

ASTRONAUT BIOGRAPHY



National Aeronautics and Space Administration

Lyndon B. Johnson Space Center
Houston, Texas 77058

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Stephanie D. Wilson

NASA Astronaut

Summary:

Stephanie D. Wilson is a veteran of three spaceflights, STS-121 in 2006, STS-120 in 2007, and STS-131 in 2010 and has logged more than 42 days in space. Born in Boston, she attended high school in Pittsfield, Mass., and earned her Bachelor of Science in Engineering Science from Harvard University in 1988. After working at Martin Marietta for two years, she earned her Master of Science in Aerospace Engineering in 1992 from the University of Texas at Austin; her graduate research, sponsored by a NASA Graduate Student Researchers Fellowship, focused on the control and modeling of large, flexible space structures. Selected by NASA as an astronaut in April 1996, she flew her first space shuttle mission in 2006, then flew subsequent shuttle missions in 2007 and 2010. Wilson has served as the Space Station Integration Branch Chief from 2010 to 2012, and in 2013 Wilson completed a 9-month detail to NASA's Glenn Research Center as the Acting Chief of Program and Project Integration in the Spaceflight Systems Directorate. She has also served as a member of the 2009, 2013 and 2017 Astronaut Selection Boards. As a member of the Astronaut Office, she is currently the Mission Support Crew Branch Chief.

Personal Data:

Born in 1966 in Boston, Massachusetts. Enjoys snow skiing, music, stamp collecting and traveling.

Education:

Graduated from Taconic High School, Pittsfield, Massachusetts, 1984. Bachelor of Science in Engineering Science from Harvard University, 1988. Master of Science in Aerospace Engineering from the University of Texas, 1992.

Experience:

After graduating from Harvard in 1988, Wilson worked two years for the former Martin Marietta Astronautics Group in Denver, Colorado. As a loads and dynamics engineer for Titan IV, Wilson was responsible for performing coupled loads analyses for the launch vehicle and payloads during flight events. Wilson left Martin Marietta in 1990 to attend graduate school at the University of Texas at Austin. Her research, sponsored by NASA's Langley Research Center through a NASA Graduate Student Researchers Fellowship, focused on the control and modeling of large, flexible space structures, ultimately culminating in a thesis comparing structural dynamics methodologies and controller designs. Following the completion of her graduate work, she began working for the Jet Propulsion Laboratory in Pasadena, California in 1992. As a member of the Attitude and Articulation Control Subsystem team for the Galileo spacecraft, Wilson was responsible for assessing attitude controller performance, science platform pointing accuracy, antenna pointing accuracy and spin rate accuracy. She worked in the areas of sequence development and testing as well. While at the Jet Propulsion Laboratory, Wilson also supported the Interferometry Technology Program as a member of the Integrated Modeling team, which was responsible for finite element modeling, controller design and software development.

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NASA Experience:

Wilson was selected as an astronaut by NASA in April 1996, and reported to NASA's Johnson Space Center in August 1996. She completed two years of training and evaluation and became qualified for flight assignment as a Mission Specialist. Wilson was initially assigned technical duties in the Astronaut Office Space Station branch to develop requirements for space station payload displays and procedures and to evaluate their user interfaces. She then served as a Capsule Communicator (CAPCOM) in the Astronaut Office CAPCOM branch, working in the Mission Control Center as a prime communicator with several space shuttle and space station crews. Following her work in mission control, Wilson was assigned technical duties involving the space shuttle main engines, external tank and solid rocket boosters in the Astronaut Office Space Branch. In November 2004, Wilson was assigned to STS-121. Following STS-121, she served in the Astronaut Office Robotics branch performing robotics procedure reviews and serving as a robotics mentor and instructor astronaut. In November 2006, Wilson was assigned to STS-120. Following STS-120 she was assigned joint duty in both the Astronaut Office Exploration and International Space Station branches. With respect to space station branch work, Wilson served as the Astronaut Office primary representative to the Generic Joint Operations Panel for space shuttle and space station issues. For the Exploration branch, she served as the Astronaut Office representative for the Orion Communications and Tracking System. In May 2009, Wilson was assigned to STS-131.

Following STS-131, within the Space Station Integration branch, she served as the Operations Products lead further developing crew efficiencies in operations products, and as the Payload lead interfacing with NASA's Marshall Space Flight Center to resolve payload processes, operations nomenclature and procedure issues. From 2010 to 2012 Wilson then served as the Space Station Integration Branch Chief, where she was responsible for overseeing team working updates, resolving issues and bringing the crew perspective related to space station systems, payloads, operations products and software interfaces. As part of a unique opportunity in 2013, Wilson completed a nine-month detail to NASA's Glenn Research Center as the Acting Chief of Program and Project Integration within the Spaceflight Systems Directorate. In this role, she was responsible for overseeing the program, planning and control functions for Glenn's spaceflight projects. Following her detail to Glenn, Wilson was assigned to the Space Station Operations branch as the lead Crew Support astronaut. She subsequently served as the Astronaut Office representative for space station stowage, food and crew provisions. She has served as the primary Astronaut Office representative to the Increased Crew Size Generic Operations Panel which assessed systems readiness for the space station to accept an increased crew size expected with the start of the Commercial Crew Program. Wilson has also served as a member of the 2009, 2013 and 2017 Astronaut Selection Boards and she currently serves as the Astronaut Office Mission Support Crew Branch Chief. A veteran of three spaceflights, STS-121 in 2006, STS-120 in 2007 and STS-131 in 2010, Wilson has logged more than 42 days in space.

Spaceflight Experience:

STS-121 (July 4 through July 17, 2006). This was a Return to Flight test mission and assembly flight to the International Space Station. During the 13-day flight, the crew of Space Shuttle Discovery tested new equipment and procedures that increase the safety of the space shuttle and repaired a rail car on the station. Wilson served as the robotic arm operator for vehicle inspection and for the installation of the "Leonardo" Multi-Purpose Logistics Module. She was also assigned as the loadmaster responsible for overseeing the transfer of more than 15,000 pounds of supplies and equipment to the space station. In addition, the crew delivered a new Expedition 13 crew member to the space station. The mission was accomplished in 12 days, 18 hours, 37 minutes and 54 seconds and produced never-before-seen, high-resolution images of the shuttle during and after its July 4th launch.

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STS-120 (October 23 through November 7, 2007). This mission was also designated as flight 10A in the International Space Station assembly sequence. Space Shuttle Discovery was launched from and returned to land at NASA's Kennedy Space Center, Florida. STS-120 delivered the Node 2 "Harmony" module to the station, establishing the necessary capability for future international laboratories to be added to the space station. STS-120 also delivered an Expedition 16 crew member and returned with an Expedition 15 crew member. During ascent and entry, Wilson served as the Flight Engineer, assisting the commander and pilot with space shuttle systems. She was also assigned as the primary robotic arm operator for vehicle inspection and spacewalk support, helping to replace the S-band antenna and to relocate the P6 solar array from the Z1 truss to the end of the Integrated Truss Segment. During the deployment of the solar array, the array panels snagged and were damaged. Wilson was the primary robotic arm operator for the unplanned spacewalk that successfully repaired the solar array. The mission was accomplished in 238 orbits, traveling 6.2 million miles in 15 days, 2 hours and 23 minutes.

STS-131 (April 5 through April 20, 2010). This was a resupply mission to the International Space Station. Space Shuttle Discovery was launched pre-dawn from Kennedy Space Center. Once docked to the space station, the crew delivered more than 27,000 pounds of hardware, supplies, experiments and equipment, including a tank full of ammonia coolant that required three spacewalks and robotics to install, new crew sleeping quarters, a window observation facility and a freezer for experiments. During the mission, Wilson was responsible for robotics for spacewalking support using the space station robotic arm and for robotic removal of the "Leonardo" Multi-Purpose Logistics Module from the payload bay of Discovery. For the return to Earth, Wilson robotically installed Leonardo, which was packed with more than 6,000 pounds of hardware, science results and used supplies, inside Discovery's payload bay. The STS-131 mission was accomplished in 15 days, 2 hours, 47 minutes and 10 seconds and traveled 6,232,235 statute miles in 238 orbits.

Awards/Honors

Several group achievement and performance awards (1992 to 2008); Young Outstanding Texas Exes Award (2005); Harvard Foundation Scientist of the Year Award (2008); Harvard College Women's Professional Achievement Award (2008); Honorary Doctorate of Science from Williams College (2011); NASA Space Flight Medal (2006, 2007, 2010); NASA Distinguished Service Medal (2009, 2011); Johnson Space Center Director's Innovation Group Achievement Award (2013); Johnson Space Center Director Commendation Award (2013); University of Texas Distinguished Alumnus Award (2015); Honorary Doctorate of Science from Smith College (2016). Honorary Doctorate of Science from Massachusetts College of Liberal Arts (2018), Salem College Trailblazer Award (2019).

Organizations:

The American Institute of Aeronautics and Astronautics (Associate Fellow); The Association of Space Explorers (Board Member 2018 – 2021); The Society of Women Engineers; The Astronauts Memorial Foundation (Board Member 2018 - 2021); The Harvard University Board of Overseers (2007-2013); The Links Incorporated.