



1
00:00:01,110 --> 00:00:04,290
>> Despite their
diverse backgrounds,

2
00:00:04,290 --> 00:00:06,690
there's a common trait
among the crewmembers

3
00:00:06,690 --> 00:00:09,790
of the International Space
Station's Expedition 34,

4
00:00:09,790 --> 00:00:14,450
a desire to fly and to
explore the unknown.

5
00:00:14,450 --> 00:00:18,080
Retired Air Force Colonel
Kevin Ford is a product

6
00:00:18,080 --> 00:00:22,160
of Northeastern Indiana, the
youngest of six kids was born

7
00:00:22,160 --> 00:00:24,400
in Portland, raised
in Montpelier

8
00:00:24,400 --> 00:00:27,350
and graduated high
school in Hartford City.

9
00:00:27,350 --> 00:00:30,550
He was 14 when his oldest
brother gave him his first ride

10
00:00:30,550 --> 00:00:34,620
in a small plane and Ford
was hooked on flying.

11

00:00:34,620 --> 00:00:37,470

>> I started working
a grocery store,

12

00:00:37,470 --> 00:00:42,080

I happened to have a grocer in
my town who had his own airplane

13

00:00:42,080 --> 00:00:45,010

and so he was really
willing to give me job,

14

00:00:45,010 --> 00:00:47,820

give me all the hours I needed
to pay for flying lessons.

15

00:00:47,820 --> 00:00:50,010

>> Ford already had
his pilot's license

16

00:00:50,010 --> 00:00:52,420

when he finished high school
and went to Notre Dame

17

00:00:52,420 --> 00:00:54,890

as an Air Force ROTC student.

18

00:00:54,890 --> 00:00:57,000

He graduated with a
Bachelor's of Science

19

00:00:57,000 --> 00:01:00,320

and Aerospace Engineering, did
his Air Force pilot training

20

00:01:00,320 --> 00:01:03,570

at Columbus Air Force Base in
Mississippi and was assigned

21

00:01:03,570 --> 00:01:06,120
to an F15 squadron in Germany.

22

00:01:06,120 --> 00:01:09,650
>> It was '84 to '87
so kind of the height

23

00:01:09,650 --> 00:01:11,480
of the Cold War kind of time.

24

00:01:11,480 --> 00:01:14,060
Never saw myself in the
future flying in a Soyuz

25

00:01:14,060 --> 00:01:16,530
at that point, I'll
tell you that.

26

00:01:16,530 --> 00:01:19,860
>> Then it was a fighter
interceptor squadron in Iceland,

27

00:01:19,860 --> 00:01:22,070
while finishing his
Master of Science Degree

28

00:01:22,070 --> 00:01:24,660
in International
Relations from Troy State,

29

00:01:24,660 --> 00:01:27,580
before being selected for the
Air Force Test Pilot School.

30

00:01:27,580 --> 00:01:31,000
Ford earned a Master of
Science in Aerospace Engineering

31

00:01:31,000 --> 00:01:34,240
at the University of Florida

while flying as a test pilot

32

00:01:34,240 --> 00:01:37,880
at Eglin Air Force Base and then
he took a three year assignment

33

00:01:37,880 --> 00:01:40,640
to complete a doctorate in
aeronautical engineering

34

00:01:40,640 --> 00:01:43,640
from the Air Force
Institute of Technology.

35

00:01:43,640 --> 00:01:44,920
He served as an instructor

36

00:01:44,920 --> 00:01:47,770
at the Air Force Test Pilot
School before being selected

37

00:01:47,770 --> 00:01:51,760
as an astronaut in 2000 and
did a tour as NASA's Director

38

00:01:51,760 --> 00:01:53,390
of Operations in Star City,

39

00:01:53,390 --> 00:01:55,680
Russia before making
his first trip

40

00:01:55,680 --> 00:01:58,270
to the International
Space Station as the pilot

41

00:01:58,270 --> 00:02:02,430
on a 2009 shuttle supply
flight during Expedition 20.

42

00:02:02,430 --> 00:02:05,960

Ford is a supporter of
robotic exploration beyond low

43

00:02:05,960 --> 00:02:06,950

earth orbit.

44

00:02:06,950 --> 00:02:10,210

>> But I think the human, the
emotional connection comes

45

00:02:10,210 --> 00:02:14,830

about because we see ourselves
out there, we project ourselves

46

00:02:14,830 --> 00:02:18,360

out there and we really want
to go explore on our how,

47

00:02:18,360 --> 00:02:20,440

have a look with our own eyes.

48

00:02:20,440 --> 00:02:23,790

>> Russian Air Force Colonel
Oleg Novitskiy is from Chervyen,

49

00:02:23,790 --> 00:02:27,980

a small town near Minsk in what
is now the Republic of Belarus.

50

00:02:27,980 --> 00:02:33,780

Flying in space was
his childhood dream.

51

00:02:33,780 --> 00:02:33,850

[Foreign language]

52

00:02:33,850 --> 00:02:39,220

>> When I was a kid, I remember

looking into the dark sky

53

00:02:39,220 --> 00:02:40,880
with stars and it
was like a magnet.

54

00:02:40,880 --> 00:02:44,630
After I grew up, I realized
that it's not as easy

55

00:02:44,630 --> 00:02:49,500
to become a cosmonaut so I
picked the shortest route.

56

00:02:49,500 --> 00:02:52,050
>> That meant becoming
a military pilot.

57

00:02:52,050 --> 00:02:54,940
After high school, he entered
the [Foreign name] Military

58

00:02:54,940 --> 00:02:58,120
Pilot School but when the
military reformed itself

59

00:02:58,120 --> 00:03:00,090
after the fall of
the Soviet Union,

60

00:03:00,090 --> 00:03:02,760
he moved to the Kachin
Flight School and graduated

61

00:03:02,760 --> 00:03:05,920
with a specialization in
command tactical aviation.

62

00:03:05,920 --> 00:03:06,160
[Foreign language]

63

00:03:06,160 --> 00:03:14,700

>> After that, I also studied
to work with military machinery

64

00:03:14,700 --> 00:03:23,540

which took about one year and
in 1995, I was assigned to work

65

00:03:23,540 --> 00:03:25,010

in the City of [Foreign name]

66

00:03:25,010 --> 00:03:30,140

where I started working
as a military pilot.

67

00:03:30,140 --> 00:03:33,460

>> Over the years, Novitskiy was
an active duty pilot and rose

68

00:03:33,460 --> 00:03:36,120

to become the deputy
commander of a squadron based

69

00:03:36,120 --> 00:03:37,700

in the north Caucasus.

70

00:03:37,700 --> 00:03:40,380

He studied military
unit management

71

00:03:40,380 --> 00:03:42,840

at the [Foreign name] Air
Force Academy before serving

72

00:03:42,840 --> 00:03:46,320

as commander of an attack
air squadron and was selected

73

00:03:46,320 --> 00:03:49,350
to begin cosmonaut
training in 2007.

74

00:03:49,350 --> 00:03:52,090
He was serving as the Russian
Space Agency's Director

75

00:03:52,090 --> 00:03:54,840
of Operations in Houston
when he was selected

76

00:03:54,840 --> 00:03:55,770
for his first flight.

77

00:03:55,770 --> 00:03:55,910
[Foreign language]

78

00:03:55,910 --> 00:04:01,210
>> I think throughout our entire
flight, we accumulate experience

79

00:04:01,210 --> 00:04:08,860
and knowledge just like athletes
who train to break a record

80

00:04:08,860 --> 00:04:14,120
so we are preparing and I
hope that in the future,

81

00:04:14,120 --> 00:04:18,520
we will perform a long duration
space flight hopefully to Mars.

82

00:04:18,520 --> 00:04:21,820
>> Russian Air Force Lieutenant
Colonel Evgeny Tarelkin is the

83

00:04:21,820 --> 00:04:25,650
son of a military pilot

and a military doctor.

84

00:04:25,650 --> 00:04:28,380

He was born in [Foreign name] in the Chita Region

85

00:04:28,380 --> 00:04:32,380

in Southeastern Siberia but lived all over the country.

86

00:04:32,380 --> 00:04:36,040

In his desire to become a pilot, he made his first parachute jump

87

00:04:36,040 --> 00:04:39,520

at the age of 11 despite not weighing enough

88

00:04:39,520 --> 00:04:41,040

to make the system work.

89

00:04:41,040 --> 00:04:47,540

>> I added sand to my pockets, to my boots and so I did come

90

00:04:47,540 --> 00:04:50,800

to weight 50 kilos so I went ahead and I jumped.

91

00:04:50,800 --> 00:04:53,550

>> Tarelkin graduated from high school in [Foreign name],

92

00:04:53,550 --> 00:04:56,650

near Star City, spent time at a military academy

93

00:04:56,650 --> 00:04:58,740

in [Foreign name] and graduated

94

00:04:58,740 --> 00:05:00,660

from the [Foreign name]

Air Force Pilot School

95

00:05:00,660 --> 00:05:03,570

and then the Yuri

Gagarin Military Academy

96

00:05:03,570 --> 00:05:06,320

with a specialty in air

transport operations

97

00:05:06,320 --> 00:05:08,210

and air traffic management.

98

00:05:08,210 --> 00:05:11,400

His first job was at the Gagarin

Cosmonaut Training Center

99

00:05:11,400 --> 00:05:14,170

as a flight test engineer,

training cosmonauts

100

00:05:14,170 --> 00:05:18,590

in survival skills and as luck

would have it, parachuting.

101

00:05:18,590 --> 00:05:19,440

Being that close

102

00:05:19,440 --> 00:05:23,450

to the cosmonauts got him

thinking I could do that.

103

00:05:23,450 --> 00:05:27,110

>> I thought I was

ready, I felt prepared,

104

00:05:27,110 --> 00:05:30,830

I felt I had the
knowledge and I felt

105
00:05:30,830 --> 00:05:32,930
that maybe I'd make
more contribution

106
00:05:32,930 --> 00:05:35,510
as part of cosmonaut corp.

107
00:05:35,510 --> 00:05:38,430
>> After almost four
years training cosmonauts,

108
00:05:38,430 --> 00:05:42,470
including zero gravity training
in aircraft and under water,

109
00:05:42,470 --> 00:05:45,370
Tarelkin was selected to join
the cosmonaut core himself

110
00:05:45,370 --> 00:05:48,850
in 2003 and take on a
new role in the effort

111
00:05:48,850 --> 00:05:51,210
to explore beyond earth orbit.

112
00:05:51,210 --> 00:05:57,880
>> This low earth orbit stage
is really necessary but we need

113
00:05:57,880 --> 00:06:03,260
to look forward and to
think about flying to stars,

114
00:06:03,260 --> 00:06:08,220
to other planets, maybe meet
our alien brothers there.

115

00:06:08,220 --> 00:06:10,190

Who knows?

116

00:06:10,190 --> 00:06:13,120

>> Canadian Space Agency

Astronaut Chris Hadfield was

117

00:06:13,120 --> 00:06:17,260

born in Sarnia, Ontario and

grew up there and on a farm

118

00:06:17,260 --> 00:06:19,380

in Milton, near Toronto.

119

00:06:19,380 --> 00:06:22,990

The space race had captured his

imagination by the time he was 9

120

00:06:22,990 --> 00:06:26,360

and watched Neil Armstrong walk

on the moon and Hadfield thought

121

00:06:26,360 --> 00:06:31,280

to himself, I'm going to grow up

to be something, why not that.

122

00:06:31,280 --> 00:06:32,830

>> But then when I look

around I'm thinking,

123

00:06:32,830 --> 00:06:35,850

I'm a 9-year-old kid and I'm

a Canadian, what are my odds?

124

00:06:35,850 --> 00:06:38,020

Not very good but I

thought well, you know,

125

00:06:38,020 --> 00:06:40,540
up until yesterday, people
couldn't even go and walk

126
00:06:40,540 --> 00:06:44,100
on the moon and now they
can so maybe I can too.

127
00:06:44,100 --> 00:06:48,480
And so I started getting ready
that night basically, started,

128
00:06:48,480 --> 00:06:50,370
you know, what do
I need to do next?

129
00:06:50,370 --> 00:06:52,800
>> Hadfield got into
advanced courses in school

130
00:06:52,800 --> 00:06:55,250
and on the academic
track that led to college

131
00:06:55,250 --> 00:06:58,370
but he also became a ski
instructor while learning how

132
00:06:58,370 --> 00:07:01,560
to fly as a member of
Canada's Air Cadets.

133
00:07:01,560 --> 00:07:03,290
>> They teach them a
bunch of technical things,

134
00:07:03,290 --> 00:07:05,560
they teach them self-discipline,
they give them levels

135

00:07:05,560 --> 00:07:07,630

of responsibility that they
might not get otherwise

136

00:07:07,630 --> 00:07:08,450

as teenagers.

137

00:07:08,450 --> 00:07:10,530

And in my case, I spent
one summer learning

138

00:07:10,530 --> 00:07:13,070

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

139

00:07:13,070 --> 00:07:16,580

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

140

00:07:16,580 --> 00:07:18,820

>> Hadfield joined the
Canadian Armed Forces right

141

00:07:18,820 --> 00:07:20,880

out of high school and
earned a Bachelor's

142

00:07:20,880 --> 00:07:23,800

in Mechanical Engineering from
the Royal Military College.

143

00:07:23,800 --> 00:07:27,860

After jet training, he flew
the Canadian version of the F18

144

00:07:27,860 --> 00:07:31,580

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

145

00:07:31,580 --> 00:07:34,790

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

146

00:07:34,790 --> 00:07:36,830
at the Patuxent River
Naval Air Station,

147

00:07:36,830 --> 00:07:39,240
while earning a Master's
in Aviation Systems

148

00:07:39,240 --> 00:07:41,810
from the University
of Tennessee.

149

00:07:41,810 --> 00:07:43,550
Hadfield was selected
as an astronaut

150

00:07:43,550 --> 00:07:47,340
by the Canadian Space
Agency in 1992 and assigned

151

00:07:47,340 --> 00:07:49,570
to the Johnson Space
Center in Houston.

152

00:07:49,570 --> 00:07:53,000
On his first space flight,
the 1995 shuttle mission

153

00:07:53,000 --> 00:07:56,430
that delivered a docking module
to the Mir Space Station,

154

00:07:56,430 --> 00:07:58,080
he became the first Canadian

155

00:07:58,080 --> 00:08:01,020
to operate the shuttle's

[inaudible] arm on orbit.

156

00:08:01,020 --> 00:08:03,830

After serving as chief
astronaut for CSA,

157

00:08:03,830 --> 00:08:07,590

he made his second flight
on the 2001 shuttle mission

158

00:08:07,590 --> 00:08:09,320

that delivered [inaudible]
arm two

159

00:08:09,320 --> 00:08:11,220

to the International
Space Station

160

00:08:11,220 --> 00:08:14,460

and he performed two space
walks, the first ever made

161

00:08:14,460 --> 00:08:16,590

by a Canadian astronaut.

162

00:08:16,590 --> 00:08:19,240

Hadfield served as NASA's
Direction of Operations

163

00:08:19,240 --> 00:08:22,430

in Star City, Russia, retired
from the Canadian Air Force

164

00:08:22,430 --> 00:08:25,500

as colonel and then served
in a variety of roles

165

00:08:25,500 --> 00:08:29,200

within NASA's astronaut office
before getting this assignment

166

00:08:29,200 --> 00:08:33,050

to support the research onboard
the International Space Station.

167

00:08:33,050 --> 00:08:38,020

>> And it is our big proving
ground, it's our test track

168

00:08:38,020 --> 00:08:40,170

for building spaceships
in the future

169

00:08:40,170 --> 00:08:42,750

and it is therefore
the diving board,

170

00:08:42,750 --> 00:08:44,840

the launching board
that's going to allow us

171

00:08:44,840 --> 00:08:47,930

to confidently go
further away from earth.

172

00:08:47,930 --> 00:08:51,870

>> Retired Russian Air Force
Colonel Roman Romanenko was born

173

00:08:51,870 --> 00:08:55,030

in Shchyolkovo, near Moscow,
and grew up in Star City

174

00:08:55,030 --> 00:08:57,470

at the center of the
cosmonaut community.

175

00:08:57,470 --> 00:09:01,350

His father, Cosmonaut Yuri
Romanenko flew three times

176

00:09:01,350 --> 00:09:04,730
before his son graduated
from high school so the idea

177

00:09:04,730 --> 00:09:08,390
of being a cosmonaut wasn't
so romantic to the son.

178

00:09:08,390 --> 00:09:13,480
>> Whenever went on a trip or
on a picnic, a business trip,

179

00:09:13,480 --> 00:09:17,720
I was always with my dad and I
would just always be in contact

180

00:09:17,720 --> 00:09:20,550
with cosmonauts and I thought
it would be always normal

181

00:09:20,550 --> 00:09:21,320
to be with them.

182

00:09:21,320 --> 00:09:23,850
There was nothing
special about it for me.

183

00:09:23,850 --> 00:09:26,710
>> But he did want to
be a military pilot

184

00:09:26,710 --> 00:09:29,330
so after high school,
Romanenko followed his father

185

00:09:29,330 --> 00:09:30,760
into the Air Force.

186

00:09:30,760 --> 00:09:34,120
He graduated from the Suvorov
Military School in Leningrad

187
00:09:34,120 --> 00:09:37,100
and the Chernigov Higher
Military School of Pilots.

188
00:09:37,100 --> 00:09:39,240
But after the fall
of the Soviet Union,

189
00:09:39,240 --> 00:09:43,490
young air force pilots had fewer
opportunities to fly fighters,

190
00:09:43,490 --> 00:09:46,960
Romanenko found himself
copiloting cargo transports

191
00:09:46,960 --> 00:09:50,430
and ferrying cosmonauts to
their launch site in Kazakhstan.

192
00:09:50,430 --> 00:09:54,350
>> [Inaudible] weren't
allowed me to fly a lot

193
00:09:54,350 --> 00:09:57,540
and so I started thinking
about changing jobs,

194
00:09:57,540 --> 00:10:02,420
maybe find something related to
that and right at that moment,

195
00:10:02,420 --> 00:10:07,010
I was told that they're
looking for applicants

196

00:10:07,010 --> 00:10:12,240
to join the cosmonauts
and I thought why not?

197
00:10:12,240 --> 00:10:14,570
I give it a try as well.

198
00:10:14,570 --> 00:10:18,510
>> Romanenko was selected as
a cosmonaut candidate in 1997

199
00:10:18,510 --> 00:10:21,450
and made his first
space flight in 2009,

200
00:10:21,450 --> 00:10:24,140
commanding the Soyuz
Spacecraft that brought he

201
00:10:24,140 --> 00:10:26,920
and two crew mates to the
International Space Station

202
00:10:26,920 --> 00:10:31,600
to expand its crew to six for
the first time on Expedition 20.

203
00:10:31,600 --> 00:10:34,140
Romanenko has also
served as deputy commander

204
00:10:34,140 --> 00:10:36,970
of Russia's Cosmonaut Core
while his nation has worked

205
00:10:36,970 --> 00:10:38,710
with its international partners

206
00:10:38,710 --> 00:10:40,780
to get ready for

the next journey.

207

00:10:40,780 --> 00:10:45,790

>> If everything is
going well, if we're able

208

00:10:45,790 --> 00:10:49,910

to successfully follow the
program, the flight program,

209

00:10:49,910 --> 00:10:54,240

even while orbiting earth
with this rich experience,

210

00:10:54,240 --> 00:10:56,040

we'll be able to
reach other planets

211

00:10:56,040 --> 00:10:58,010

as well with no problems.

212

00:10:58,010 --> 00:11:02,060

>> Dr. Tom Marshburn is a native
of Statesville, North Carolina,

213

00:11:02,060 --> 00:11:03,630

the seventh of seven children

214

00:11:03,630 --> 00:11:06,320

who loved working
and playing outdoors.

215

00:11:06,320 --> 00:11:09,470

He remembers being excited
to watch the first moon walk

216

00:11:09,470 --> 00:11:12,110

because it fed into
his love of adventure.

217

00:11:12,110 --> 00:11:17,440

>> Oh, I [inaudible], it was
in high school that I thought,

218

00:11:17,440 --> 00:11:19,510

you know, the space
program is interesting to me

219

00:11:19,510 --> 00:11:21,600

and specifically, the
space program that got me

220

00:11:21,600 --> 00:11:23,780

into the technical field and
I had to switch completely.

221

00:11:23,780 --> 00:11:27,700

I concentrated on math
science and fell in love

222

00:11:27,700 --> 00:11:29,490

with the physics classes.

223

00:11:29,490 --> 00:11:32,100

>> After high school in Atlanta,
he earned his Bachelor's

224

00:11:32,100 --> 00:11:35,120

in physics from Davidson College
and a Master's in physics

225

00:11:35,120 --> 00:11:38,980

from the University of Virginia
but he also came to understand

226

00:11:38,980 --> 00:11:42,620

that his talents might lie
more in working with people.

227

00:11:42,620 --> 00:11:44,870

>> I actually came down to
the Johnson Space Center

228

00:11:44,870 --> 00:11:47,460

and started knocking
doors, asking for a job.

229

00:11:47,460 --> 00:11:50,090

After I received my Master's
Degree, one of the doctors

230

00:11:50,090 --> 00:11:51,190

that worked here said, you ought

231

00:11:51,190 --> 00:11:53,440

to get a medical degree
'cause NASA's going

232

00:11:53,440 --> 00:11:56,960

to need doctors someday,
so I did.

233

00:11:56,960 --> 00:12:00,010

>> Marshburn earned a doctor
of medicine at Wake Forest,

234

00:12:00,010 --> 00:12:02,550

trained as an emergency
room physician in Toledo,

235

00:12:02,550 --> 00:12:07,220

Ohio and then worked in an ER
in Seattle before being accepted

236

00:12:07,220 --> 00:12:10,440

in the first class of NASA's
space medicine fellowship

237

00:12:10,440 --> 00:12:13,300

program to train as
a flight surgeon.

238

00:12:13,300 --> 00:12:15,700

In that role for NASA,
Marshburn has worked

239

00:12:15,700 --> 00:12:17,920

in the shuttle program
in Star City,

240

00:12:17,920 --> 00:12:20,330

Russia for NASA personnel
assigned as part

241

00:12:20,330 --> 00:12:22,740

of the International
Space Station Program

242

00:12:22,740 --> 00:12:26,810

and as lead flight surgeon
for shuttle and station crews.

243

00:12:26,810 --> 00:12:29,750

He was selected as
an astronaut in 2004

244

00:12:29,750 --> 00:12:31,390

and made his first space flight

245

00:12:31,390 --> 00:12:34,020

on a 2009 space shuttle
mission during

246

00:12:34,020 --> 00:12:37,280

which he made three space walks
to complete the construction

247

00:12:37,280 --> 00:12:39,420

of the [inaudible]

Laboratory Complex

248

00:12:39,420 --> 00:12:42,770
and get the International Space
Station in shape for its mission

249

00:12:42,770 --> 00:12:45,630
as a test bed that will
help human beings prepare

250

00:12:45,630 --> 00:12:48,660
for the next stage
of space exploration.

251

00:12:48,660 --> 00:12:51,270
>> You'd have to build
something and then test it

252

00:12:51,270 --> 00:12:53,270
out over a long period of time,

253

00:12:53,270 --> 00:12:56,330
well that's what
the space station is

254

00:12:56,330 --> 00:13:00,000
and with the Russian technology,
with a lot of technology,

255

00:13:00,000 --> 00:13:03,740
the international partners have
come up, we're able to find

256

00:13:03,740 --> 00:13:07,850
out how we can maintain
these things we call people