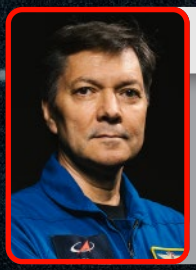
National Aeronautics and Space Administration

# INTERNATIONAL SPACE STATION

# EXPEDITION 71

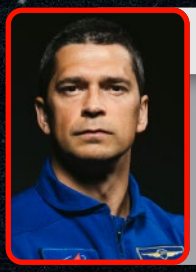
## Soyuz

Launch: September 2023
Landing: September 2024



### *Oleg Kononenko (ROSCOSMOS)*
*Commander*

**Born:** Chardzhou, Turkmen SSR
**Spaceflights:** Exp 17, 30/31 44/45, 58/59, 70



### *Nikolai Chub (ROSCOSMOS)*
*Flight Engineer*

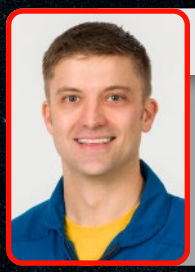
**Born:** Novocherkassk, Rostov Region
**Spaceflights:** Exp 70

### *Tracy Dyson (NASA)*
*Flight Engineer (Launched in March 2024)*

**Born:** Arcadia, California
**Spaceflights:** STS-118; Exp 23/24
**Bio:** https://go.nasa.gov/3P0Wdlw

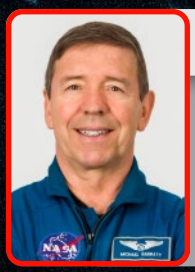
## Crew-8

Launch: March 2024
Landing: August 2024



### *Matt Dominick (NASA)*
*Flight Engineer*

**Born:** Wheat Ridge, Colorado
**Spaceflights:** First Flight
**Bio:** https://go.nasa.gov/3uRsAfx
**X:** @dominickmatthew
**Instagram:** @matthew.dominick

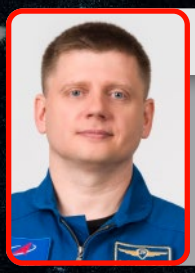


### *Mike Barratt (NASA)*
*Flight Engineer*

**Born:** Vancouver, Washington
**Spaceflights:** Exp 19/20; STS-133
**Bio:** https://go.nasa.gov/3UWciwu

### *Jeanette Epps (NASA)*
*Flight Engineer*

**Born:** Syracuse, New York
**Spaceflights:** First Flight
**Bio:** https://go.nasa.gov/497ZGqq
**X:** @Astro_Jeanette



### *Alexander Grebenkin (ROSCOSMOS)*
*Flight Engineer*

**Born:** Myski, Kemerovo Region
**Spaceflights:** First Flight

EXPEDITION 71

Expedition 71 began in April 2024 and ends in September 2024. This expedition will include research investigations focused on biology, Earth science, human research, physical sciences, and technology development, providing the foundation for continuing human spaceflight beyond low Earth orbit to the Moon and Mars.

# SCIENCE ON THE ISS

During Expedition 71, crew members will perform experiments to help scientists learn how extended durations in space change the human body. Studies of stem cells, plant growth, and shifts in body fluids are among the many scientific investigations astronauts will support aboard the orbiting laboratory. Follow the latest space station research and technology news at: https://www.nasa.gov/stationresearchnews

## HBond

Nervous tissue inflammation, or neuroinflammation, is a common feature of neurodegenerative disorders. The **HBOND** experiment uses stem cells from patients with Parkinson's disease, primary progressive multiple sclerosis, and Alzheimer's disease to create an organoid model that includes the specific types of neurons affected by these diseases. This experiment will test the effects of drugs in development to treat neuroinflammation, comparing the results in microgravity with their effects on Earth. Studying and understanding the mechanisms of neuroinflammation aboard the space station could help develop therapeutic solutions for patients back on Earth and contribute to the success of long-duration space exploration.

## Arthrospira C

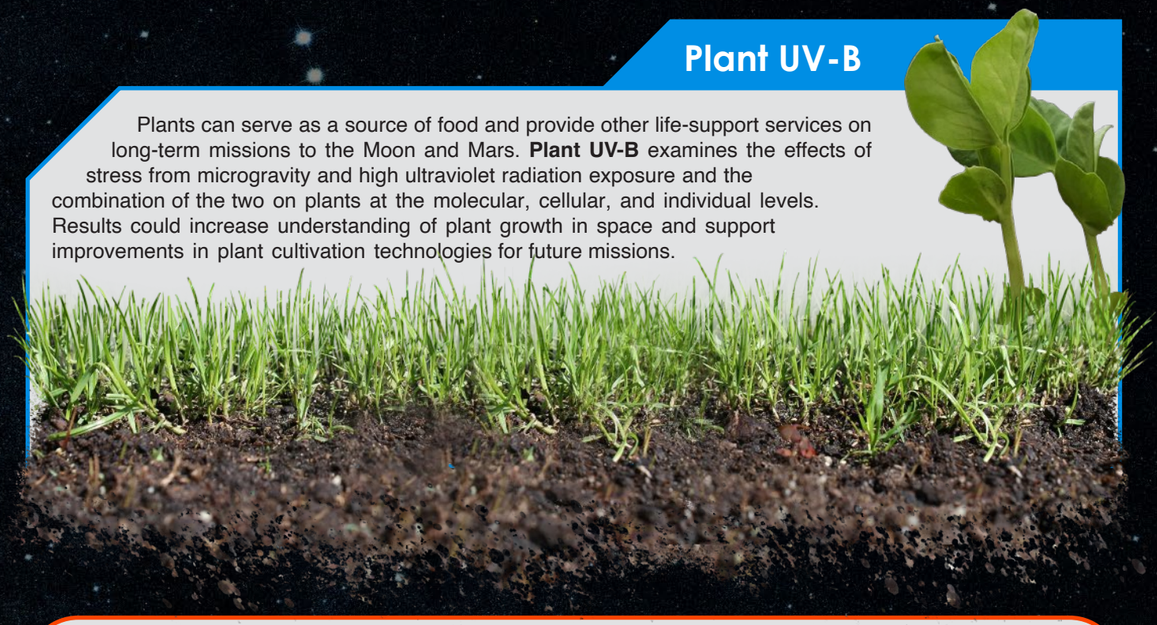
As humans travel farther out into space, sustainable solutions to provide astronauts with methods to recycle air and water and produce food for these journeys are critical. The **Arthrospira-C** experiment tests how to transplant and grow micro-algae in space. The experiment will measure how the micro-algae responds to spaceflight conditions and whether it produces the same quantity and quality of oxygen and biomass in space as on Earth. This is the second step to test the concept of using micro-algae and photosynthesis to remove carbon dioxide exhaled by the astronauts from the enclosed spacecraft and to produce oxygen and fresh food in space for long-duration missions.

## Thigh Cuff

Microgravity causes fluids in the body to move toward the head, which can cause health problems in astronauts including changes in eye structure and vision known as SANS (Spaceflight Associated Neuro-ocular Syndrome). **Thigh Cuff** examines whether wearing cuffs on the legs changes the way fluid moves around inside the body. The use of these cuffs could provide an easy countermeasure to help protect astronauts on future missions from issues associated with headward fluid shifts and could help patients back on Earth to treat or possibly even prevent fluid accumulations associated with certain conditions.

## Plant UV-B

Plants can serve as a source of food and provide other life-support services on long-term missions to the Moon and Mars. **Plant UV-B** examines the effects of stress from microgravity and high ultraviolet radiation exposure and the combination of the two on plants at the molecular, cellular, and individual levels. Results could increase understanding of plant growth in space and support improvements in plant cultivation technologies for future missions.




The Expedition 71 patch celebrates a variety of scientific research conducted on the International Space Station, as well as the thousands of multinational scientists and technicians that have contributed to numerous groundbreaking experiments. The orbiting laboratory is the ultimate destination for the scientifically curious.

The symbology represents onboard research into quantum behavior of novel states of matter, antibodies and immune function, the search for dark matter, flame and combustion physics, DNA expression, plant growth and root behavior, and direct Earth observation. The human eye and microscope objectives at upper left form the apex of a cone of vision culminating in the Expedition number 71, and represents the deliberate and disciplined practice of scientific observation.

Earth, Moon, and Mars are also depicted as next steps for exploration, with an anticipation of further rich scientific discovery using many techniques and skills honed aboard the space station.

# Your Orbiting Laboratory

Since the arrival of the first crew to the International Space Station more than twenty years ago, the station has evolved into a state-of-the-art scientific lab.

Explore this page to learn the basics of many of the science and technology investigations that are being studied on station.

https://www.nasa.gov/iss-science

# Ciencia en la estación

Descubre las investigaciones científicas que se llevan a cabo a bordo de la Estación Espacial Internacional.

https://www.nasa.gov/ciencia-en-la-estacion

# Space To Learn

We're launching to new heights with STEM resources that connect educators, students, parents, and caregivers to the inspiring work at NASA.

https://www.nasa.gov/learning-resources/