## Biographical Data

**Lyndon B. Johnson Space Center** Houston, Texas 77058



National Aeronautics and Space Administration

## DANIEL C. BRANDENSTEIN (CAPTAIN, USN, RET.) NASA ASTRONAUT (FORMER)

**PERSONAL DATA:** Born January 17, 1943, in Watertown, Wisconsin. Married to the former Jane A. Wade of Balsam Lake, Wisconsin. They have one daughter. Recreational interests include skiing, sailing, basketball, softball, golf, and woodworking. His parents, Mr. and Mrs. Walter Brandenstein, are residents of Watertown, Wisconsin. Her parents, Mr. and Mrs. Albert Wade, reside in Balsam Lake, Wisconsin.

**EDUCATION:** Graduated from Watertown High School, Watertown, Wisconsin, in 1961; received a bachelor of science degree in mathematics and physics from the University of Wisconsin (River Falls) in 1965.

**ORGANIZATIONS:** Associate Fellow, American Institute of Aeronautics and Astronautics (AIAA). Member, Society of Experimental Test Pilots (SETP), Association of Space Explorers, United States, Naval Institute, and Association of Naval Aviation.



SPECIAL HONORS: Awarded 2 Defense Superior Service Medals the Legion of Merit, the Distinguished Flying Cross, Defense Meritorious Service Medal, 17 Air Medals, 2 Navy Commendation Medals with Combat V, Meritorious Unit Commendation, 2 NASA Distinguished Service Medals, 2 NASA Outstanding Leadership Medals, 4 NASA Space Flight Medals, National Defense Service Medal, Armed Forces Expeditionary Medal, Vietnam Service Medal, Sea Service Deployment Ribbon, Legion of Honor (France), Medal of King Abdul Aziz (Saudi Arabia), Republic of Vietnam Air Gallantry Cross with Silver Star, Republic of Vietnam Gallantry Cross Unit Citation, and Republic of Vietnam Campaign Medal. Distinguished Alumnus, University of Wisconsin, River Falls. Honorary Doctor of Engineering, Milwaukee School of Engineering, Honorary Doctor of Science, University of Wisconsin - River Falls. Recipient of the SETP Iven C. Kincheloe Award, the AIAA Haley Space Flight Award, the Federation Aeronautique International Yuri Gagarin Gold Medal and American Astronautical Society Flight Achievement Award.

**EXPERIENCE:** Brandenstein entered active duty with the Navy in September 1965 and was attached to the Naval Air Training Command for flight training. He was designated a naval aviator at Naval Air Station, Beeville, Texas, in May 1967, and then proceeded to VA-128 for A-6 fleet replacement training. From 1968 to 1970, while attached to VA-196 flying A-6 Intruders, he participated in two combat deployments on board the USS Constellation and the USS Ranger to Southeast Asia and flew 192 combat missions. In subsequent assignments, he was attached to VX-5 for the conduct of operational tests of A-6 weapons systems and tactics; and to the Naval Air Test Center where, upon graduation from the U.S. Naval Test Pilot School, Patuxent River, Maryland, he conducted tests of electronic warfare systems in various Navy aircraft. Brandenstein made a ninemonth deployment to the Western Pacific and Indian Ocean on board the USS Ranger while attached to VA-145 flying A-6 Intruders during the period March 1975 to September 1977. Prior to reporting to Houston as an astronaut candidate, he was attached to VA-128 as an A-6 flight instructor. He has logged 6,400 hours flying time in 24 different types of aircraft and has 400 carrier landings.

Selected by NASA in January 1978, Brandenstein became an astronaut in August 1979. He was ascent spacecraft communicator (CAPCOM) and a member of the astronaut support crew for STS-1 (the first flight of the Space Shuttle). He was subsequently assigned to the STS-2 astronaut support crew and was the ascent CAPCOM for the second Space Shuttle flight. A veteran of four space flights -- STS-8 (August 30-September 3, 1983), STS-51G (June 17-24, 1985), STS-32 (January 9-20, 1990), and STS-49 (May 7-16, 1992) -- Brandenstein has logged over 789 hours in space. Following his second space flight, Brandenstein served as the Deputy Director of Flight Crew Operations. From April 1987 through September 1992 Brandenstein served as Chief of the Astronaut Office. In October 1992 Brandenstein retired from NASA and the U.S. Navy.

Brandenstein currently serves as Chief Operating Officer for United Space Alliance. He came to USA from Lockheed Martin Mission Services where he served as Vice President and Program Manager for the Mission Support Operations Contract at the NASA Johnson Space Center.

**SPACE FLIGHT EXPERIENCE:** Brandenstein was pilot on STS-8, his first flight, which launched at night from the Kennedy Space Center, Florida, on August 30, 1983. This was the third flight for the Orbiter Challenger and the first mission with a night launch and night landing. During the mission crew members deployed the Indian National Satellite (INSAT-1B); operated the Canadian-built Remote Manipulator System (RMS) with the Payload Flight Test Article (PFTA); operated the Continuous Flow Electrophoresis System (CFES) with live cell samples; conducted medical measurements to understand biophysiological effects on space flight; and activated various earth resources and space science experiments along with four "Getaway Special" canisters. STS-8 completed 98 orbits of the Earth in 145 hours before landing at Edwards Air Force Base, California, on September 3, 1983.

On his second mission (June 17-24, 1985), Brandenstein commanded the crew of STS-51G aboard the Orbiter Discovery. During this seven-day mission crew members deployed communications satellites for Mexico (Morelos), the Arab League (Arabsat), and the United States (AT&T Telstar). They used the Remote Manipulator System (RMS) to deploy and later retrieve the SPARTAN satellite which performed 17 hours of x-ray astronomy experiments while separated from the Space Shuttle. In addition, the crew activated the Automated Directional Solidification Furnace (ADSF), six "Getaway Specials", participated in biomedical experiments, and conducted a laser tracking experiment as part of the Strategic Defense Initiative. The mission was accomplished in 112 Earth orbits in approximately 170 hours.

Brandenstein then commanded the crew of STS-32 (January 9-20, 1990). In the longest Shuttle mission to date, crew members aboard the Orbiter Columbia successfully deployed the Syncom IV-F5 satellite, and retrieved the 21,400-pound Long Duration Exposure Facility (LDEF) using the RMS. They also operated a variety of middeck experiments including the Microgravity Disturbance Experiment (MDE) using the Fluids Experiment Apparatus (FEA), Protein Crystal Growth (PCG), American Flight Echocardiograph (AFE), Latitude/Longitude Locator (L3), Mesoscale Lightning Experiment (MLE), Characterization of Neurospora Circadian Rhythms (CNCR), and the IMAX camera. Additionally, numerous medical test objectives, including inflight Lower Body Negative Pressure (LBNP), in-flight aerobic exercise and muscle performance were conducted to evaluate human adaptation to extended duration missions. Following 173 orbits of the Earth in 261 hours, the mission ended with a night landing in California.

Brandenstein also commanded the crew of STS-49 (May 7-16, 1992) on the maiden flight of the new Space Shuttle Endeavour. During this mission, the crew conducted the initial test flight of Endeavour, performed a record four EVA's (space walks) to retrieve, repair and deploy the International Telecommunications Satellite (INTELSAT) and to demonstrate and evaluate numerous EVA tasks to be used for the assembly of Space Station Freedom. Additionally, a variety of medical, scientific and operational tests were conducted throughout the mission. STS-49 logged 213 hours in space and 141 Earth orbits prior to landing at Edwards Air Force Base, California, where the crew conducted the first test of the Endeavour's drag chute.

With the completion of his fourth flight, Brandenstein logged over 789 hours in space.

## OCTOBER 2007

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