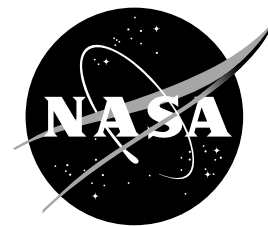


# NASA Facts

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## STS-92/Discovery

### 100<sup>th</sup> Mission Highlighted by Delivery of Z1 Truss

Space Shuttle Discovery, the third operational Shuttle built, will undertake the 100<sup>th</sup> Shuttle mission to be launched from Kennedy Space Center. Discovery's mission, STS-92, plays a pivotal role in the continued construction of the International Space Station because of its critical payloads, the Zenith (Z1) Integrated Truss and the third Pressurized Mating Adapter (PMA3).

The Z1 Truss will carry components of the Station's attitude, communications, thermal and power control systems including four control moment gyroscopes as well as high and low gain antenna systems. The Z1 Truss and the PMA3 will be the first U.S.-built cargo elements to be flown to the International Space Station since the successful launch of the Unity element in late 1998.

The STS-92 mission signals the beginning of work on the major elements of the International Space Station that will make it more than just a vision but a long-awaited reality and marks a dramatic turn in the assembly process. The mission kicks off a series of assembly flights that will include such Station elements as a scientific research laboratory, solar arrays and additional truss structures. Eight Space Shuttle missions will be required to deliver and assemble the structure's ten pre-integrated truss segments. These missions will be spread out over a four-year period.

Once completed, the combination of trusses will be the length of a football field. Labs, living quarters, payloads and systems equipment will be directly or indirectly attached to it. The U.S. solar arrays, which will be delivered to the structure in late November aboard Space Shuttle Endeavor on STS-97, will supply the International Space Station with enough power to light up an entire town.



The Pressurized Mating Adapter (PMA3), also being delivered to the Station on this mission, will mirror the existing two adapters already in place at opposite ends of the Unity module. These adapters essentially act as pressurized pathways or hallways for the astronauts to use when accessing connecting modules. Because they are pressurized, heated and supplied with handhold grips, these tunnel-like sections allow the crew to move easily between the Shuttle and different areas of the Station. One of the existing adapters serves as a docking site for the Shuttle fleet while the opposing adapter provides the linkage for the Zarya module.

The 28<sup>th</sup> flight of Discovery will begin with a liftoff from Launch Pad 39A. Discovery will ascend at a 51.6-degree inclination to the equator for direct insertion into orbit. The mission is scheduled for 11 days. Landing is planned for the Kennedy Space Center's Shuttle Landing Facility.

## The Crew

**Commander Brian Duffy (Col., USAF)**, a veteran of three previous space flights, has logged more than 667 hours in space as both a commander and pilot. Most recently Duffy served as the Acting Deputy Director of the Johnson Space Center. He has participated in the development and testing of displays, flight crew procedures and computer software for Shuttle flights. Born in Boston, Mass, he received a bachelor of science degree in mathematics from the United States Air Force (USAF) Academy and a master of science degree in systems management from the University of Southern California. NASA selected Duffy as an astronaut in June 1985.

**Pilot Pamela Melroy (Lt. Col., USAF)** will make her first Shuttle flight aboard Discovery on mission STS-92. Prior to joining NASA, she was assigned to the C-17 Combined Test Force where she served as a test pilot. Melroy has logged more than 4,000 hours of flight time in 45 different aircraft. Though born in Palo Alto, Calif., she considers Rochester, N.Y., to be her hometown. She received a bachelor of science degree in physics and astronomy from Wellesley College and a master of science in earth and planetary sciences from Massachusetts Institute of Technology. In December 1994, she was selected to be an astronaut candidate by NASA.

**Mission Specialist Koichi Wakata (National Space Development Agency of Japan NASDA)** served as mission specialist aboard STS-72 in 1996 and logged more than 214 hours in space including two space walks. Born in Omiya, Saitama, Japan, Wakata received a bachelor of science in aeronautical engineering and a master of science degree in applied mechanics from Kyushu University. Before joining NASA, he was assigned as a structural engineer for Japan Airlines to research the structural integrity of transport aircraft. He was selected as an astronaut candidate by NASDA in June 1992.

**Mission Specialist Leroy Chiao (Ph.D.)** has flown on two previous missions and has logged 567 hours in space. Though born in Milwaukee, Wis., he considers Danville, Calif., to be his hometown. Chiao has had diverse technical assignments including Space Shuttle flight software verification, crew equipment, training and flight data file issues, and

Extravehicular Activities (EVA) or space walks for the EVA Branch. He received a bachelor of science in chemical engineering from the University of California, Berkley and a master of science and doctorate in chemical engineering from the University of California, Santa Barbara. Selected by NASA in January 1990, Chiao became an astronaut in July 1991.

**Mission Specialist Peter "Jeff" Wisoff (Ph.D.)**, a veteran of three space flights, STS-57, STS-68 and STS-81, has logged more than 754 hours in space. Born in Norfolk, Va., Wisoff received a bachelor of science in physics from the University of Virginia and a master of science and a doctorate in applied physics from Stanford University. His technical assignments to date include spacecraft communicator (CAPCOM) in Mission Control, coordinating flight crew equipment and evaluating extravehicular activity (EVA) techniques for the International Space Station. Wisoff became an astronaut in July 1991.

**Mission Specialist Michael Lopez-Alegria (Cmdr., USN)** will be making his second flight aboard the Space Shuttle on STS-92. Though born in Madrid, Spain, he considers both Madrid and Mission Viejo, Calif., to be his hometown. Lopez-Alegria received a bachelor of science in systems engineering from the U.S. Naval Academy and a master of science in aeronautical engineering from the U.S. Naval Postgraduate School. Most recently, he served as NASA Director of Operations at the Yuri Gagarin Cosmonaut Training Center in Star City, Russia. NASA selected him as an astronaut in March 1992.

**Mission Specialist William (Bill) McArthur Jr. (Col., USA)** is a veteran of two previous space flights and has traveled 9.2 million miles in space. Though born in Laurinburg, N.C., he considers Wakulla, N.C., to be his hometown. McArthur received a bachelor of science in applied science and engineering from the United States Military Academy, West Point, N.Y., and a master of science in aerospace engineering from the Georgia Institute of Technology. Most recently he served as Chief of the Astronaut Office Flight Support Branch, supervising astronaut support of the Mission Control Center. He was selected to be an astronaut by NASA in January 1990.