



INTERNATIONAL SPACE STATION

Utilization Statistics | Expeditions 0 – 72
December 1998 – April 2025



This is a product of the International Space Station (ISS) Program Science Forum comprised of representatives from the ISS Partner Agencies: CSA (Canadian Space Agency), ESA (European Space Agency), JAXA (Japan Aerospace Exploration Agency), NASA (National Aeronautics and Space Administration), Roscosmos (State Space Corporation Roscosmos), and the ISS Participant Agency: ASI (Italian Space Agency).

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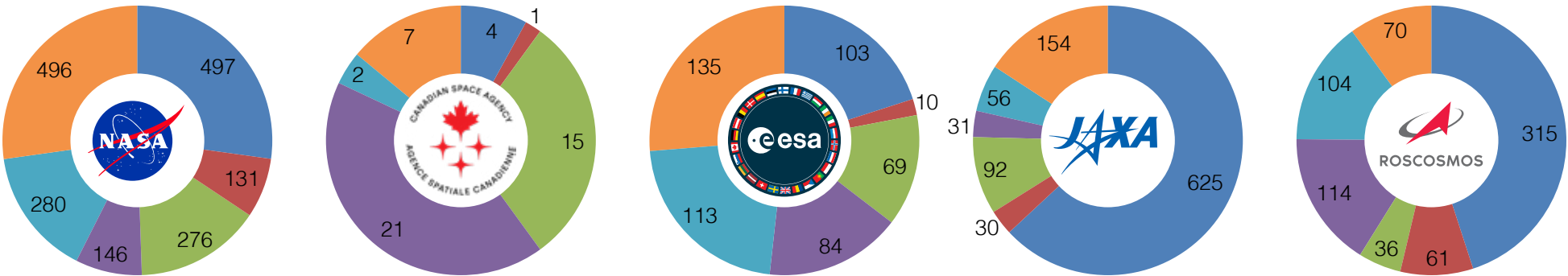
NUMBER OF INVESTIGATIONS PERFORMED ON THE INTERNATIONAL SPACE STATION

The information below provides an overview of ISS utilization up to the end of April 2025. An Expedition pair reflects the 6-month period used by the ISS Program for planning and execution of its activities. The utilization reflects activities of all of the ISS International Partners: CSA, ESA, JAXA, NASA, and Roscosmos. An investigation is defined as a set of activities and measurements (observations) designed to test a scientific hypothesis, related set of hypotheses, or set of technology validation objectives. Investigators include the principal investigator(s) and co-investigator(s) that are working to achieve the objective of the investigation.

<i>Research Investigations</i>	ISS Expedition 71 Apr 2024 – Sep 2024	ISS Expedition 72 Sep 2024 – Apr 2025	ISS Expeditions 0 - 72 Dec 1998 – Apr 2025
Total Investigations	330	293	4078
New Investigations	78	75	–
Completed/Permanent Investigations	56	54	3397
Number of Investigators with Research on the ISS	797	747	6004
Countries/Areas with ISS Investigations	29	29	–

<i>Research Resources</i>	ISS Expedition 71 Apr 2024 – Sep 2024	ISS Expedition 72 Sep 2024 – Apr 2025	ISS Expeditions 0 - 72 Dec 1998 – Apr 2025
Upmass	846 kg	1168 kg	99958 kg
Downmass	36 kg	793 kg	34465 kg
Crew Time	2260 hrs	2536 hrs	70610 hrs

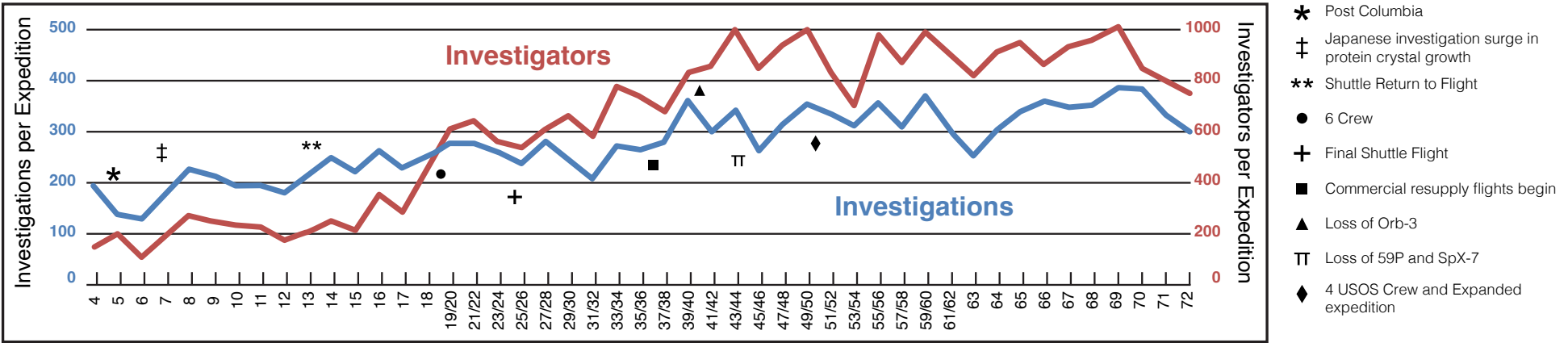
RESEARCH DISCIPLINES OF INTERNATIONAL SPACE STATION INVESTIGATIONS BY PARTNER AGENCIES



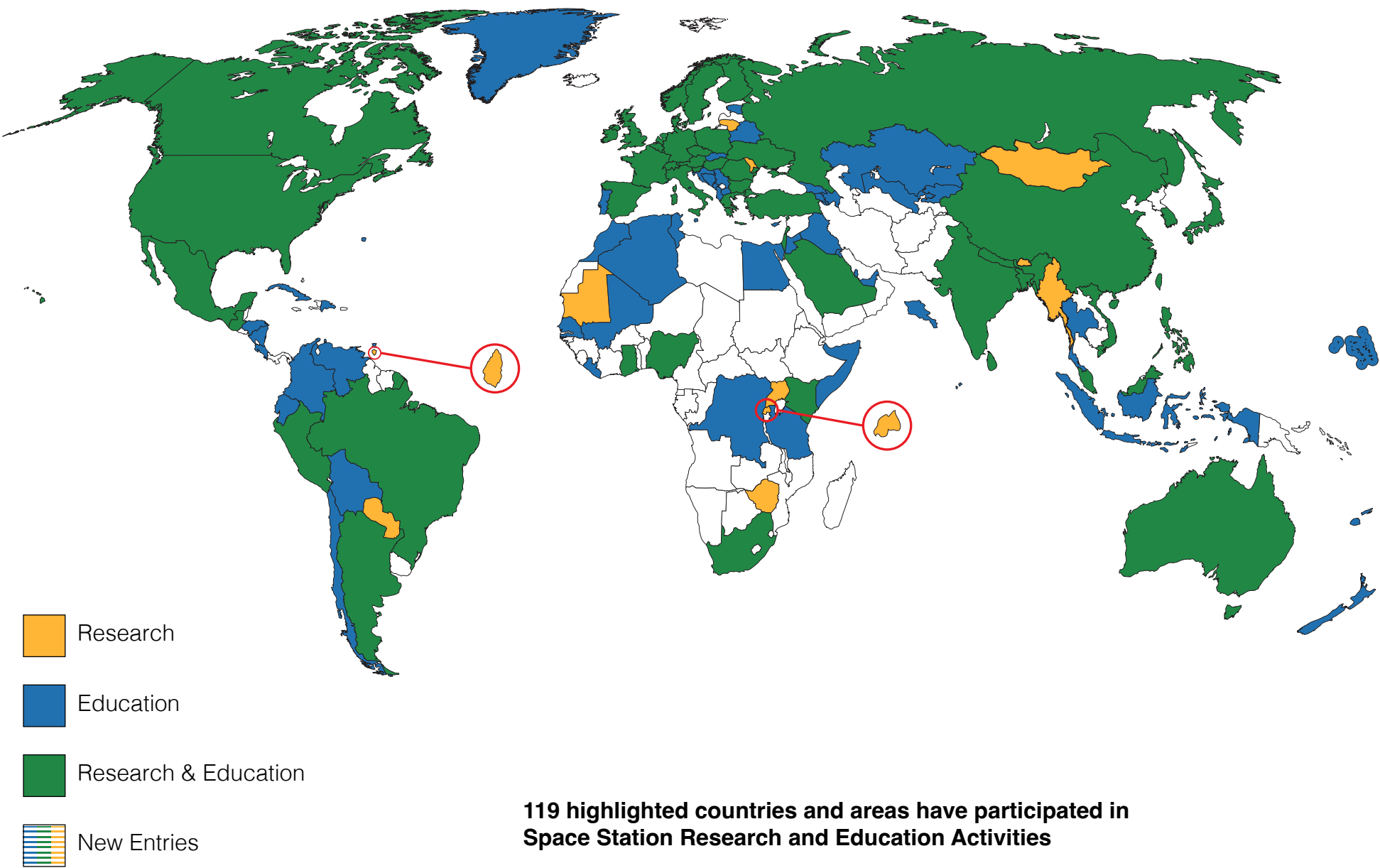
NASA utilization includes 79 investigations, ESA utilization includes 62 investigations, and Roscosmos utilization includes 1 investigation associated with the Italian Space Agency (ASI), an ISS Participant Agency.



NUMBER OF INVESTIGATIONS AND INVESTIGATORS WITH RESEARCH ON THE ISS PER EXPEDITION



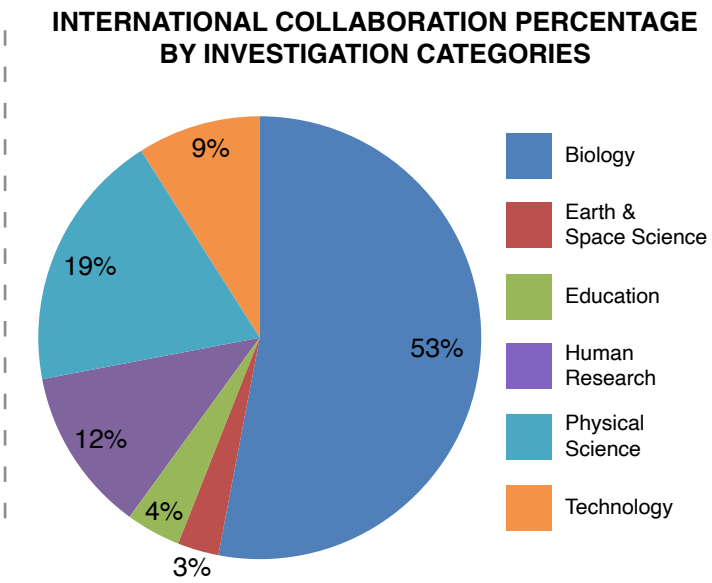
INTERNATIONAL PARTICIPATION ON SPACE STATION



INTERNATIONAL COLLABORATION ON SPACE STATION

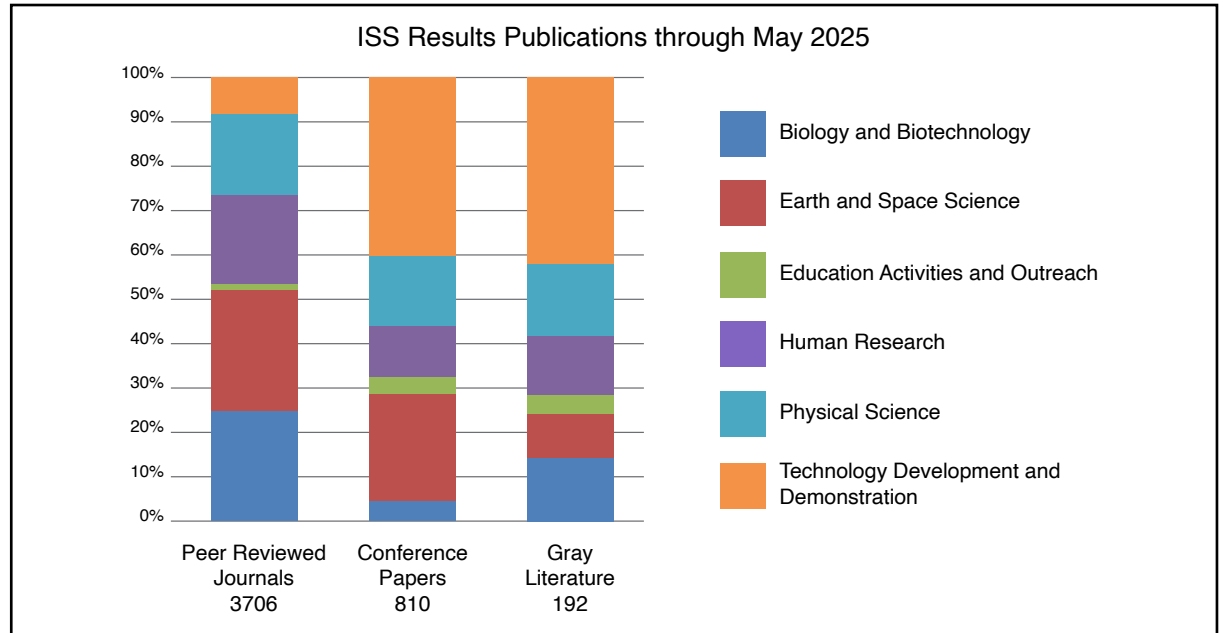
SPACE STATION BENEFITS INCREASED THROUGH INTERNATIONAL COLLABORATION						
Partner Agency*	Agency Only	Collaboration (Hosting)	Investigations Implemented	Collaboration (Participating)	Total Agency Impact	% Increase Through Collaboration
CSA	37	13	50	66	116	132%
ESA	388	126	514	420	934	82%
JAXA	733	257	988	213	1201	22%
NASA	1514	313	1826	151	1977	8%
Roscosmos	368	332	700	287	987	41%
Totals			4078	1137	5215	28%

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INTERNATIONAL SPACE STATION PUBLICATIONS DATA

Clarivate Analytics® Ranks	Source (Number of Publications)
ISS Publications in Top 20 Sources	1 Nature Commnication (15)
	2 Nature (16)
	3 Scientific Reports (82)
	4 Science (5)
	5 PNAS (9)
	6 PLoS ONE (53)
	7 New England Journal of Medicine (1)
	9 Science of the Total Environment (1)
	10 International Journal of Molecular Sciences (29)
	14 Cell (3)
	16 ACS Applied Materials & Interfaces (1)
	18 Science Advances (10)
	19 Frontiers in Immunology (3)
ISS Publications in Top 100 Sources	21 Physical Review Letters (60)
	27 Nature Medicine (1)
	29 Monthly Notices of the Royal Astronomical Society (131)
	30 Astrophysical Journal (183)
	32 Cell Reports (8)
	37 Circulation (2)
	38 Advanced Energy Materials (1)
	39 Sensors (3)
	42 Molecules (1)
	41 Physical Review D (15)
	45 Frontiers in Microbiology (19)
	52 Journal of Alloys and Compounds (2)
	53 Astronomy & Astrophysics (51)
	56 Journal of the American College of Cardiology (1)
	58 Remote Sensing (3)
	60 Applied Sciences (1)
	62 Construction and Building Materials (1)
	73 Cells (4)
	75 Geophysical Research Letters (17)
	93 Frontiers in Plant Science (10)



PUBLICATIONS IN TOP 20 GLOBAL JOURNALS FROM OCTOBER 2024 – MAY 2025

Ice Cubes Experiment Cube #6 – Kirara researchers found differences in the stability and degradation of the anti-COVID drug Remdesivir between space and Earth environments during the first research flight, but not during the second. These findings suggest that multiple spaceflight-related factors may influence chemical stability, prompting scientists to repeat the experiment under nearly identical conditions. The results underscore the need for more standardized procedures for conducting pharmaceutical research in space (Dorman, Scientific Reports, 2025. ESA).

Mouse Habitat Unit-5 (MHU-5) scientists found that living in microgravity weakens bones and immune organs, but lunar gravity (1/6 of Earth's gravity) helps partially protect them. By identifying that lunar gravity can partially counteract the harmful effects of microgravity, the research provides critical insights into the minimum gravity needed to maintain health (Okamura, Scientific Reports, 2024. JAXA).

The day they return from spaceflight, astronauts demonstrate significant impairments in fine motor control and the ability to multitask in simulated flying and driving challenges. This finding from the investigation **Manual Control** could help develop countermeasures so crew members can safely land and conduct early operations on the Moon and Mars (Moore, Scientific Reports, 2024. NASA).

Neurospat researchers studying brain activity found that beta wave power and connectivity increased during spaceflight, especially in brain regions tied to motor control and spatial awareness. The results suggest that the brain adapts to microgravity by changing how regions involved in movement and spatial orientation communicate. Understanding these brain changes may help in treating balance, motor, or spatial orientation disorders on Earth (Quivira-Lopesino, Scientific Reports, 2025. ESA).

Human mesenchymal stem/stromal cells (MSCs) grown aboard the Space Station showed increased gene expression compared to those grown on Earth. Several key genes acted as “master regulators” of the stem cells’ response to microgravity. These results from **Microgravity Expanded Stem Cells** suggest that microgravity triggers a complex, systemic shift in stem cell function at the genetic level. The findings could help scientists develop better treatments for aging, injury, and disease by harnessing how stem cells behave in extreme environments (Huang, PLOS One, 2025. NASA).

TOP 5 MOST CITED ISS RESEARCH PUBLICATIONS OVERALL

NICER estimated the mass and radius of the isolated 205.53 Hz millisecond pulsar PSR J0030+0451 using a Bayesian inference approach to analyze its energy-dependent thermal X-ray waveform. Neutron stars are of great interest to astrophysicists and nuclear physicists because their attributes can be used to determine the properties of the dense matter in their cores (Miller, et al., Astrophysical Journal Letters, 2019, Times Cited = 1,157).

AMS-02 has collected and analyzed billions of cosmic ray events. The identification of 9 million electrons or positrons (antimatter) has provided data that informs the origin of cosmic rays and antimatter, increasing the understanding of how our galaxy was formed (AMS Collaboration, Physical Review Letters, 2013. Times Cited = 869).

MAXI was the first payload attached to JAXA's module KIBO. With multiple advanced cameras, MAXI provides an all-sky X-ray image for every ISS orbit. This publication summarizes the technical details of the payload and its objectives (Matsuoka, et al., Publications of the Astronomical Society of Japan, 2009. Times Cited = 700).

The **Twins Study** measured multiple physiological variables in an astronaut and his Earth-bound twin for a year. While most measurements returned to baseline after the mission, some changes in telomere length and cognitive function persisted (Garrett-Bakelman, et al. Science, 2019. Times Cited = 643).

Subregional Bone found that the greatest space-induced bone loss occurs in pelvis, hip, and leg bones, which should be the focus of countermeasures and surface activities designed for crew members on future missions beyond low Earth orbit. (Lang, et al., Journal of Bone and Mineral Research, 2004. Times Cited = 601).