



1
00:00:01,436 --> 00:00:04,456
>> We're here in the Space Station
Flight Control Room and joining us here

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00:00:04,456 --> 00:00:07,006
at the PAO console is Astronaut Mike Hopkins.

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00:00:07,006 --> 00:00:11,996
He's one of our newest astronauts, just
wrapped up two years of initial training

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00:00:11,996 --> 00:00:15,386
and has actually transitioned, you're one
of the first to have a mission assignment.

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00:00:15,386 --> 00:00:17,936
You'll be a flight engineer on the
International Space Station coming up in

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00:00:17,936 --> 00:00:20,136
about a little over a year and a half?

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00:00:20,296 --> 00:00:21,966
>> A little over a year and
a half, almost two years.

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00:00:22,426 --> 00:00:25,316
>> So, tell us a little bit about
the training experience so far.

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00:00:26,146 --> 00:00:30,246
>> Well, the initial training I'll
say was, there was a lot more of it

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00:00:30,246 --> 00:00:33,446
than I initially anticipated
and the diversity of it as well.

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00:00:33,736 --> 00:00:37,716

You're, you're doing a wide variety of, of different activities throughout the training

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00:00:37,716 --> 00:00:44,796

from learning another language to flying in, in T38 jets to operating robotic arms

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00:00:45,636 --> 00:00:47,626

to learning the systems on the space station.

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00:00:47,736 --> 00:00:52,486

And I think, for me, that was, that was very challenging because every day,

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00:00:52,656 --> 00:00:54,916

you were having to, to focus on something a little bit different,

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00:00:54,916 --> 00:00:57,056

which required a little different skill set.

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00:00:57,186 --> 00:00:59,916

And so I had to work your way through that.

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00:00:59,916 --> 00:01:01,636

>> And you've come, you know, your path,

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00:01:01,636 --> 00:01:05,636

you've had a lot of diverse training experiences already and not all of its been easy,

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00:01:05,636 --> 00:01:08,236

so it's really quite something to hear somebody like you saying that,

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00:01:08,236 --> 00:01:10,026

that it's been more than you expected.

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00:01:10,596 --> 00:01:13,656

>> Yeah. You know, I, I grew up
in the Air Force, if you will,

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00:01:13,656 --> 00:01:18,546
and I had the opportunity to, to test
airplanes and to, to manage test programs

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00:01:18,546 --> 00:01:21,996
and acquisition programs in the Air Force,
and all of those required different skill sets

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00:01:21,996 --> 00:01:25,936
as well, but as much as that prepared
me, it was still was quite a bit

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00:01:25,936 --> 00:01:27,366
of work here through the initial training.

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00:01:27,606 --> 00:01:31,956
>> So, tell us a little bit, what, what
evolved to become your most favorite part

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00:01:31,956 --> 00:01:33,736
of the training, was there a particular aspect

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00:01:33,736 --> 00:01:36,766
that you really found intriguing
or of a particular interest?

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00:01:36,766 --> 00:01:39,796
>> Yeah, one of the things that
I've enjoyed the most has been the,

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00:01:39,946 --> 00:01:45,556
the EDA training in the neutral buoyancy
lab, I just, I find it very exciting,

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00:01:45,556 --> 00:01:49,106
it is very challenging though, when you get into
the suit and you get into the water and trying

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00:01:49,106 --> 00:01:53,026

to operating in that environment,
it's, it's just very exciting.

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00:01:53,996 --> 00:01:58,516

And yet, at the same time, I found
it a lot harder than I anticipated.

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00:01:58,516 --> 00:02:02,926

When you see the, the astronauts in space
that are working outside the station,

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00:02:02,926 --> 00:02:07,016

it looks so effortless, and when you actually
get in the suit for the first time and,

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00:02:07,016 --> 00:02:10,886

and are working your way through that and
going through the procedures, you realize, wow,

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00:02:10,886 --> 00:02:12,826

this isn't as, as easy as they make it look.

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00:02:13,856 --> 00:02:17,956

>> That's one of the things I think is kind of
challenging about everything we do here at NASA,

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00:02:17,956 --> 00:02:21,766

so much work goes into it that it looks
easy, but really when you get down to it

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00:02:21,766 --> 00:02:25,956

or are experiencing it personally, there's a
lot of work and effort that goes into that.

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00:02:25,956 --> 00:02:30,496

>> Absolutely, and I think one of the things
that we don't see often is the thousands

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00:02:30,496 --> 00:02:33,706

of people behind the scenes that,
that make all of that happen.

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00:02:33,706 --> 00:02:36,606

When we're in the, for example, when
we are in the suit out at the NBL,

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00:02:36,656 --> 00:02:40,786

I mean there are tens to, to hundreds of people
that are, are helping to support that activity,

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00:02:40,786 --> 00:02:43,886

make sure we're safe, make sure
that all the setup is correct for,

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00:02:43,886 --> 00:02:45,266

for simulating what we're trying to do.

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00:02:45,896 --> 00:02:49,126

And those challenges I think
go unnoticed, oftentimes.

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00:02:49,236 --> 00:02:51,616

>> A lot of unsung heroes
behind the scenes there.

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00:02:51,976 --> 00:02:53,826

And tell us, actually this
is a really good example,

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00:02:53,826 --> 00:02:58,376

we actually saw some activities earlier
this week with Joe Acaba and Koichi Wakata

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00:02:58,526 --> 00:03:01,116

in the neutral buoyancy lab,
but tell us, you know,

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00:03:01,116 --> 00:03:04,726

when we see them in the pool rehearsing
the spacewalk, even at that point,

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00:03:04,726 --> 00:03:09,316

even though that's practiced for on orbit
EDA, really you guys have done a lot of work

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00:03:09,446 --> 00:03:11,316

in preparation even to do that rehearsal.

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00:03:11,366 --> 00:03:13,886

What, what all goes into even doing the NBL run?

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00:03:14,416 --> 00:03:18,386

>> Well, actually oftentimes you start out
with activities like that in the classroom,

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00:03:18,896 --> 00:03:23,536

and so some of the first things we'll do is
we'll sit down and we call it a 1G prep for it

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00:03:23,636 --> 00:03:28,526

where the, the person that's test conducting
that activity will go through the procedures

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00:03:28,526 --> 00:03:34,146

that the, the activities that we're going to
do, which ROUs are we going to swap out, who's,

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00:03:34,686 --> 00:03:38,206

who is going to play the role of ED1,
who's going to play the role of ED2,

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00:03:38,206 --> 00:03:43,016

what tools are we going to use, and,
and so it's a very detailed review

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00:03:43,166 --> 00:03:44,886

of what's going to happen under the water.

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00:03:46,816 --> 00:03:50,436

>> And when you're in the suit,
I can't even imagine being in a,

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00:03:50,436 --> 00:03:54,506

a replica spacesuit that's going
actually under water, that had to be kind

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00:03:54,506 --> 00:03:56,366

of a surreal experience in, in itself.

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00:03:57,026 --> 00:04:01,116

>> Yeah. And in fact, I'll, I'll even go
before that, one of the first things we did

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00:04:01,116 --> 00:04:03,006

in the initial training and before you even get

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00:04:03,006 --> 00:04:06,266

in the suit is we would dive
in, in the, in the NBL.

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00:04:06,726 --> 00:04:10,426

And the first time I stuck my head under
water, it was just an amazing experience.

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00:04:10,426 --> 00:04:13,716

Of course there were operations going on, there
were other astronauts in the suits that were,

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00:04:14,206 --> 00:04:18,186

were practicing their EVAs and you hear
all of that over the cons and you see all

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00:04:18,186 --> 00:04:21,516

of that activity and, and we just, you
know, you got this respirator in your mouth,

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00:04:21,516 --> 00:04:24,026

but it brings a big smile
to you, to your face anyway.

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00:04:24,596 --> 00:04:26,386

>> Weren't you already scuba certified?

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00:04:26,756 --> 00:04:31,006

>> I was already scuba certified,
yes, but it's certainly special to get

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00:04:31,006 --> 00:04:32,586

to go scuba dive in the NBL as well.

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00:04:33,066 --> 00:04:36,686

>> Yeah. And for our viewers who aren't
familiar, the NBL is the Neutral Buoyance Lab,

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00:04:36,966 --> 00:04:39,606

it's a large pool here, it's part
of the Johnson Space Center Complex,

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00:04:39,606 --> 00:04:44,246

and it's a 6 million gallon pool, but
it's got the replicas of the modules,

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00:04:44,596 --> 00:04:49,956

that had to be awe inspiring to be under water
seeing all of that and maybe bring another depth

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00:04:49,956 --> 00:04:52,016

of reality to your training
of what you were doing.

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00:04:52,286 --> 00:04:54,396

>> Absolutely, but at the same time you,

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00:04:54,646 --> 00:04:57,686

you're pinching yourself 'cause you can't
believe you're actually in the pool,

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00:04:57,686 --> 00:05:00,956

getting to do this type of
work, these types of activities.

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00:05:01,126 --> 00:05:06,776

>> We've obviously watched a lot of spacewalks
here during missions, what do you think was,

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00:05:06,816 --> 00:05:09,596

was the most surprising to
you about what was hard.

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00:05:09,596 --> 00:05:13,126

I've, I've heard some astronauts talk about,
you know, just the resistance of the suit itself

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00:05:13,126 --> 00:05:17,096

because it's pressurized, were there some
aspects like that that really [inaudible]

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00:05:17,096 --> 00:05:18,006

>> Yeah, I would agree with that.

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00:05:18,006 --> 00:05:22,996

That was what surprised me the most was the --
how you had to work through the range of motion

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00:05:22,996 --> 00:05:26,616

and the suit, because you, you know,
there's, there's things you just can't do

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00:05:26,726 --> 00:05:29,976

with the way the suit is built, and
so you have to learn those things.

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00:05:30,076 --> 00:05:33,156

And sometimes you run into resistance
when you're, you're trying to reach out

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00:05:33,156 --> 00:05:36,986
and grab something and you've got to move your
arm in a different way to, to get it there.

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00:05:37,206 --> 00:05:41,696
And so, yeah, that takes some time to, to get
used to it, just to adjust to the suit itself.

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00:05:43,226 --> 00:05:47,886
>> Your class is one of the first that
has done a bit of modified training flow

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00:05:48,056 --> 00:05:52,006
to better prepare for long duration missions,
versus the shuttle missions of the past,

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00:05:52,086 --> 00:05:55,636
and I know one of the big transitions
has been more skills based training,

100
00:05:55,976 --> 00:05:57,866
versus specific [inaudible] training.

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00:05:57,866 --> 00:06:01,406
You don't have anything to
compare that to necessarily, but --

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00:06:01,626 --> 00:06:06,696
and you've made it through the EVA training,
but [inaudible] can you speak to the,

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00:06:06,806 --> 00:06:09,696
just the skills based things,
how, how long that takes, or,

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00:06:09,696 --> 00:06:12,236
or the different types of
training you're encountering?

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00:06:12,626 --> 00:06:13,366

>> Yeah, absolutely.

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00:06:13,366 --> 00:06:17,686

You know, that was kind of how our whole initial [inaudible] training was set up as well.

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00:06:17,796 --> 00:06:22,626

We're, we're doing a lot of just very generic training, whether it was on the robotic arm,

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00:06:22,706 --> 00:06:30,086

whether it was with the space station itself, EDA, and as I, as I moved into training

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00:06:30,086 --> 00:06:33,356

for an expedition, it's, it's a lot of the same activities,

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00:06:33,446 --> 00:06:38,926

and so you don't oftentimes get any kind of specific training until very close

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00:06:38,926 --> 00:06:42,666

to your flight when the schedule starts to solidify as to,

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00:06:42,666 --> 00:06:44,826

say what vehicles might be visiting while you're there,

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00:06:45,216 --> 00:06:48,236

or what kind of maintenance activities you might be doing while you're up there.

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00:06:48,236 --> 00:06:52,016

And then you may get some time where you're, where you're doing some specific training,

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00:06:52,016 --> 00:06:56,096

but most of it, like when we are in the
NBL is oftentimes just going through, hey,

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00:06:56,096 --> 00:07:01,126

here's the potential procedures you may see
while you're on orbit, and so we just try

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00:07:01,126 --> 00:07:05,746

and prepare for any of those contingencies so
that we're ready to go when they do happen.

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00:07:05,966 --> 00:07:09,216

>> I was -- that was going
to be my next question is

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00:07:09,306 --> 00:07:13,376

to compare how the initial training has been,

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00:07:13,426 --> 00:07:15,926

or been different from the mission
training you're experiencing now,

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00:07:16,226 --> 00:07:20,116

I imagine there's even a broader range of
types of training that you're experiencing?

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00:07:20,156 --> 00:07:24,976

>> There is, and one of the, the pieces that
changed a little bit is the amount of travel

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00:07:25,316 --> 00:07:27,496

that now comes along with expedition training.

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00:07:27,496 --> 00:07:34,046

We do spend a lot of time in Russia and
with the other IP participants as well,

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00:07:34,526 --> 00:07:39,086

and so now you're learning the Soyuz Systems,
you're learning the Russian segment systems

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00:07:39,086 --> 00:07:42,896

in a little more detail than we do here during our initial training.

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00:07:43,346 --> 00:07:49,826

And so I'd say what we see is similar, it's now we're, we're broadening the scope

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00:07:49,826 --> 00:07:52,796

of what we're learning with our other international partners.

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00:07:53,196 --> 00:07:57,696

>> So you touched on some of the travel that you've done, your class I think was also one

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00:07:57,696 --> 00:08:01,076

of the first that actually went to visit all the international partner countries.

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00:08:01,836 --> 00:08:03,356

Can you tell us a little bit about the [inaudible]

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00:08:03,356 --> 00:08:03,716

>> Yeah, we did.

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00:08:03,806 --> 00:08:09,046

We -- the only one that we didn't visit was Russia, but we did go to [inaudible] we did go

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00:08:09,046 --> 00:08:12,866

to [inaudible] we went up to CSA, so the Canadians, the Japanese

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00:08:12,866 --> 00:08:17,856

and the European agencies and absolutely great experiences, all of them,

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00:08:17,966 --> 00:08:24,346

just gave us a broader insight into what it takes to, to continue to operate the,

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00:08:24,346 --> 00:08:26,026

the International Space Station and,

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00:08:26,026 --> 00:08:29,126

and what the partners are contributing to that and it's quite a lot.

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00:08:29,446 --> 00:08:33,196

>> So you've subsequently gone to Russia, I'm sure more than a few times.

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00:08:33,456 --> 00:08:34,416

What's that been like?

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00:08:35,516 --> 00:08:41,296

>> Challenging, it certainly has, certainly there's the aspect of time away from,

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00:08:41,296 --> 00:08:46,986

from family and home, and, and all of that, but at the same time, I'm very blessed in the sense

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00:08:46,986 --> 00:08:49,826

that there's been a lot of folks that have gone before me

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00:08:50,236 --> 00:08:54,666

and so it's a pretty well oiled machine over there in terms of the training that we're going

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00:08:54,666 --> 00:08:58,606

through and, and so I'm, I'm certainly benefiting from that and,

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00:08:58,606 --> 00:09:02,686

and I think they've made it
this, you know, as good and,

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00:09:02,686 --> 00:09:04,796

and enjoyable as, as you could hope for.

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00:09:05,066 --> 00:09:09,196

>> So how does it feel to
now be realizing your dream?

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00:09:09,196 --> 00:09:12,636

You've actually got a mission assignment,
you've got a date that you're tracking to.

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00:09:13,946 --> 00:09:18,076

>> So I, I know on my blog, I kind of
talked about the phone call and you get

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00:09:18,076 --> 00:09:23,846

that phone call of, of being selected to
come down to NASA as an astronaut candidate,

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00:09:23,846 --> 00:09:28,536

and then just how an incredible feeling that
is and I have to say it was quite interesting

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00:09:28,536 --> 00:09:31,756

when you, when you then get to call into
the office to say you've been assigned,

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00:09:32,686 --> 00:09:37,946

that's a feeling that even goes beyond that,
that first phone call, if you will, and,

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00:09:38,876 --> 00:09:43,986

and so I know it gets used a lot, but you just
keep pinching yourself, that is this real,

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00:09:43,986 --> 00:09:49,476

is this really going to happen, and, and I think

until I'm sitting on that rocket, I may not,

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00:09:50,416 --> 00:09:52,636

I may not believe that it's
actually going to happen, but it's,

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00:09:52,636 --> 00:09:53,856

it's been a great experience so far.

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00:09:54,276 --> 00:09:57,156

>> We're certainly going to encourage
people to go that website and read the blog

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00:09:57,156 --> 00:10:02,356

because it really was well done and, and very
insightful perspective of your journey and,

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00:10:02,356 --> 00:10:04,936

and your path to becoming
an astronaut and applying.

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00:10:05,356 --> 00:10:11,346

But tell us a little bit about the call, like
you said, and I think there's also a lot about,

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00:10:11,346 --> 00:10:13,296

a mystery about when people get assigned,

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00:10:13,296 --> 00:10:16,356

how that actually happens, but
that's a phone call as well?

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00:10:16,356 --> 00:10:19,486

>> Well, the phone to, the phone
call for getting selected to,

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00:10:19,486 --> 00:10:23,756

to be an astronaut candidate, you know, it's,
it's a long process, the selection process

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00:10:23,756 --> 00:10:29,936

that lasts well over a year, up to a year and a half from when you first send your application

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00:10:29,936 --> 00:10:34,156

in to, to when, if you're fortunate to, to be one of those that are going to get a call.

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00:10:34,956 --> 00:10:40,366

And in my case, I actually -- when I got the call, it was a message first because I was

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00:10:40,366 --> 00:10:43,956

out of the office at the time, and so it just said call, call NASA.

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00:10:44,586 --> 00:10:48,406

And so now you know, you know, this is, this is it, this is what I've been dreaming

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00:10:48,406 --> 00:10:53,466

about for a lot of years, this is what I've been actively trying to achieve for the past 12 years

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00:10:53,466 --> 00:10:55,816

and it's going to come down to this, this phone call.

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00:10:55,816 --> 00:10:58,856

And so I have to admit, I was, I was a little nervous to make the call,

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00:10:59,416 --> 00:11:02,426

'cause you just didn't know what was, what was going to be the answer on the other end.

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00:11:02,426 --> 00:11:06,746

So, so it took me a few moments just to gather and collect myself before I,

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00:11:06,946 --> 00:11:08,136
before I actually made that call.

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00:11:08,136 --> 00:11:15,576
For the selection to an assignment, to
a flight assignment, that was actually,

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00:11:15,576 --> 00:11:19,026
I just had a meeting with the chief of
the office, who was Peggy Whitson, and,

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00:11:19,026 --> 00:11:25,246
and so she called me in and, and she just said,
hey, I'd like to assign you to Exhibition 37,

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00:11:25,306 --> 00:11:28,686
38, and it was just this,
oh, my gosh, this is real.

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00:11:29,536 --> 00:11:32,356
>> That's very exciting and we
want to congratulate you as well.

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00:11:32,546 --> 00:11:37,106
You've been through a lot and had a
great journey to getting here and, again,

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00:11:37,106 --> 00:11:43,506
we want to remind all our viewers to check
out the website [www.nasa.gov slash flynasa](http://www.nasa.gov/flynasa),

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00:11:43,506 --> 00:11:47,786
where you can not only find the recent blog
from Michael describing his experience,

186

00:11:48,026 --> 00:11:50,146
but also information about
our recruiting efforts