



35



1  
00:00:01,856 --> 00:00:03,136  
The next members

2  
00:00:03,136 --> 00:00:05,316  
of the International  
Space Station's crew come

3  
00:00:05,316 --> 00:00:06,736  
from three different countries.

4  
00:00:07,056 --> 00:00:09,206  
Yet they plan to work  
for a shared goal --

5  
00:00:09,206 --> 00:00:12,486  
getting humankind ready  
to fly farther from Earth

6  
00:00:12,856 --> 00:00:14,186  
than this station can go.

7  
00:00:14,186 --> 00:00:18,506  
Canadian Space Agency astronaut  
Chris Hadfield was born

8  
00:00:18,506 --> 00:00:22,346  
in Sarnia, Ontario, and  
grew up there and on a farm

9  
00:00:22,346 --> 00:00:23,886  
in Milton, near Toronto.

10  
00:00:24,456 --> 00:00:26,266  
The space race had  
captured his imagination

11  
00:00:26,266 --> 00:00:27,556  
by the time he was nine

12

00:00:27,686 --> 00:00:29,786

and watched Neil

Armstrong walk on the moon.

13

00:00:30,246 --> 00:00:32,156

And Hadfield thought to himself,

14

00:00:32,356 --> 00:00:33,736

"I'm going to grow

up to be something.

15

00:00:34,056 --> 00:00:35,276

Why not that?"

16

00:00:35,506 --> 00:00:36,426

"But then when I looking

17

00:00:36,426 --> 00:00:38,496

around I'm thinking I'm

a nine-year old kid.

18

00:00:38,706 --> 00:00:39,416

I'm a Canadian.

19

00:00:39,416 --> 00:00:40,186

What are my odds?

20

00:00:40,186 --> 00:00:40,946

Not very good.

21

00:00:41,116 --> 00:00:42,356

But I thought well you know

22

00:00:42,356 --> 00:00:44,476

up until yesterday

people couldn't even go

23

00:00:44,476 --> 00:00:45,176

and walk on the moon.

24

00:00:45,176 --> 00:00:47,356

And now they can,  
so maybe I can too.

25

00:00:48,436 --> 00:00:50,866

And so I started  
getting ready that night.

26

00:00:51,296 --> 00:00:53,996

Basically started, what  
do I need to do next?

27

00:00:54,706 --> 00:00:56,836

Hadfield got into  
advanced courses in school

28

00:00:56,836 --> 00:00:58,916

and on the academic track  
that led to college.

29

00:00:59,286 --> 00:01:02,396

But he also became a ski  
instructor while learning how

30

00:01:02,396 --> 00:01:05,236

to fly as a member of  
Canada's air cadets.

31

00:01:05,596 --> 00:01:07,326

"They teach them a bunch  
of technical things.

32

00:01:07,326 --> 00:01:08,686

They teach them self-discipline.

33

00:01:08,866 --> 00:01:10,496

They give them levels  
of responsibility

34

00:01:10,496 --> 00:01:12,376

that they might not get  
otherwise as teenagers.

35

00:01:12,486 --> 00:01:14,556

And in my case I spent  
one summer learning

36

00:01:14,556 --> 00:01:16,916

to be a glider pilot and getting  
my glider pilot's license.

37

00:01:17,106 --> 00:01:20,246

And right at the age of 16  
I became a powered pilot."

38

00:01:20,616 --> 00:01:22,856

Hadfield joined the  
Canadian Armed Forces right

39

00:01:22,856 --> 00:01:24,906

out of high school and  
earned a Bachelor's

40

00:01:24,906 --> 00:01:27,746

in Mechanical Engineering from  
the Royal Military College.

41

00:01:27,836 --> 00:01:31,916

After jet training he flew the  
Canadian version of the F-18

42

00:01:31,916 --> 00:01:35,346

for NORAD, attended the U.S.  
Air Force Test Pilot School

43

00:01:35,616 --> 00:01:38,816

and served as an exchange  
officer with the U.S. Navy

44

00:01:38,816 --> 00:01:42,066  
at the Patuxent River Naval Air  
Station while earning a Masters

45

00:01:42,066 --> 00:01:45,116  
in Aviation Systems from  
the University of Tennessee.

46

00:01:45,846 --> 00:01:47,586  
Hadfield was selected  
as an astronaut

47

00:01:47,586 --> 00:01:50,886  
by the Canadian Space  
Agency in 1992 and assigned

48

00:01:50,886 --> 00:01:52,616  
to the Johnson Space  
Center in Houston.

49

00:01:53,116 --> 00:01:56,546  
On his first spaceflight,  
the 1995 shuttle mission

50

00:01:56,546 --> 00:01:59,536  
that delivered a docking module  
to the Mir Space Station,

51

00:01:59,976 --> 00:02:01,626  
he became the first Canadian

52

00:02:01,626 --> 00:02:04,306  
to operate the shuttle's  
Canadarm on-orbit.

53

00:02:04,566 --> 00:02:06,696  
After serving as chief astronaut

54

00:02:06,696 --> 00:02:09,296  
for CSA he made his  
second flight

55

00:02:09,296 --> 00:02:12,446  
on the 2001 shuttle mission  
that delivered Canadarm2

56

00:02:12,446 --> 00:02:14,446  
to the International  
Space Station.

57

00:02:14,766 --> 00:02:18,006  
And he performed two  
spacewalks, the first ever made

58

00:02:18,006 --> 00:02:19,376  
by a Canadian astronaut.

59

00:02:20,136 --> 00:02:22,786  
Hadfield served as NASA's  
Director of Operations

60

00:02:22,786 --> 00:02:25,976  
in Star City, Russia, retired  
from the Canadian Air Force

61

00:02:25,976 --> 00:02:29,056  
as a colonel and then  
served in a variety of roles

62

00:02:29,056 --> 00:02:32,636  
within NASA's Astronaut Office  
before getting this assignment

63

00:02:32,746 --> 00:02:36,116  
to support the research onboard  
the International Space Station.

64

00:02:36,596 --> 00:02:40,066

"And it is our big  
proving ground.

65

00:02:40,066 --> 00:02:43,546

It's our test track for building  
spaceships in the future

66

00:02:43,716 --> 00:02:47,126

and it is therefore the diving  
board, the launching board,

67

00:02:47,336 --> 00:02:48,386

that's going to allow us

68

00:02:48,386 --> 00:02:51,576

to confidently go  
further away from Earth."

69

00:02:51,636 --> 00:02:55,416

Retired Russian Air Force  
Colonel Roman Romanenko was born

70

00:02:55,416 --> 00:02:58,576

in Schelkovo near Moscow  
and grew up in Star City

71

00:02:58,576 --> 00:03:00,546

at the center of the  
cosmonaut community.

72

00:03:01,016 --> 00:03:03,356

His father, cosmonaut  
Yuri Romanenko,

73

00:03:03,356 --> 00:03:06,956

flew three times before his  
son graduated from high school.

74

00:03:07,366 --> 00:03:11,256

So the idea of being a cosmonaut

wasn't so romantic to the son.

75

00:03:11,936 --> 00:03:17,026

"We never went on a trip, or  
on a picnic, or business trip.

76

00:03:17,026 --> 00:03:21,286

I was always with my dad and I  
would just always be in contact

77

00:03:21,286 --> 00:03:24,096

with cosmonauts and I thought  
it would be always normal

78

00:03:24,096 --> 00:03:24,916

to be with them.

79

00:03:25,046 --> 00:03:26,916

There's nothing special  
about it for me."

80

00:03:27,396 --> 00:03:29,986

But he did want to  
be a military pilot.

81

00:03:30,306 --> 00:03:32,876

So after high school  
Romanenko followed his father

82

00:03:32,876 --> 00:03:34,016

into the Air Force.

83

00:03:34,306 --> 00:03:37,526

He graduated from the Suvorov  
Military School in Leningrad

84

00:03:37,666 --> 00:03:40,166

and the Chernikov Higher  
Military School of Pilots.

85

00:03:40,646 --> 00:03:44,326

But after the fall of the Soviet  
Union young Air Force pilots had

86

00:03:44,326 --> 00:03:46,586

fewer opportunities  
to fly fighters.

87

00:03:47,026 --> 00:03:50,216

Romanenko found himself  
co-piloting cargo transport

88

00:03:50,516 --> 00:03:53,696

and ferrying cosmonauts to  
their launch site in Kazakhstan.

89

00:03:53,976 --> 00:03:57,896

"They weren't allowing  
me to fly a lot

90

00:03:57,896 --> 00:04:00,516

and so I started thinking  
about changing jobs.

91

00:04:01,086 --> 00:04:03,486

Maybe find something  
related to that.

92

00:04:04,226 --> 00:04:07,946

And right at that moment I  
was told that they're looking

93

00:04:07,946 --> 00:04:13,636

for applicants to  
join the cosmonauts.

94

00:04:14,816 --> 00:04:15,786

And I thought why not?

95

00:04:15,786 --> 00:04:17,236  
I give it a try as well."

96

00:04:18,106 --> 00:04:21,756  
Romanenko was selected as a  
cosmonaut candidate in 1997

97

00:04:22,056 --> 00:04:23,456  
and made his first spaceflight

98

00:04:23,456 --> 00:04:27,686  
in 2009 commanding the Soyuz  
spacecraft that brought he

99

00:04:27,686 --> 00:04:30,136  
and two crewmates to the  
International Space Station

100

00:04:30,416 --> 00:04:34,466  
to expand its crew to six for  
the first time on Expedition 20.

101

00:04:35,146 --> 00:04:37,696  
Romanenko has also  
served as deputy commander

102

00:04:37,696 --> 00:04:40,516  
of Russia's cosmonaut corps  
while his nation has worked

103

00:04:40,516 --> 00:04:42,016  
with its international partners

104

00:04:42,206 --> 00:04:44,056  
to get ready for  
the next journey.

105

00:04:44,446 --> 00:04:49,336  
"If everything is going  
well, if we are able

106

00:04:49,336 --> 00:04:53,456  
to successfully follow the  
program, the flight program,

107

00:04:53,456 --> 00:04:55,686  
even while orbiting Earth

108

00:04:56,066 --> 00:04:59,586  
with this rich experience we'll  
be able to reach other planets

109

00:04:59,586 --> 00:05:00,986  
as well with no problems."

110

00:05:01,556 --> 00:05:05,176  
Dr. Tom Marshburn is native of  
Statesville, North Carolina,

111

00:05:05,606 --> 00:05:07,176  
the seventh of seven children

112

00:05:07,176 --> 00:05:09,546  
who loved working  
and playing outdoors.

113

00:05:09,866 --> 00:05:12,876  
He remembers being excited  
to watch the first moonwalk

114

00:05:12,966 --> 00:05:15,296  
because it fed into  
his love of adventure.

115

00:05:15,596 --> 00:05:17,376  
"I always loved to  
draw and to paint.

116

00:05:17,796 --> 00:05:21,236

It was in high school  
that I thought you know,

117

00:05:21,356 --> 00:05:23,176

the space program is  
interesting to me,

118

00:05:23,176 --> 00:05:25,146

specifically the space  
program that got me

119

00:05:25,146 --> 00:05:27,326

into the technical field and  
I just switched completely.

120

00:05:27,326 --> 00:05:31,246

I concentrated on math,  
science and fell in love

121

00:05:31,246 --> 00:05:32,296

with the physics classes."

122

00:05:32,296 --> 00:05:36,216

After high school in Atlanta he  
earned his Bachelor's in Physics

123

00:05:36,216 --> 00:05:38,666

from Davidson College  
and a Masters in Physics

124

00:05:38,666 --> 00:05:40,236

from the University of Virginia.

125

00:05:40,236 --> 00:05:44,246

But he also came to understand  
that his talents might lie more

126

00:05:44,346 --> 00:05:45,526

in working with people.

127

00:05:46,166 --> 00:05:48,416

"I actually came down to  
the Johnson Space Center

128

00:05:48,416 --> 00:05:50,566

and started knocking on  
doors asking for a job

129

00:05:51,006 --> 00:05:52,516

after I received  
my Masters degree.

130

00:05:53,016 --> 00:05:54,286

One of the doctor's  
that worked here said,

131

00:05:54,286 --> 00:05:56,986

you ought to get a medical  
degree cause NASA's going

132

00:05:56,986 --> 00:05:57,876

to need doctors some day.

133

00:05:58,846 --> 00:05:59,216

So I did."

134

00:06:00,456 --> 00:06:03,286

Marshburn earned a Doctor  
of Medicine at Wake Forest,

135

00:06:03,556 --> 00:06:06,656

trained as an emergency room  
physician in Toledo, Ohio,

136

00:06:06,976 --> 00:06:10,766

and then worked in an ER in  
Seattle before being accepted

137

00:06:10,766 --> 00:06:13,536

in the first class of NASA's  
Space Medicine Fellowship

138  
00:06:13,536 --> 00:06:15,826  
program to train as  
a flight surgeon.

139  
00:06:16,426 --> 00:06:18,826  
In that role for NASA,  
Marshburn has worked

140  
00:06:18,826 --> 00:06:21,456  
in the shuttle program,  
in Star City, Russia,

141  
00:06:21,456 --> 00:06:23,446  
for NASA personnel  
assigned as part

142  
00:06:23,446 --> 00:06:25,476  
of the International  
Space Station Program

143  
00:06:25,866 --> 00:06:29,496  
and as lead flight surgeon  
for shuttle and station crews.

144  
00:06:29,936 --> 00:06:32,526  
He was selected as  
an astronaut in 2004

145  
00:06:32,866 --> 00:06:34,416  
and made his first spaceflight

146  
00:06:34,506 --> 00:06:37,136  
on a 2009 space shuttle  
mission during

147  
00:06:37,136 --> 00:06:40,396  
which he made three spacewalks

to complete the construction

148

00:06:40,396 --> 00:06:42,276  
of the Kibo laboratory complex

149

00:06:42,546 --> 00:06:45,636  
and get the International Space  
Station in shape for its mission

150

00:06:45,896 --> 00:06:48,736  
as a test bed that will  
help human beings prepare

151

00:06:48,736 --> 00:06:51,376  
for the next stage  
of space exploration.

152

00:06:51,776 --> 00:06:54,386  
"You'd have to build  
something and then test it

153

00:06:54,386 --> 00:06:56,366  
out over a long period of time.

154

00:06:56,366 --> 00:06:58,266  
Well that's what the  
space station is.

155

00:06:58,836 --> 00:07:02,676  
And with the Russian technology,  
with a lot of technology,

156

00:07:02,676 --> 00:07:06,416  
the international partners have  
come up with, we're able to find

157

00:07:06,416 --> 00:07:10,516  
out how we can maintain  
these things we call people

