station this is Houston unto are you ready for the event you stationed on space to ground to we are ready

oh this is Houston please call station

for a voice check station this is Jay

SCPA oh how do you hear me

we've got you loud and clear alright

sounds great we'll start with some questions from reporters here at the Johnson Space Center thank you good morning this is Mark kuro for aviation

week and space technology I have a
question for Don Pettit right now it looks like there'll be three of you on the space station for the track and capture of Dragon if the launch unfolds

as planned I wonder if you could sort of describe the preparations that you're making in for that and whether you were the lead for the track and capture as you launched up for tracking capture we're just now starting to get up to speed on training for this event and we have a two primary means of training we fly the actual arm which is the world's best trainer for flying the arm and then
right here we've got 22 space station computers which double as a arm simulator and we have a full set of actual arm hand controllers here and with this setup we call it robot and it allows us to fly track and capture trajectories just like we would if we were in the simulators back in Houston so it's a really neat capability and and I have it set up now all the time and so I'll wake up in the morning and have a bag of coffee and I'll be flying dragon track and captures with a bag of coffee in my mouth and cinnamon scone in one
hand and the hand controllers and it's

00:02:21,599 --> 00:02:27,939
it's it's good to have this kind of

00:02:24,009 --> 00:02:32,409
capability for the actual event will you

00:02:27,939 --> 00:02:34,419
be in the cupola or in the Destiny lab

00:02:32,409 --> 00:02:38,128
I'm not quite sure and could you sort of

00:02:34,419 --> 00:02:38,128
explain andre's role as well

00:02:39,400 --> 00:02:46,060
sure initially it was going to be Dan

00:02:43,269 --> 00:02:48,450
Burbank as prime operator and I would be

00:02:46,060 --> 00:02:51,519
what we call second arm operator and

00:02:48,449 --> 00:02:54,280
Andre would be visiting vehicle officer

00:02:51,519 --> 00:02:56,799
and we each have different roles and the

00:02:54,280 --> 00:03:00,430
three of us were going to be doing the

00:02:56,799 --> 00:03:03,340
track and capture for Dragon now that

00:03:00,430 --> 00:03:06,040
the Dragon launch was delayed Dan's

00:03:03,340 --> 00:03:08,799
going to be gone and only be three of us
up here and it will just be Andre and
myself doing all the things that Dan
Andre and me were originally trained to
do and we will be in the cupola and I
will be a prime operator and Andre will
be second arm operator and we will have
the robotics workstation in the lab set
up and ready to go as what we refer to
as a hot backup for contingencies that
may lock up the controls for flying the
arm right when you're in the middle of a
dryad capture so we've got training and
procedures for quickly flying to the lab
and activating the robotics workstation
and taking over the flying from the lab

if we need okay well next I believe we have some questions coming in from the phone bridge first up will have Jill told Jill yes this is Jill talk representing their registered newspaper in yarmouth port Massachusetts so Dan you well know this question will be for you in February I got to visit some towns on the south shore of austin and I stayed only 15 miles from Plymouth the pilgrims first stepping stone into the new world on that note during the past few months what new Massachusetts
anecdotes have you collected and what

thoughts or feelings would you like to

share with the residents of your adopted hometown area on Cape Cod

Jill it's great to talk to you in the in

welcome aboard the International Space Station released virtually I think I

think for us on board here it's a it's a

kind of a very good metaphor which you

just mentioned you know in the way that

Plymouth in Plymouth Rock represented

the founding of the new world from

groups from the perspective of European

settlers in a very real way I think the
International Space Station with the

101 00:05:10,170 --> 00:05:15,780 international partnership that makes all

this possible is in a sense the first

102 00:05:11,939 --> 00:05:17,790 major stepping stone that will help us

103 00:05:15,779 --> 00:05:21,059 leave planet earth and ultimately

104 00:05:17,790 --> 00:05:22,980 low-earth orbit and go to the moon

105 00:05:21,060 --> 00:05:25,379 asteroids and Mars and that the kind of

106 00:05:22,980 --> 00:05:26,550 science we're doing up here I think is

107 00:05:25,379 --> 00:05:28,980 really important to that regarding

108 00:05:26,550 --> 00:05:32,129 Massachusetts and New England my my my

109 00:05:28,980 --> 00:05:35,790 home if you will we feel very connected

110 00:05:32,129 --> 00:05:37,769 i think in a lot of ways to all the

111 00:05:35,790 --> 00:05:39,510 different places that that all of

112 00:05:37,769 --> 00:05:41,490 us have touched or have touched us

113 00:05:39,509 --> 00:05:43,920 around the world and you get to see it
in a very very personal way looking out

the windows in the cupola or the the

great windows and the service module or

here in the laboratory and it was a

couple of weeks ago when we had Don had

dusted off a lens that we have on board

here that hasn't got a lot of use

recently it's a fisheye lens and there

was a really neat opportunity to

basically set that up in the cupola and

give essentially a 180 degree or 360

degree views of the entire earth beneath

us horizon to horizon and there was one

really neat shot that actually was
centered directly on Cape Cod and you can see from Cape Cod all the way to Boston you could see off to the to the western edge of that few Connecticut and kind of in one shot in just 150 of the places that at least when I was grown up we're near and dear to me great thanks for the good words dawn you know that I also represent the appeal Tribune in silverton oregon I'm actually in Los Angeles California right now flew into the Burbank Airport yesterday so I'm next door to Oregon so what new
org and anecdotes have you collected and

what thoughts or feelings would you like
to share with all the folks back in

Silverton well Oregon is currently being

very Oregon and the passes that we've

had with Space Station you look down at

Oregon and you see clouds and that's

just the way it's supposed to be and

that's what makes it near and dear to my

heart because that's also the key to

making everything green which of course
does not apply as soon as you get to

Eastern Oregon with a rain shadow from

the Cascade Mountains and then then you
have a pretty dry Highland desert great

thanks so much okay next up we have

Marcia Dunn yes good morning gentlemen

from the Kennedy Space Center first for

you dr. petty you'll be the one reeling

in the Dragon capsule talk about the

importance of this inaugural commercial

cargo run perhaps compare it to

something in history that the rest of us

Earthlings can relate to

well I I think you folks on the ground

probably are more in touch with any

historical perspective and and what the

meaning of all of this is from a crew

perspective we we have a very
operational oriented task that we are doing intensive training now so that we can get this task done expertly and Andre and I will be doing this task and we'll be sharing the robotics duties for flying the arm from capture to ultimately birthing it on to the node nadir port a freezer you dr. Peck or you commander Burbank or both of you perhaps discoveries about the ship out to Washington in another few weeks your thoughts on the shuttles departure from its home base for more than 30 years and how strange or odd is it for you both to
have flown on something that's now being relegated as a museum relic

most of the mostly airplanes that I've flown are also in museums Marsha but I don't necessarily think that's a bad thing now the shuttle did what the shuttle was best designed for and it brought up some spectacular observatories into space and some satellites and it helped build this nearly 1 million pound world-class laboratory that we have the great privilege of working and living a board for six months and I think having
The shuttles the space shuttles in museums where people can come and see them and learn about them and learn about the wonderful technology I think will be a good thing and I think that from a budgetary standpoint is going to help give NASA the wherewithal to build and design the next vehicles and I think for us I think the big key part of that is getting heavy lift capability that can get us into low-earth orbit with vehicles that we could take beyond low-earth orbit thank you both very much
okay and next we have Suzanne presto

00:10:35,919 --> 00:10:40,179
hello and thanks for having me according

00:10:38,019 --> 00:10:42,639
my question is about the upcoming

00:10:40,179 --> 00:10:44,379
international space apps challenge I was

00:10:42,639 --> 00:10:47,970
wondering what your plans are up there

00:10:44,379 --> 00:10:47,970
and what you hope to accomplish from it

00:10:54,059 --> 00:11:00,869
that we and and and i tell you i I'm I

00:10:58,769 --> 00:11:03,929
have to admit I don't know much about it

00:11:00,870 --> 00:11:06,389
and frankly from my perspective my

00:11:03,929 --> 00:11:08,159
near-term focus has been as Donna has

00:11:06,389 --> 00:11:09,870
mentioned kind of all the operational

00:11:08,159 --> 00:11:11,909
things we do to on a day-to-day basis up

00:11:09,870 --> 00:11:14,310
here and now in just a little bit over

00:11:11,909 --> 00:11:17,549
two weeks getting prepared for my

00:11:14,309 --> 00:11:19,019
return to Planet Earth it'll be a bit of
a bitter bitter sweet moment though

leaving this wonderful place okay next

up we have Olga dobra dobra dova yes

hello this is thanks foot in this is

olga dobrev it over with the Russian

news agency RIA Novosti tomorrow's a big
day obviously for Russia and the world

commemorating the first human

spaceflight do you have anything planned

but perhaps some surprises for your

Russian crewmates something like that

thanks

well go welcome aboard the thing you

know all of us I think that was a
momentous day for all humankind and the day that URI launched April 1251 years ago was really really important. It basically set the foundation for our very wonderful and robust space program that now we enjoy cooperatively internationally and for us for our part here on board space station we are going to have a little bit of a reduced schedule and we're going to enjoy a couple of meals together something that often with a busy tempo and the busy operations pace up here we don't often get a chance to
do in fact a lot of us end up eating

individually on the fly as we go and and

so this will be a good opportunity for

us to take a few minutes and and think

about the history of our space program

up till this point and kind of talk a

little bit about where we think we'll be

going in the future okay thank you thank

you and next up we have Denise Chow hi

thanks for taking my question we've been

receiving reports of a strong earthquake

off the coast of Indonesia and I was

just wondering if you've flown over that

region and seen anything or if you plan
to photograph it later on in the day

00:13:13,070 --> 00:13:21,290
I denisa actually we had not heard about

00:13:16,580 --> 00:13:23,629
that and and and hopefully it's limited

00:13:21,289 --> 00:13:25,819
in its impact to folks in that area I

00:13:23,629 --> 00:13:28,159
know there's a there's been a lot of

00:13:25,820 --> 00:13:30,050
history from our perspective here on

00:13:28,159 --> 00:13:32,120
board space station there are certain

00:13:30,049 --> 00:13:36,199
times when we have the opportunity to

00:13:32,120 --> 00:13:37,820
see to see at least the results of

00:13:36,200 --> 00:13:40,220
tsunamis the results of natural

00:13:37,820 --> 00:13:42,260
disasters and there are some rare

00:13:40,220 --> 00:13:44,840
occasions that if the sun angle is just

00:13:42,259 --> 00:13:46,490
right we can actually see some of those

00:13:44,840 --> 00:13:48,290
internal waves some of those waves as

00:13:46,490 --> 00:13:51,350
they propagate across the ocean surface
and now that you've mentioned it I think

I well I'm sure that our earth

observations teams on the ground are

probably already looking at those kind

of opportunities for us and for our part

I think we'll do our best to to take

whatever image we can for that thank you

and also I was wondering if either of

you have been following the situation in

North Korea what their upcoming Lofton

if you had any thoughts on that

and I think in general we haven't had a

lot of opportunity to follow the news

I'm aware that launch is being prepared
and beyond that the specifics of the launch at least of I for one am not aware of a lot of the details thank you thank you denise and next up we have Robert Pearlman hi Robert Pearlman with collectspace.com i'm currently standing on the shuttle landing facility standing next to the shuttle carrier aircraft and to work off Marcia's question from earlier for Dan and Don a shell veterans are is this an event the delivery of discovery and the other 12 discovery and that enterprise something that you'll be able to follow along or you've requested
to follow along on board station we'd be able to watch the delivery and what does this transition in general mean to you personally and Robert welcome as far as actually following the flight from our perspective up here at 400 kilometers there's actually relatively little opportunity to see anything even as large as the the SCA the shuttle carrier aircraft with discovery made it to it we're able to see the evidence so ships and of planes in the form of wakes and contrails if the lighting is just right
but it's really difficult to get the
kind of resolution to see much beyond
that as far as from a personal standpoint following along I think we're
all very and and one hand sad to see the shuttles retire but on another also
happy to have the opportunity to move on
to new and and hopefully better vehicles
in the future and for Dawn I wonder if you could give us an update on on your
trustees a zucchini and what in a general sense how important is it do to
you and to the crew to have touches a
verse like green plants onboard the station
well space zucchinis doing fine and I
probably get the most benefit out of him
or her or it just because I'm the
gardener and so gardener has its
privileges it'll surprise I fire off
these these little blogs and I don't get
much feedback so I am surprised that
other people seem to be following what's
going on to myspace zucchini and I
understand that that myspace zucchini
even has a Twitter account so anyway I
it brings a smile to my face to see that
the people are interested in such
trimmings weird with the serious
00:17:24,849 --> 00:17:34,929
business of flying into space station

00:17:32,829 --> 00:17:36,609
this is jay SCPA oh we now will take a

00:17:34,930 --> 00:17:38,560
few questions from Twitter followers on

00:17:36,609 --> 00:17:41,139
our phone bridge Shannon Moore as far as

00:17:38,559 --> 00:17:43,629
Shannon with your question hi this is

00:17:41,140 --> 00:17:45,910
shannon moore a geek one for Twitter a

00:17:43,630 --> 00:17:47,710
lot of astronauts time on station is

00:17:45,910 --> 00:17:49,840
spent performing experiments and

00:17:47,710 --> 00:17:51,940
maintaining critical systems how do you

00:17:49,839 --> 00:17:53,949
find time to relax keep in touch with

00:17:51,940 --> 00:17:56,019
your family back on earth and create the

00:17:53,950 --> 00:17:58,630
incredible photographs and educational

00:17:56,019 --> 00:18:05,889
videos like Don science of the spheres

00:17:58,630 --> 00:18:09,490
period well we we can't work 24 hours a

371
day even though it would it we'd get a

lot done if we could and we we get an

eight hour block of time allocated for

sleep and we typically work from around

seven in the morning to about seven in

the evening and then maybe another hour

or so after that catch up on loose ends

and outside of that time outside of

about a 13 or 14 hour period it's our

off-duty time and we could do whatever

off-duty activities are available on

Space Station and so that's when we

could take the moment to set up cameras

or you can read books you can


do whatever you want to do in that block

of time and it's an individual thing

things that are required for you to maintain yourself you can contact your family whatever hobby interests tickle

your imagination while you are up here

and are can mentor with with the environment thank you and next we have

John night on the phone John hi good morning this is John night AKA john m night on twitter my question for the crew this morning is of all the experience the experiments you performed up on station which one had results that surprised or delighted you and please
feel free to include any of your recent experiments involving lego bricks

well I'll talk about two experiments one

is a serious programmatic experiment it has to do with combustion and when scientists talk about the physics and chemistry of flames they call it combustion everybody else just says that we've got fire and we have a couple of different pieces of equipment here on station that we can investigate

combustion processes and we do that because of gravitational driven convection fires make heat and the heat
makes gas that are different densities

in the air around them and under gravity

that makes convection and it has a huge

impact in the dynamics of how flames

behave and you do combustion experiments

in a weightless environment and you no

longer have that artifact and you can

actually look at fundamental behavior of

what the process is going on in the

flame without the gravitational artifact

and one of these I saw last week with a

experiment that we call baths and it's

an acronym for which I no longer know

what it stands for anymore it just
becomes its own noun and it's basically

burning plastic objects solid plastic

objects in air and looking at the

conditions under which the burning

object will continue to burn and under

the conditions in which the the object

will flame out and I was amazed that

these burning hunks of plastic will

continue to burn even if they're purged

with nitrogen which should have put the

flame out but the nitrogen purge would

in turn trail enough air to keep the

combustion process going and what

actually put the flame out was turning

all the convection off around the flame

00:21:24,660 --> 00:21:32,100
and then it burned out in about a second

00:21:26,400 --> 00:21:34,560
and so this this reestablishes what we

00:21:32,099 --> 00:21:37,529
teach our kids if you ever catch on fire

00:21:34,559 --> 00:21:42,089
fire you stop drop and roll will it's

00:21:37,529 --> 00:21:46,670
space you stop and float and and and

00:21:42,089 --> 00:21:46,669
that would basically do the same thing

00:21:47,319 --> 00:21:52,269
thank you

00:21:49,990 --> 00:21:53,920
penn station this is jay is epa ou will

00:21:52,269 --> 00:21:56,740
now take a few questions that are on

00:21:53,920 --> 00:21:59,050
Twitter this first one comes from red at

00:21:56,740 --> 00:22:01,410
W on Twitter what experiments are you

00:21:59,049 --> 00:22:01,409
running now

00:22:06,900 --> 00:22:10,288
ok and we've got a

00:22:08,909 --> 00:22:12,059
lot of experiments that were running on
board space station during our entire time here there's something on the order of 200 now with that said a lot of those are run remotely are run by scientists all over the world on the ground the ones that we interact with on a daily basis up here for example the combustion experiments that Don's been working on both baths and splice there's an experiment that all of us right now are currently involved in called integrated cardiovascular and that one is one that's got many many different aspects it involves exercise it involves
ultrasonic investigations of changes in the heart muscle changes in the vascular system and there's those are pretty much designed like a lot of the human research that we do on Space Station to figure out how to keep humans healthy and safe in space long enough to go far from Planet Earth long enough to go for example to Mars this next question comes from Tommy greener says from Libya age 9 does your appetite and or your sense of taste change on board ISS well I think for the at least for the three of us and I'm probably actually
for the six of us in this crew our appetites are pretty strong even on planet earth and I guess they're at least a strong way up here that's kind of a strange thing because you wouldn't necessarily need to burn as many calories but for whatever reason you do and and I think on average probably all of us up here need something in the or in excess of 3,000 calories a day you almost can't get enough to eat when you finally get tired enough at the end of the day that
may be the time that you're not

as hungry and you're ready to go to

sleep I think for well for all of us in

general our activity levels tend to be

some of that we do exercise a lot about

two and a half hours a day total as far

as the taste changes this might have to

do with some of the fluid shift but for

me I like really spicy things almost

spicy to the point where I couldn't

necessarily eat them on planet earth so

hot sauce is hot as you can imagine our

great up here this next question comes

from Eva ISA 75 are you trying any
technological device that will be used later in ordinary task

one piece of engineering research we we do scientific research up here which most people are familiar with we also do engineering research which is a second facet of space station that we work on and these are using pieces of engineering equipment and and using them one-of-a-kind zero number 01 kind of piece of equipment working the bugs out so that we can can make spacecraft in the future and and use the technology
that we develop so in this engineering research one piece of equipment we're working on is regenerative life-support equipment and so the the Keystone in this regenerative life support is three pieces of equipment that are all hooked together our toilet distillation outfit and then our galley and it allows us to recycle the water from our urine process it purify it and put it back in the galley and I like to call it the coffee machine because it takes yesterday's coffee it makes it in the today's coffee and this is technology that I feel is
going to be useful for places on earth that are under a significant water shortages where where we can have equipment that can recycle the water in a small self-contained apparatus okay this next question comes from data check you are both researcher and research II what is the most difficult part of each role what is the most fun to me the most difficult part of the research II is getting stuck by needles and having all this equipment stuck all over you we wear this a called a cardio press which is this great big thing that
you put on your hand that basically

00:26:43,710 --> 00:26:48,730
immobilizes your hand from doing

00:26:45,910 --> 00:26:51,940
anything useful and fortunately we only

00:26:48,730 --> 00:26:55,960
have to wear that for 24 hours but I

00:26:51,940 --> 00:26:59,410
it's the the equipment and the

00:26:55,960 --> 00:27:04,870
needles and and the stickin that I

00:26:59,410 --> 00:27:06,460
probably shutter the most at however the

00:27:04,869 --> 00:27:10,000
the end result of all this equipment

00:27:06,460 --> 00:27:12,910
it's pride from our souls but the end

00:27:12,910 --> 00:27:23,920
the inconvenience of having been on the

00:27:29,159 --> 00:27:32,330
go ahead Andre

00:27:34,160 --> 00:27:37,009
well I'd like to
where the address the other side of
doing the research for me it's one of
the nicest things is to stick needles in
turn intend to get blood samples it's
nice to do all this kind of research
because also involves a lot of equipment
that you normally don't work with on the
ground and for example we have to for
this experiment integrated
cardiovascular we use also the echo
machine it's very nice to to get good
images of of the heart and with great
help of the ground so that makes it very
rewarding to do this research onboard
the space station in station this is jay

SCPA oh we have one more follow-up

question that'll about do it for today

well this is jill talk again a question

for dawn and Dan since i'm running for

your hometown newspapers I just wanted

to know if there's anything you would

like to say personally to the residence

in your hometown areas in Oregon and

Massachusetts and perhaps using

Connecticut for Don after Dan well well

I guess I would just say that Cape Cod

Connecticut New England are beautiful

when you see them from the ground
they're even more so when you see them from space and and I'll be home soon and for all the folks around silverton oregon when i was growing up there it's a community effort to educate kids growing up and you pay that through your local taxes at it supports your schools and there's probably no way I'd be where I am right now if it wasn't for people willing to support the schools and give their kids a the best education they possibly can.

a station this is Houston ACR that concludes the event thank you
and to all thanks very much for your participation for a great event in station we are now resuming operational audio communications you