:33:51,110 --> 00:33:59,909

AND I AM PARTICULARLY INTERESTED
IN THE GROUP THAT DEALS WITH

590

00:33:59,909 --> 00:34:02,780

OBSERVATIONS OF EARTH FROM
SPACE.

591

00:34:02,780 --> 00:34:05,940

[SPEAKING RUSSIAN]

>> Translator: IT'S NOT JUST THE

592

00:34:05,940 --> 00:34:09,590

OBSERVATIONS OF EARTH'S SURFACE
BUT OF THE EVENTS IN THE EARTH'S

593

00:34:09,590 --> 00:34:34,210

ATMOSPHERE

594

00:34:34,210 --> 00:34:38,359

AND THE IONOSPHERE.

595

00:34:38,359 --> 00:34:41,879

[SPEAKING RUSSIAN]

[SPEAKING RUSSIAN]

596

00:34:41,879 --> 00:34:46,899

>> Translator: WE ARE USING A
LOT OF INSTRUMENTS FOR THE

597

00:34:46,899 --> 00:34:47,899

OBSERVATIONS.

598

00:34:47,899 --> 00:34:51,470
FOR EXAMPLE, WHEN WE'RE
RESEARCHING THE IONOSPHERE

599
00:34:51,470 --> 00:34:54,890
AROUND THE EARTH, WE CAN ARCHIVE
DATA AND THEN STUDY LONG

600
00:34:54,890 --> 00:35:00,970
STRETCHES OF TIME AND COMPARE
DATA AND SEE HOW IT CHANGE

601
00:35:00,970 --> 00:35:03,710
BEFORE AN EARTHQUAKE, DURING AND
AFTER THE EARTHQUAKE.

602
00:35:03,710 --> 00:35:24,530
WE CAN ATTEMPT TO FORECAST THESE
EVENTS IN

603
00:35:24,530 --> 00:35:25,530
THE FUTURE.

604
00:35:25,530 --> 00:35:28,200
[SPEAKING RUSSIAN]
>> Translator: THE ASTRONAUT HAS

605
00:35:28,200 --> 00:35:32,450
AN OPPORTUNITY TO TAKE
PHOTOGRAPHS AND VIDEOS OF THE

606
00:35:32,450 --> 00:35:34,740
EARTH TO LOOK DOWN AND OBSERVE
THE EARTH.

607
00:35:34,740 --> 00:35:42,330
AND IT IS A FASCINATING TASK TO
BE NOTICING SOME DETAILS DOWN ON

608
00:35:42,330 --> 00:35:44,880

EARTH.

609

00:35:44,880 --> 00:35:46,349

>> ANY OTHER QUESTIONS?

610

00:35:46,349 --> 00:35:47,349

YES?

611

00:35:47,349 --> 00:35:50,349

>> YOU SAID YOU HAD YOUR TEA TO
REMINDE YOU OF BRITAIN.

612

00:35:50,349 --> 00:35:54,790

SINCE YOU TWO UP THERE ARE THE
ONLY VETERANS IN SPACE, WHAT

613

00:35:54,790 --> 00:36:00,260

TYPE OF DRINK OR TRADITION DO
YOU HAVE TO HELP YOU COPE WITH

614

00:36:00,260 --> 00:36:05,320

OR REMIND YOU OF HOME WHEN YOU
GUYS ARE IN SPACE?

615

00:36:05,320 --> 00:36:07,760

>> YOU KNOW, WE LIVE INSIDE.

616

00:36:07,760 --> 00:36:10,950

AT NIGHT WE SLEEP IN A SMALL
CREW QUARTERS, ABOUT THE SIZE OF

617

00:36:10,950 --> 00:36:12,600

A REFRIGERATOR.

618

00:36:12,600 --> 00:36:15,490

WHICH SOUNDS REALLY SMALL, BUT
IT'S ACTUALLY ABOUT PERFECT FOR

619

00:36:15,490 --> 00:36:19,250

LIVING FOR THAT TIME PERIOD WHEN
IT'S NIGHT AND YOU'RE GOING TO

620

00:36:19,250 --> 00:36:20,250

SLEEP.

621

00:36:20,250 --> 00:36:24,740

AND FOR ME, HAVING PHOTOGRAPHS
OF YOUR FAMILY ON THE WALLS AND

622

00:36:24,740 --> 00:36:28,180

THOSE KIND OF MEMORIES ARE
REALLY IMPORTANT.

623

00:36:28,180 --> 00:36:43,810

[SPEAKING RUSSIAN]

>> Translator: YES, AND I WILL

624

00:36:43,810 --> 00:36:49,990

BRING A SMALL NUMBER OF -- SMALL
SOUVENIRS THAT REMIND ME OF MY

625

00:36:49,990 --> 00:36:54,000

HOME, OF MY COUNTRY, OF MY
FAMILY.

626

00:36:54,000 --> 00:36:58,880

>> I THINK WE HAVE ANOTHER
SOCIAL MEDIA QUESTION?

627

00:36:58,880 --> 00:37:03,180

>> WE HAVE ANOTHER FROM -- FROM
DANIEL ON INSTAGRAM.

628

00:37:03,180 --> 00:37:07,180

WHAT DO YOU PLAN TO DO IN YOUR
FREE TIME WHILE YOU'RE IN SPACE?

629

00:37:07,180 --> 00:37:08,869

>> FREE TIME IN SPACE?

630

00:37:08,869 --> 00:37:12,319

[LAUGHTER]

>> YOU KNOW, I THINK TIM HIT ON

631

00:37:12,319 --> 00:37:13,319

THIS.

632

00:37:13,319 --> 00:37:16,160

THAT IS, BEING ABLE TO CALL YOUR
FRIENDS AND FAMILY.

633

00:37:16,160 --> 00:37:18,250

IT'S PRETTY NEAT TO TALK TO
THEM.

634

00:37:18,250 --> 00:37:20,530

BUT I THINK YOUR FRIENDS AND
FAMILY THINK IT'S SPECIAL WHEN

635

00:37:20,530 --> 00:37:23,460

THEY GET A CALL FROM THE
INTERNATIONAL SPACE STATION.

636

00:37:23,460 --> 00:37:26,730

AND THEN BEING ABLE TO TAKE
PHOTOGRAPHS OF THE PLANET IS AN

637

00:37:26,730 --> 00:37:27,990

AMAZING THING.

638

00:37:27,990 --> 00:37:31,380

I WASN'T THAT INTO PHOTOGRAPHY
BEFORE I FLEW, BUT I'M

639

00:37:31,380 --> 00:37:33,020

ABSOLUTELY FASCINATED WITH IT
NOW.

640

00:37:33,020 --> 00:37:37,229
I'M SURE I'LL BE TAKING LOTS OF
PICTURES.

641
00:37:37,229 --> 00:37:40,109
>> TIM?

642
00:37:40,109 --> 00:37:42,980
>> YEAH.

643
00:37:42,980 --> 00:37:49,410
JUST TO ADD TO WHAT TIM SAID, I
THINK TAKING PHOTOGRAPHS IS

644
00:37:49,410 --> 00:37:50,410
GREAT.

645
00:37:50,410 --> 00:37:53,720
LOOK FORWARD TO SHARING THE
MISSION AS MUCH AS POSSIBLE

646
00:37:53,720 --> 00:37:58,680
INCLUDING SOCIAL MEDIA, TWEETING
PICTURES, AND ALSO IN MY SPARE

647
00:37:58,680 --> 00:38:02,040
TIME, RUNNING A COUPLE OF NEAT
EDUCATIONAL PROGRAMS.

648
00:38:02,040 --> 00:38:06,560
I'M GOING TO HAVE A COUPLE OF
LITTLE ASTRO PIE COMPUTERS THAT

649
00:38:06,560 --> 00:38:08,880
SCHOOLKIDS WILL PROGRAM FOR ME.

650
00:38:08,880 --> 00:38:13,119
IT WILL BE INTERESTING.

651

00:38:13,119 --> 00:38:15,520
THEY'VE GOT CAMERAS, ACTION SELL
RAMMER ITS, HUMIDITY --

652
00:38:15,520 --> 00:38:18,170
ACCELEROMETERS, HUMIDITY,
PRESSURE, THINGS LIKE THAT, AS

653
00:38:18,170 --> 00:38:19,170
WELL.

654
00:38:19,170 --> 00:38:20,529
THAT WILL BE IN MY SPARE TIME.

655
00:38:20,529 --> 00:38:26,480
>> ANY PLANS TO USE AN AMATEUR
RADIO AT ALL IN YOUR VIEW?

656
00:38:26,480 --> 00:38:27,480
>> SURE.

657
00:38:27,480 --> 00:38:28,480
>> DEFINITELY.

658
00:38:28,480 --> 00:38:29,660
>> A FOLLOWUP QUESTION ON THE
BEDROOM.

659
00:38:29,660 --> 00:38:34,190
WHERE YOUR SLEEPING, WHEN YOU
GET THERE, ALL THE BEDROOMS WILL

660
00:38:34,190 --> 00:38:36,040
BE OCCUPIED, WON'T THEY?

661
00:38:36,040 --> 00:38:45,309
WHERE WILL YOU SLEEP UNTIL YOU
GET RID OF THE CREW?

662

00:38:45,309 --> 00:38:46,410
>> I THINK WE'LL JUST FIND A
PLACE.

663
00:38:46,410 --> 00:38:48,510
IT'S A BIG STATION.

664
00:38:48,510 --> 00:38:52,420
I THINK WE'LL FIND A PLACE TO
HANG OUR SLEEPING BAG AND KEEP

665
00:38:52,420 --> 00:38:53,420
PERSONAL STUFF.

666
00:38:53,420 --> 00:38:56,700
AND SOMEPLACE DURING THAT
TRANSITION, WE'LL PROBABLY SLEEP

667
00:38:56,700 --> 00:39:02,109
INSIDE OUR CREW QUARTERS AND SEE
THEM GO BACK HOME.

668
00:39:02,109 --> 00:39:09,569
>> YURI, AS -- WHERE WILL YOU
SLEEP EVEN ONCE THERE'S ROOM?

669
00:39:09,569 --> 00:39:14,840
IS THERE A SMALL BEDROOM IN THE
OTHER --

670
00:39:14,840 --> 00:39:20,190
[INAUDIBLE]
[SPEAKING RUSSIAN]

671
00:39:20,190 --> 00:39:30,020
>> Translator: WHETHER WE
HAVE

672
00:39:30,020 --> 00:39:32,500
NINE PEOPLE ON BOARD, I'M

PLANNING TO FIND A PLACE

673

00:39:32,500 --> 00:39:33,500
SOMEWHERE TEMPORARILY.

674

00:39:33,500 --> 00:39:37,970
IT WILL BE FOR ABOUT TEN DAYS.

675

00:39:37,970 --> 00:39:45,230
[SPEAKING RUSSIAN]
>> Translator: WE HAVE VAST

676

00:39:45,230 --> 00:39:46,390
EXPERIENCE, PREVIOUS EXPERIENCE.

677

00:39:46,390 --> 00:39:51,220
THERE ARE A LOT OF SPOTS WHERE
YOU CAN FIND A COMFORTABLE SPOT

678

00:39:51,220 --> 00:39:53,290
FOR THE NIGHT.

679

00:39:53,290 --> 00:39:54,490
[SPEAKING RUSSIAN]
>> Translator: PLACES ARE

680

00:39:54,490 --> 00:40:05,950
AVAILABLE IN THE RUSSIAN SEGMENT
AND U.S. SEGMENT AND IN THE

681

00:40:05,950 --> 00:40:07,750
SEGMENTS OF OTHER PARTNERS.

682

00:40:07,750 --> 00:40:09,249
THERE'S A CHOICE.

683

00:40:09,249 --> 00:40:11,579
>> YES, MA'AM?

684

00:40:11,579 --> 00:40:17,390

>> IS SLEEP DIFFERENT IN SPACE?

685

00:40:17,390 --> 00:40:20,880

TOSSING AND TURNING?

686

00:40:20,880 --> 00:40:22,359

>> SLEEP IS DIFFERENT IN SPACE.

687

00:40:22,359 --> 00:40:25,930

YOU KNOW, IN FACT, SOMETIMES I
THINK YOU SLEEP BETTER WHEN

688

00:40:25,930 --> 00:40:27,010

THERE'S ZERO GRAVITY.

689

00:40:27,010 --> 00:40:28,060

SOMETIMES YOU DON'T.

690

00:40:28,060 --> 00:40:31,510

A LOT OF CREW MEMBERS TRY TO
FIND A POSITION IN QUARTERS

691

00:40:31,510 --> 00:40:34,650

WHERE YOU PUT YOUR BACK IN
CONTACT WITH A WALL TO MAKE IT

692

00:40:34,650 --> 00:40:36,060

FEEL MORE NATURAL.

693

00:40:36,060 --> 00:40:38,619

THAT'S ONE OF THE MAIN
DIFFERENCES.

694

00:40:38,619 --> 00:40:42,180

IN TERMS OF DREAMS, YOU KNOW, I
THINK SOME PEOPLE EVENTUALLY

695

00:40:42,180 --> 00:40:44,569
STAY LONG ENOUGH WHERE THEY
DREAM IN ZERO GRAVITY.

696
00:40:44,569 --> 00:40:48,520
THAT'S A MAJOR MILESTONE, I
THINK.

697
00:40:48,520 --> 00:40:53,339
>> ANY OTHER QUESTIONS FROM
JOHNSON?

698
00:40:53,339 --> 00:40:54,339
YES, SIR?

699
00:40:54,339 --> 00:40:59,370
>> MY QUESTION IS, YOU GUYS --
YOU'RE THE NEW GUY THERE S.

700
00:40:59,370 --> 00:41:03,829
THERE A RITE OF PASSAGE?

701
00:41:03,829 --> 00:41:07,110
[LAUGHTER]
>> MAYBE SOME CREWS, BUT NOT SO

702
00:41:07,110 --> 00:41:08,319
MUCH ON OURS.

703
00:41:08,319 --> 00:41:11,260
>> I GUESS I'LL FIND OUT.

704
00:41:11,260 --> 00:41:12,260
>> ANYTHING ELSE IN THE ROOM?

705
00:41:12,260 --> 00:41:13,260
YES, SIR?

706
00:41:13,260 --> 00:41:14,260

>> THIS QUESTION IS TO BOTH
TIMS.

707

00:41:14,260 --> 00:41:27,869
I KNOW TIMOTHY PEAKE, THIS IS
YOUR FIRST FLIGHT ON THE

708

00:41:27,869 --> 00:41:30,940
INTERNATIONAL SPACE STATION.

709

00:41:30,940 --> 00:41:34,410
TIM KOPRA, YOU HAD A FLIGHT
BEFORE.

710

00:41:34,410 --> 00:41:39,300
NOW THIS FLIGHT WILL BE FIVE
MONTHS, APPROXIMATELY FIVE

711

00:41:39,300 --> 00:41:40,300
MONTHS.

712

00:41:40,300 --> 00:41:51,491
DO YOU THINK -- WHAT OBSTACLES
DO YOU SEE IN THE NEAR FUTURE IN

713

00:41:51,491 --> 00:41:52,491
SPACE FOR A LONG DURATION FLIGHT
OF TIME?

714

00:41:52,491 --> 00:41:53,491
WHAT OBSTACLES?

715

00:41:53,491 --> 00:41:54,491
>> YOU KNOW, I DON'T THINK
THERE'S SPECIFIC OBSTACLES

716

00:41:54,491 --> 00:41:57,490
BECAUSE BY THE TIME WE FLY,
WE'RE EXTREMELY WELL TRAINED.

717

00:41:57,490 --> 00:42:01,450

BOTH FOR GOING UPHILL IN THE
SOYUZ FOR ANY CIRCUMSTANCE

718

00:42:01,450 --> 00:42:05,589

THAT'S ON BOARD AND EVEN OFF --
WHERE THINGS COULD POTENTIALLY

719

00:42:05,589 --> 00:42:07,460

GO WRONG ON STATION.

720

00:42:07,460 --> 00:42:09,250

I THINK THAT'S ONE OF THE
GREATEST PARTS ABOUT THE

721

00:42:09,250 --> 00:42:10,950

TRAINING TEAM THAT WE HAVE.

722

00:42:10,950 --> 00:42:14,420

AND THAT'S THAT BY THE TIME YOU
FLY, YOU'RE READY FOR THE

723

00:42:14,420 --> 00:42:16,180

MISSION.

724

00:42:16,180 --> 00:42:18,720

>> I COMPLETELY AGREE.

725

00:42:18,720 --> 00:42:22,339

I THINK THE ONLY OBSTACLES WE
INDUSTRIAL TO OVERCOME ARE THE

726

00:42:22,339 --> 00:42:26,540

ONES WHERE WE'RE WORKING TOWARD
THE LONGER SPACE EXPLORATION

727

00:42:26,540 --> 00:42:30,510

JOURNEYS TO MARS, FOR EXAMPLE,
WHERE RADIATION SHIELDING WILL

728

00:42:30,510 --> 00:42:32,080

COME INTO PLAY, COUNTERMEASURES.

729

00:42:32,080 --> 00:42:35,660

WE'RE ALREADY DEVELOPING SOME
GREAT COUNTERMEASURES SO THAT

730

00:42:35,660 --> 00:42:38,480

ASTRONAUTS AND COSMONAUTS WHO
ARE LANDING TODAY ARE MUCH

731

00:42:38,480 --> 00:42:42,309

FITTER AND HEALTHIER AND ABLE TO
WORK MUCH MORE QUICKLY THAN THEY

732

00:42:42,309 --> 00:42:44,240

WERE TEN YEARS AGO.

733

00:42:44,240 --> 00:42:46,980

BUT OF COURSE, WHEN WE'RE
LOOKING AT THAT MARS MISSION,

734

00:42:46,980 --> 00:42:49,770

THEN THE ASTRONAUTS NEED TO
ARRIVE IN GOOD SHAPE AFTER A

735

00:42:49,770 --> 00:42:50,770

LONG JOURNEY.

736

00:42:50,770 --> 00:42:53,059

SO THESE ARE THE THINGS WE'RE
WORKING TOWARD.

737

00:42:53,059 --> 00:42:56,290

BUT WE'RE OVERCOMING THESE
CHALLENGES.

738

00:42:56,290 --> 00:42:59,339

IT'S EXCITING TO BE PART OF THAT PROGRAM, TOO.

739

00:42:59,339 --> 00:43:00,339

>> MARK?

740

00:43:00,339 --> 00:43:03,599

>> I'M MARK FOR "AVIATION WEEK."

741

00:43:03,599 --> 00:43:09,490

ARE YOU SORT OF AT THE END OF YOUR U.S. NATIONAL TRAINING

742

00:43:09,490 --> 00:43:12,630

POINT OR CLOSE TO IT?

743

00:43:12,630 --> 00:43:16,400

WHAT'S OUT THERE FOR YOU --
[INAUDIBLE]

744

00:43:16,400 --> 00:43:22,190

>> WE HAVE ONE MORE WEEK OF CREW TRAINING WITH BOTH YURI, TIM

745

00:43:22,190 --> 00:43:25,079

HERE BEFORE THEY GO OFF.

746

00:43:25,079 --> 00:43:28,040

TIM TO EUROPE AND YURI BACK TO RUSSIA.

747

00:43:28,040 --> 00:43:31,690

WE'LL DO SOME EMERGENCY TRAINING ON BOARD THE MOCKUPS IN BUILDING

748

00:43:31,690 --> 00:43:34,260

NINE FOR SPACE STATION.

749

00:43:34,260 --> 00:43:37,560

AFTER THAT, A LOT OF IT IS
BASELINE DATA COLLECTION FOR

750

00:43:37,560 --> 00:43:40,079

DIFFERENT EXPERIMENT THAT WE
PARTICIPATE IN.

751

00:43:40,079 --> 00:43:43,450

THEN THE NEXT BIG MILESTONE
REALLY ARE EXAMS IN RUSSIA.

752

00:43:43,450 --> 00:43:47,420

WHEN YURI AND I HAVE A SET OF
EXAMS FOR ME AS LEFT SEAT, YURI

753

00:43:47,420 --> 00:43:48,700

AS COMMANDER.

754

00:43:48,700 --> 00:43:53,319

THEN ALL THREE OF US IN THE
SOYUZ SIMULATOR AND THEN SPACE

755

00:43:53,319 --> 00:43:58,760

STATION MOCKUP.

756

00:43:58,760 --> 00:44:00,930

>> ANY OTHER QUESTIONS?

757

00:44:00,930 --> 00:44:02,930

YES?

758

00:44:02,930 --> 00:44:05,319

>> FOR TIM.

759

00:44:05,319 --> 00:44:06,849

YOUR LAST MISSION WAS ON THE
SHUTTLE.

760

00:44:06,849 --> 00:44:10,010

AND NOW YOU'RE GOING UP ON THE SOYUZ.

761

00:44:10,010 --> 00:44:16,810

WHAT DID YOU -- CAN YOU EXPLAIN SOME OF THE DIFFERENCES BETWEEN

762

00:44:16,810 --> 00:44:17,810

THEM?

763

00:44:17,810 --> 00:44:22,200

>> SO MY ROLE ON THE SOYUZ HAS EXPANDED BY AS A LEFT SEATER, I

764

00:44:22,200 --> 00:44:24,260

WORK ESSENTIALLY AS A CO-PILOT.

765

00:44:24,260 --> 00:44:28,610

BEFORE ON STS 127, I WAS ON THE MID DECK.

766

00:44:28,610 --> 00:44:31,730

SO NOT MUCH OF A ROLE GOING UPHILL OR DOWNHILL.

767

00:44:31,730 --> 00:44:35,700

ON 133 WHICH I TRAINED FOR, I WAS MISSION SPIFT TWO,

768

00:44:35,700 --> 00:44:36,970

ESSENTIALLY THE QUARTERBACK.

769

00:44:36,970 --> 00:44:41,490

SO IN THIS SENSE -- AND I THINK MY ROLE IS A LITTLE BIT MORE

770

00:44:41,490 --> 00:44:42,490

COMPLICATED.

771

00:44:42,490 --> 00:44:45,540
SO IT REQUIRED MORE TIME IN
RUSSIA FOR THAT TRAINING.

772
00:44:45,540 --> 00:44:50,869
YOU KNOW, I HAVE A LOT OF
RESPECT FOR THE SOYUZ VEHICLE.

773
00:44:50,869 --> 00:44:55,059
IT'S BIG ENOUGH, AND IT DOES ITS
JOB WELL ENOUGH THAT THEY CAN

774
00:44:55,059 --> 00:44:58,369
MAKE IT THROUGH THE ENTIRE
SEQUENCE OF LAUNCH AND LANDING

775
00:44:58,369 --> 00:44:59,710
IN A SAFE MANNER.

776
00:44:59,710 --> 00:45:02,770
YOU KNOW, IN THE SHUTTLE DAYS,
THERE WERE SEVERAL ZONES IN

777
00:45:02,770 --> 00:45:06,180
WHICH YOUR LIFE WAS IN PERIL AND
THERE WASN'T MUCH YOU COULD DO

778
00:45:06,180 --> 00:45:07,380
ABOUT IT.

779
00:45:07,380 --> 00:45:10,640
WHEREAS THE SOYUZ, ITS DESIGNED
-- IT'S DESIGNED SO EVERY

780
00:45:10,640 --> 00:45:14,309
PORTION OF THE LAUNCH AND
LANDING HAS CONTINGENCIES WHERE

781
00:45:14,309 --> 00:45:15,710
THE CREW IS REALLY GOING TO BE

SAFE.

782

00:45:15,710 --> 00:45:18,450

I REALLY RESPECT THAT.

783

00:45:18,450 --> 00:45:20,050

>> YES?

784

00:45:20,050 --> 00:45:23,240

>> ROBERT AGAIN.

785

00:45:23,240 --> 00:45:26,970

RIGHT NOW AS WE'RE SITTING HERE
IN LONDON, THEY'RE HAVING THE

786

00:45:26,970 --> 00:45:30,400

WORLD PREMIERE OF "THE MARTIAN,"
AND THERE'S THROGS OF PEOPLE

787

00:45:30,400 --> 00:45:32,770

ACCORDING TO TWITTER UPDATES
LINED UP.

788

00:45:32,770 --> 00:45:35,930

WHAT DOES IT SAY ABOUT SOCIETY
THAT THE PUBLIC MIGHT BE MORE

789

00:45:35,930 --> 00:45:39,010

AWARE OF, PAY MORE ATTENTION TO
A FICTIONAL JOURNEY TO MARS THAN

790

00:45:39,010 --> 00:45:40,940

WHAT'S CURRENTLY GOING ON IN
SPACE?

791

00:45:40,940 --> 00:45:44,460

MAYBE MORE AWARE OF THE
ADVENTURES OF MARK WATNEY THAN

792

00:45:44,460 --> 00:45:47,390
THE ADVENTURES OF TIM, TIM, AND
YURI?

793
00:45:47,390 --> 00:45:52,130
IS THAT SOMETHING THAT NEEDS TO
BE CHANGED, OR IS THAT THE

794
00:45:52,130 --> 00:45:56,550
NATURAL PROGRESSION OF
SPACEFLIGHT OVER THE LAST 50

795
00:45:56,550 --> 00:45:57,550
YEARS?

796
00:45:57,550 --> 00:45:58,930
>> I THINK IT'S FANTASTIC.

797
00:45:58,930 --> 00:46:02,140
WE'VE HAD A SPATE OF HOLLYWOOD
MOVIES WITH "GRAVITY" AND

798
00:46:02,140 --> 00:46:03,950
"INTERSTELLAR" AND NOW "THE
MARTIAN."

799
00:46:03,950 --> 00:46:07,579
I THINK THAT THE PUBLIC IS
INTERESTED IN SPACE AND SPACE

800
00:46:07,579 --> 00:46:10,230
EXPLORATION IS WONDERFUL.

801
00:46:10,230 --> 00:46:14,290
THEY WILL ALWAYS BE LOOKING
AHEAD BECAUSE THAT'S WHERE IT'S

802
00:46:14,290 --> 00:46:18,720
MOST INTERESTING AND EXCITING TO
KIND OF PROJECT TO THE FUTURE.

803

00:46:18,720 --> 00:46:21,300

AND WHAT WE'RE DOING IS ALSO
WORKING ON THAT JOURNEY, BUT

804

00:46:21,300 --> 00:46:24,730

OBVIOUSLY LAGGING BEHIND IN
TERMS OF SCIENCE FICTION.

805

00:46:24,730 --> 00:46:27,260

THAT'S BEEN THE CASE FOR SO MANY
YEARS.

806

00:46:27,260 --> 00:46:30,940

BUT NO, I THINK IT'S WONDERFUL
THAT THE GENERAL PUBLIC IS SO

807

00:46:30,940 --> 00:46:34,060

AWARE OF SPACE AND SPACE
EXPLORATION AS A WHOLE.

808

00:46:34,060 --> 00:46:37,740

AND HOPEFULLY WHAT WE CAN DO IS
HELP TO USE OUR MISSIONS TODAY

809

00:46:37,740 --> 00:46:41,119

ON THE INTERNATIONAL SPACE
STATION AND EXPLAIN WHAT WE'RE

810

00:46:41,119 --> 00:46:45,660

DOING RIGHT NOW IS ACTUALLY
DIRECTLY INVOLVED IN THAT

811

00:46:45,660 --> 00:46:51,959

JOURNEY TO ASTEROIDS, TO MOON,
AND TO MARS.

812

00:46:51,959 --> 00:46:55,589

>> ANYONE?

813

00:46:55,589 --> 00:46:59,359

>> FOR A PHOTO OP AND SHOW OF
HANDS, THERE WAS A TWO-YEAR

814

00:46:59,359 --> 00:47:01,170

RESCUE TO MARS MISSION RIGHT
NOW.

815

00:47:01,170 --> 00:47:04,210

WHICH OF YOU WOULD LIKE TO GO?

816

00:47:04,210 --> 00:47:08,020

>> A TWO-YEAR RESCUE MISSION?

817

00:47:08,020 --> 00:47:12,170

>> WE'LL TAKE ONE LAST QUESTION
FROM SOCIAL MEDIA.

818

00:47:12,170 --> 00:47:15,170

>> WE HAVE ONE ON TWITTER FROM
REBECCA DAVIDSON.

819

00:47:15,170 --> 00:47:19,040

SO YOU'VE TOLD US WHY YOU WANTED
TO BECOME AN ASTRONAUT AND WHEN

820

00:47:19,040 --> 00:47:20,040

YOU DECIDED.

821

00:47:20,040 --> 00:47:22,559

WHAT WAS THE SELECTION PROCESS
LIKE, AND WHAT WERE THE MAIN

822

00:47:22,559 --> 00:47:23,559

STAGES?

823

00:47:23,559 --> 00:47:27,470

AND IS THERE ANYTHING ABOUT IT
THAT PARTICULARLY STOOD OUT TO

824

00:47:27,470 --> 00:47:29,170

YOU?

825

00:47:29,170 --> 00:47:31,700

>> YOU KNOW, THE PROCESS HAS
CHANGED OVER TIME.

826

00:47:31,700 --> 00:47:37,560

I'M PROBABLY MOST FAMILIAR WITH
THE CURRENT SELECTION PROCESS IN

827

00:47:37,560 --> 00:47:40,710

TERMS OF HOW IT'S EVOLVED.

828

00:47:40,710 --> 00:47:45,619

INTERESTINGLY NOW, WE WENT FROM
ABOUT 6,000 DOWN TO THIS LAST

829

00:47:45,619 --> 00:47:50,690

CLASS OF EIGHT PEOPLE WHICH IS
AN AMAZING SELECTION PROCESS TO

830

00:47:50,690 --> 00:47:52,050

GET FROM THIS HUGE GROUP.

831

00:47:52,050 --> 00:47:55,630

IT'S DONE IN STAGES WHERE THEY
FIND THE PEOPLE THAT ARE THE --

832

00:47:55,630 --> 00:47:58,210

THAT MEET THE BASIC
REQUIREMENTS, THE BASIC

833

00:47:58,210 --> 00:47:59,609

EDUCATIONAL REQUIREMENTS.

834

00:47:59,609 --> 00:48:02,510

AND GETTING DOWN TO A PLACE

WHERE THEY COULD INTERVIEW A

835

00:48:02,510 --> 00:48:03,730

HANDFUL OF PEOPLE.

836

00:48:03,730 --> 00:48:05,530

AND NOW THEY HAVE TWO INTERVIEW

837

00:48:05,530 --> 00:48:06,530

PROCESSES.

838

00:48:06,530 --> 00:48:09,980

THE FIRST IS TO MAKE SURE
THEY'RE MEDICALLY QUALIFIED AND

839

00:48:09,980 --> 00:48:12,520

THAT YOU'D LIKE TO BRING THEM
BACK.

840

00:48:12,520 --> 00:48:15,390

THE SECOND ONE AND N LARGE
MEASURE IS TO FIND OUT WHAT KIND

841

00:48:15,390 --> 00:48:16,390

OF PERSON THEY ARE.

842

00:48:16,390 --> 00:48:20,630

IS THAT THE PERSON THAT WOULD BE
BEST SUITED FOR LONG DURATION

843

00:48:20,630 --> 00:48:25,180

SPACEFLIGHT.

844

00:48:25,180 --> 00:48:26,539

>> TIM OR YURI?

845

00:48:26,539 --> 00:48:30,309

>> I BELIEVE IT'S INTERESTING
THAT EACH SPACE AGENCY HAS THEIR

846

00:48:30,309 --> 00:48:34,170

OWN DIFFERENT WAYS OF MANAGING
THE SELECTION PROCESS.

847

00:48:34,170 --> 00:48:39,200

BUT ULTIMATELY, THEY END UP
EVALUATING THE SAME TYPE OF

848

00:48:39,200 --> 00:48:40,200

CHARACTERISTICS.

849

00:48:40,200 --> 00:48:43,150

CERTAINLY IN THE 2009 CLASS, IT
WAS INSTINCT -- AT THE SAME TIME

850

00:48:43,150 --> 00:48:44,809

EUROPE WAS HAVING SELECTION.

851

00:48:44,809 --> 00:48:48,870

CANADA, JAPAN, AND NASA WERE
HAVING A SELECTION, AS WELL.

852

00:48:48,870 --> 00:48:51,900

AND ALL GOING THROUGH SLIGHTLY
DIFFERENT METHODS.

853

00:48:51,900 --> 00:48:54,299

IT WAS INTERESTING TO HEAR FROM
OUR CANADIAN COLLEAGUES AND HEAR

854

00:48:54,299 --> 00:48:57,230

ABOUT THE FIREFIGHTING SKILLS
AND WATER SKILLS.

855

00:48:57,230 --> 00:49:01,349

WE HAD AN INTERESTING TIME IN
EUROPE.

856

00:49:01,349 --> 00:49:04,359
WE GOT PUT THROUGH OUR PACES IN
TERMS OF THINGS LIKE

857
00:49:04,359 --> 00:49:08,839
PSYCHOLOGICAL PROFILING AND
SOFTWARE SUCH AS COMMUNICATION

858
00:49:08,839 --> 00:49:12,270
AND TEAMWORK, LEADERSHIP,
FELLOWSHIP, THAT KIND OF THING.

859
00:49:12,270 --> 00:49:16,480
LOOKING AMONGST THE WORLDWIDE
ASTRONAUT/COSMONAUT CORPS, I

860
00:49:16,480 --> 00:49:19,490
THINK THAT ALL THE AGENCIES DO A
VERY GOOD JOB AT THE END OF THE

861
00:49:19,490 --> 00:49:22,530
DAY, NO MATTER HOW THEY GET
THERE, OF SELECTING PEOPLE WITH

862
00:49:22,530 --> 00:49:24,600
VERY SIMILAR CHARACTERISTICS
THAT ARE SUITABLE FOR

863
00:49:24,600 --> 00:49:26,160
SPACEFLIGHT.

864
00:49:26,160 --> 00:49:27,720
>> YURI?

865
00:49:27,720 --> 00:49:31,799
[SPEAKING RUSSIAN]
>> ANY OTHER QUESTIONS IN THE

866
00:49:31,799 --> 00:49:32,799
ROOM?

867

00:49:32,799 --> 00:49:36,230

IF YOU'RE ON THE PHONE BRIDGE,
PRESS STAR-ONE IF YOU HAVE A

868

00:49:36,230 --> 00:49:39,510

QUESTION.

869

00:49:39,510 --> 00:49:45,820

WELL, THANK YOU FOR BEING PARTS
OF THE EXPEDITION 46/47 CREW

870

00:49:45,820 --> 00:49:47,150

NEWS CONFERENCE.

871

00:49:47,150 --> 00:49:53,750

YOU CAN FIND TIM KOPRA AT ASTRO
UNDERSCORE TIM AND TIMOTHY PEAKE

872

00:49:53,750 --> 00:49:57,020

AT ASTRO UNDERSCORE TIM PEAKE.

873

00:49:57,020 --> 00:49:59,670

YOU CAN ALSO FOLLOW THE CREW
MEMBERS' FLIGHT EXPERIENCES ON

874

00:49:59,670 --> 00:50:05,220

INSTAGRAM AT [INSTAGRAM.COM/ISS](https://www.instagram.com/ISS).

875

00:50:05,220 --> 00:50:08,109

AND FOR MORE INFORMATION ON THE
INTERNATIONAL SPACE STATION,