
ЮРЧИХИН
PARMITANO
HOPKINS
КОТОВ
РЯЗАНСКИЙ
NYBERG
ISS 37

1
00:00:00,766 --> 00:00:09,575
[Music]

2
00:00:12,011 --> 00:00:13,412
[Background music]

3
00:00:13,412 --> 00:00:14,113
>> Brandi Dean: Good morning and
welcome Mission Control Houston

4
00:00:14,113 --> 00:00:16,082
and Space Station Live.

5
00:00:16,082 --> 00:00:18,651
The three members of the
Expedition 37 crew currently

6
00:00:18,651 --> 00:00:20,786
on orbit are enjoying
the few hours

7
00:00:20,786 --> 00:00:24,056
of down time before the
crew expands later today

8
00:00:24,056 --> 00:00:26,525
with the arrival three new
crew members [inaudible].

9
00:00:26,525 --> 00:00:31,997
Watching over the systems
from here on the ground,

10
00:00:31,997 --> 00:00:34,333
we have a space station
flight control room.

11
00:00:34,333 --> 00:00:36,702
We have the Space Station

Flight Control team here

12
00:00:36,702 --> 00:00:39,472
in the Space Station Flight
Control Room lead today

13
00:00:39,472 --> 00:00:41,607
by Flight Director Tony Ceccacci

14
00:00:41,607 --> 00:00:50,049
with Hal Getzelman
assisting as cap com.

15
00:00:50,049 --> 00:00:53,919
Members are already at the space
station or the crew members

16
00:00:53,919 --> 00:00:56,322
who are already at the space
station began their day a bit

17
00:00:56,322 --> 00:00:59,058
later than normal at 2:30 AM

18
00:00:59,058 --> 00:01:01,260
to give them some extra
rest before an exceptionally

19
00:01:01,260 --> 00:01:03,028
long day.

20
00:01:03,028 --> 00:01:08,234
Currently orbiting 259 miles
above the Pacific Coast

21
00:01:08,234 --> 00:01:11,570
over Washington and Oregon.

22
00:01:11,570 --> 00:01:14,607

They are Russian
Commander Fyodor Yurchikhin,

23
00:01:14,607 --> 00:01:16,175
US Flight Engineer Karen Nyberg

24
00:01:16,175 --> 00:01:18,611
and European Space Agency
Flight Engineer Luca Parmitano.

25
00:01:18,611 --> 00:01:22,915
They arrived at the
station on May 28th

26
00:01:22,915 --> 00:01:25,918
and have now spent a hundred
and nineteen days in space.

27
00:01:25,918 --> 00:01:27,887
They've been alone with the
station since the other half

28
00:01:27,887 --> 00:01:31,891
of what was then the expedition
36 crew left on September 10th

29
00:01:31,891 --> 00:01:33,792
but of course that's going
to change later today

30
00:01:33,792 --> 00:01:37,630
with the launch of
the Soyuz TMA-10M

31
00:01:37,630 --> 00:01:40,366
which will deliver flight
engineers Mike Hopkins,

32
00:01:40,366 --> 00:01:43,769
Oleg Kotov and Sergey

Ryazanskiy.

33
00:01:44,904 --> 00:01:46,172
That flight's scheduled
to lift off

34
00:01:46,172 --> 00:01:48,240
from the Baikonour
Cosmodrome in Kazakhstan

35
00:01:48,240 --> 00:01:51,110
at 3:58 PM central
time and arrive

36
00:01:51,110 --> 00:01:54,547
at the station six
hours later at 9:48 PM.

37
00:01:54,547 --> 00:01:58,784
The crew in Baikonour has
already begun their day

38
00:01:58,784 --> 00:02:00,753
and have departed
their crew quarters.

39
00:02:00,753 --> 00:02:03,656
Later this hour they'll be
undergoing their final medical

40
00:02:03,656 --> 00:02:07,326
checkups and meanwhile their
vehicle is also being prepared

41
00:02:07,326 --> 00:02:08,594
for launch.

42
00:02:08,594 --> 00:02:11,597
Batteries are going to be
installed in the boosters

43
00:02:11,597 --> 00:02:14,533
in the next few minutes
and the fueling

44
00:02:14,533 --> 00:02:22,841
of the rocket will begin
before the hour is over.

45
00:02:22,841 --> 00:02:26,779
Although the crew in space
is currently resting they've

46
00:02:26,779 --> 00:02:30,015
already done half a day of work
chalked full of maintenance

47
00:02:30,015 --> 00:02:32,151
and science experiments.

48
00:02:32,151 --> 00:02:34,620
Karen Nyberg has
completed two runs of the

49
00:02:34,620 --> 00:02:36,956
in space 3 experiment
and will squeeze

50
00:02:36,956 --> 00:02:39,124
in one more before
docking tonight.

51
00:02:39,124 --> 00:02:42,962
That experiment examines
colloidal fluids classified

52
00:02:42,962 --> 00:02:46,298
as smart materials which
transition to a solid like state

53
00:02:46,298 --> 00:02:48,434
in the presence of
a magnetic field.

54
00:02:48,434 --> 00:02:51,804
The hope is that new
manufacturing models based

55
00:02:51,804 --> 00:02:54,607
on the idea of having
these nato particles act

56
00:02:54,607 --> 00:02:57,509
as self-assembling building
blocks, it could be used

57
00:02:57,509 --> 00:03:00,012
to improve or develop
active mechanical systems

58
00:03:00,012 --> 00:03:04,850
such as new brakes systems
and airplane landing gear.

59
00:03:07,686 --> 00:03:11,323
Nyberg also spent some time on
the ice crystal two experiment

60
00:03:11,323 --> 00:03:14,260
which looks at the
growth rates and stability

61
00:03:14,260 --> 00:03:17,229
of ice crystals in
super cold water.

62
00:03:17,229 --> 00:03:19,098
The results of the
experiment could open

63
00:03:19,098 --> 00:03:21,734
up a new research field
related to the fundamentals

64
00:03:21,734 --> 00:03:24,703
of ice crystal growth
mechanisms controlled

65
00:03:24,703 --> 00:03:28,340
by biological macromolecules.

66
00:03:31,577 --> 00:03:34,446
Nyberg and Luca Parmitano
both took a few minutes

67
00:03:34,446 --> 00:03:36,181
when they woke up to take part

68
00:03:36,181 --> 00:03:39,118
in the reaction self-test
experiment.

69
00:03:39,118 --> 00:03:41,787
That's aimed at trying
out a way for astronauts

70
00:03:41,787 --> 00:03:44,657
to objectively assess whether
fatigue might affect their

71
00:03:44,657 --> 00:03:47,826
performance in space,
for instance on long days

72
00:03:47,826 --> 00:03:49,395
such as today, when they'll be

73
00:03:49,395 --> 00:03:54,099
up very late awaiting

the arrival of the Soyuz.

74
00:03:54,099 --> 00:03:55,501
On his own Parmitano worked

75
00:03:55,501 --> 00:03:58,170
at the materials science
laboratory today changing

76
00:03:58,170 --> 00:04:01,607
out experiments being
run from the ground.

77
00:04:01,607 --> 00:04:04,810
The materials science
laboratory can be used

78
00:04:04,810 --> 00:04:09,348
for basic materials research
on metals, alloys, polymers,

79
00:04:09,348 --> 00:04:13,185
semi-conductors, ceramics,
crystals and glasses.

80
00:04:13,185 --> 00:04:16,488
They can help scientists
discover new applications

81
00:04:16,488 --> 00:04:20,125
for existing materials,
or help lead to new

82
00:04:20,125 --> 00:04:21,527
and improved materials.

83
00:04:21,527 --> 00:04:24,630
And on the Russian side

84

00:04:24,630 --> 00:04:27,933
of the station Commander Fyodor
Yurchikhin was preparing crew

85
00:04:27,933 --> 00:04:31,036
quarters for his soon to
arrive crew mates and working

86
00:04:31,036 --> 00:04:34,707
with the cascade experiment,
which looks at soil cultivation

87
00:04:34,707 --> 00:04:39,712
in microgravity and the
[inaudible] experiment,

88
00:04:39,712 --> 00:04:42,915
which is a small satellite
control technology development

89
00:04:42,915 --> 00:04:44,483
and demonstration experiment.

90
00:04:44,483 --> 00:04:47,653
That's what's going
on in space today