

NASA JOHNSON SPACE CENTER ORAL HISTORY PROJECT

BIOGRAPHICAL DATA SHEET

NAME: Bonnie J. Dunbar

ORAL HISTORY: 22 December 2004
20 January 2005
23 March 2005
14 September 2005

EDUCATIONAL BACKGROUND:

B.S. in Ceramic Engineering, University of Washington, Seattle, WA, 1971
M.S. in Ceramic Engineering, University of Washington, Seattle, WA, 1975
Ph.D. in Mechanical/Biomedical Engineering, University of Houston, Houston, TX, 1983

PRE-NASA EXPERIENCE:

Boeing Computer Services (1971-1973)

- Systems Analyst (1971-1973)

Harwell Laboratories, Oxford, England (1975)

- Visiting Scientist (1975)

Rockwell International Space Division, Downey, CA (1976-1978)

- Senior Research Engineer (1976-1978)

NASA EXPERIENCE:

NASA Lyndon B. Johnson Center, Houston, TX (1978-2005)

- Payload Officer/Flight Controller (1978)
- Guidance and Navigation Officer/Flight Controller (1979)
- Project Officer/Payload Officer, Payload Operations Division (1979-1981)
- Astronaut, Astronaut Office (1981-1995, 1997-Present)

NASA Headquarters, Washington, DC (1993)

- Deputy Associate Administrator, Office of Life and Microgravity Sciences

NASA Lyndon B. Johnson Space Center, Houston, TX

- Assistant Director, Mission Operations Directorate (1995-1996)
- Assistant Director to the NASA Johnson Space Center, University Research (1998-2003)
- Deputy Associate Director, Biological Sciences and Applications (2003-2005)
- Associate Director, Technology Integration and Risk Management (2005)

POST -NASA EXPERIENCE:

Seattle Museum of Flight, Seattle, WA (2005-Present)

- President and CEO (2005-Present)

MISSIONS:*STS 61-A (Challenger)*

- Crew: Commander Henry W. Hartsfield, Jr., Pilot Steven R. Nagel, Mission Specialist 1 James F. Buchli, Mission Specialist 2 Guion S. Bluford, Mission Specialist 3 Bonnie J. Dunbar, Payload Specialist 1 Reinhard Furrer, Payload Specialist 2 Ernst Messerschmid, Payload Specialist 3 Wubbo J. Ockels
- Launched: 30 October 1985 at 12:00:00 P.M. EST from Kennedy Space Center, FL
- Duration: 7 days, 0 hours, 44 minutes, 51 seconds
- Landed: 6 November 1985 at 09:44:51 A.M. PST Edwards AFB, California
- Mission Highlights: This mission held eight members—the largest crew to date. In addition, this was the first Space Shuttle mission to be sponsored by another nation, West Germany. The Spacelab (D-1) payload contained 75 experiments from the fields of materials science, life sciences, technology, communications, and navigation. German principal investigators directed science experiments from the German Space Operations Center at Oberpfaffenhof, Germany, while flight controllers monitored the orbiter at the Johnson Space Center in Houston, Texas.

STS-32 (Columbia)

- Crew: Commander Daniel C. Brandenstein, Pilot James D. Wetherbee, Mission Specialist 1 Bonnie J. Dunbar, Mission Specialist 2 G. David Low, Mission Specialist 3 Marsha S. Ivins
- Launched: 9 January 1990 at 07:35:00 A.M. EST from Kennedy Space Center, FL
- Duration: 10 days, 21 hours, 0 minutes, 36 seconds
- Landed: 20 January 1990 at 01:35:37 A.M. PST Edwards AFB, California
- Mission Highlights: The crew of STS-32 deployed a defense communications satellite, Syncom IV-F5, and retrieved the Long Duration Exposure Facility (LDEF), which had been placed in orbit by the crew of STS 41-C in 1984. In addition, the crew completed a number of experiments including the Mesoscale Lightning Experiment (MLE), the Air Force Maui Optical Site (AMOS) Experiment, and the Microgravity Disturbance Experiment (MDE) using the Fluids Experiment Apparatus (FEA). Other payloads included the Characterization of Neurospora Circadian Rhythms (CNCR), the Protein Crystal Growth (PCG), the American Flight Echocardiograph (AFE), the Latitude/Longitude Locator (L3), and an IMAX camera. At the time, the crew of STS-32 held the record for the longest Space Shuttle flight to date.

STS-50 (Columbia)

- Crew: Commander Richard N. Richards, Pilot Kenneth D. Bowersox, Payload Commander Bonnie J. Dunbar, Mission Specialist 2 Ellen S. Baker, Mission Specialist 3 Carl J. Meade, Payload Specialist 1 Lawrence J. DeLucas, Payload Specialist 2 Eugene H. Trinh
- Launched: 25 June 1992 at 12:12:23 P.M. EDT from Kennedy Space Center, FL
- Duration: 13 days, 19 hours, 30 minutes, 4 seconds
- Landed: 9 July 1992 at 07:43 A.M. EDT, Kennedy Space Center, FL

- Mission Highlights: STS-50 marked the first flight of the U.S. Microgravity Laboratory, a Spacelab module designed to allow astronauts to study microgravity fluid physics and materials science. This was a thirteen day mission, the longest Space Shuttle mission at the time. The astronauts onboard STS-50 were able to conduct over 30 experiments including the Crystal Growth Furnace (CGF), the Drop Physics Module (DPM), the Surface Tension Driven Convection Experiment (STDCE), Glovebox Facility (GBX), Space Acceleration Measurement System (SAMS), the Generic Bioprocessing Apparatus (GBA), Astroculture-1 (ASC), the Extended Duration Orbiter Medical Project (EDOMP), the Zeolite Crystal Growth (ZCG), Protein Crystal Growth (PCG), and the Solid Surface Combustion Experiment (SSCE).

STS-71 (*Atlantis*)

- Crew: Commander Robert L. Gibson, Pilot Charles J. Precourt, Mission Specialist Ellen S. Baker, Mission Specialist Bonnie J. Dunbar, Mission Specialist Gregory J. Harbaugh, MIR-19 crew upload Anatoly Solovyev, MIR-19 crew upload Nikolai Budarin, MIR-18 crew download Norman E. Thagard, MIR-18 crew download Vladimir Dezhurov, MIR-18 crew download Gennadiy Strekalov
- Launched: 27 June 1995 at 03:32:19 P.M. EDT from Kennedy Space Center, FL
- Duration: 9 days, 19 hours, 22 minutes, 17 seconds
- Landed 7 July 1995, 10:54:34 A.M. EDT, Kennedy Space Center, FL
- Mission Highlights: STS-71 was the first Space Shuttle mission to dock with the Russian Space Station MIR and the 100th U.S. human spaceflight. *Atlantis* carried a Spacelab module--where the crew completed medical evaluations on Thagard, Dezhurov, and Strekalov—and also supplies to MIR. A secondary experiment included the Shuttle Amateur Radio Experiment-II (SAREX-II).

STS-89 (*Endeavour*)

- Crew: Commander Terrence W. Wilcutt, Pilot Joe F. Edwards, Jr., Payload Commander Bonnie J. Dunbar, Mission Specialist Michael P. Anderson, Mission Specialist James F. Reilly, II, Mission Specialist Salizhan Shakirovich Sharipov, Mission Specialist Andrew S. W. Thomas
- Launched: 22 January 1998 at 09:48:15 P.M. EST from Kennedy Space Center, FL
- Duration: 8 days, 19 hours, 48 minutes, 4 seconds
- Landed: 31 January 1998 at 05:36 P.M. EST Kennedy Space Center, FL
- Mission Highlights: STS-89 was the eighth Space Shuttle mission to MIR. After docking with MIR, the crew unloaded 9,000 pounds of equipment, hardware, and water to the space station. Andrew W. W. Thomas replaced astronaut Dave Wolf on MIR. In the payload bay, the crew completed 23 technology and science experiments in the Spacehab including the Mechanics of Granular Materials (MGM) Experiment. Endeavour also carried a number of in-cabin payloads including the Microgravity Plant Nutrient Experiment (MPNE) and several Get Away Special (GAS) experiments.

AWARDS & CITATIONS:

- Rockwell International Engineer of the Year, 1978
- American Ceramic Society (ACS) Greaves-Walker Award, 1985
- NASA Space Flight Medals, 1985, 1990, 1992, 1995, 1998
- Evergreen Safety Council Public Service in Space Award, 1986
- General Jimmy Doolittle Fellow of the Aerospace Education Foundation, 1986
- ACS Life Membership, 1986
- NASA Exceptional Service Medal, 1988
- University of Washington, Engineering Alumni Achievement, 1989
- ACS Schwaltzwalder P.A.C.E. Award, 1990
- M.R.S. President's Award, 1990
- University of Houston Distinguished Engineering Alumna, 1991
- NASA Exceptional Service Award, 1991
- American Association of Engineering Societies (AAES) National Engineering Award, 1992
- Boeing Corporation Pathfinder Award, 1992
- Society of Women Engineers Resnik Challenger Medal, 1993
- IEEE Judith Resnik Award, 1993
- Design News Engineering Achievement Award, 1993
- NASA Outstanding Leadership Award, 1993
- NASA Exceptional Achievement Medal, 1994
- NASA Exceptional Achievement Medal, 1996
- Superior Accomplishment Award, 1997
- One of the top 20 women in technology in Houston, TX, 2000
- Women in Technology International (WITI) Hall of Fame, 2000
- ACS James I. Mueller Award, 2000

SELECT PUBLICATIONS & PATENTS:

Bonnie J. Dunbar and Esther Lense, Materials Processing in Space (Columbus, OH: American Ceramic Society, 1983).

Bonnie J. Dunbar, et al., "The Case for an International Lunar Base," Acta Astronautica 17 (May 1988): 463-489.

Bonnie J. Dunbar, "Spacelab D-1 mission," (Houston: NASA Lyndon B. Johnson Space Center, 1990).

Bonnie J. Dunbar, Robert L. Giesecke, and Donald A. Thomas, "The Microgravity Environment of the Space Shuttle Columbia Payload Bay during STS-32," NASA-TP-3141 (Houston: NASA Lyndon B. Johnson Space Center, 1991).

Bonnie J. Dunbar, et al., "Centrifuge in Space Fluid Flow Visualization," (Houston: NASA Lyndon B. Johnson Space Center, 1993).

REFERENCES:

“Bonnie J. Dunbar NASA Biographical Data Sheet,” Astronaut Biographies Homepage, Online, <http://www.jsc.nasa.gov/Bios/htmlbios/dunbar.html> (Sheet Last Updated March 2002; Accessed 16 July 2002).

Douglas B. Hawthorne, Men and Women of Space (San Diego: Univelt, 1992), 201-202.

“Employees honored with NASA medals,” Space News Roundup (NASA Lyndon B. Johnson Space Center), 15 April 1994, 1, 4.

Judy A. Rumerman, ed., U.S. Human Spaceflight: A Record of Achievement, 1961-1998, Monographs in Aerospace History Series, no. 9 (Washington, DC: NASA, 1998), 43-44, 47, 54.

“61-A,” Kennedy Space Center Historical Archive for Manned Missions Homepage, Online, <http://science.ksc.nasa.gov/shuttle/missions/61-a/mission-61-a.html> (Last Updated 29 June 2001; Accessed 17 July 2002).

“STS-89,,” Kennedy Space Center Historical Archive for Manned Missions Homepage, Online, <http://science.ksc.nasa.gov/shuttle/missions/sts-89/mission-sts-89.html> (Last Updated 29 June 2001; Accessed 17 July 2002).

“STS-50,” Kennedy Space Center Historical Archive for Manned Missions Homepage, Online, <http://science.ksc.nasa.gov/shuttle/missions/sts-50/mission-sts-50.html> (Last Updated 29 June 2001; Accessed 17 July 2002).

“STS-71,” Kennedy Space Center Historical Archive for Manned Missions Homepage, Online, <http://science.ksc.nasa.gov/shuttle/missions/sts-71/mission-sts-71.html> (Last Updated 29 June 2001; Accessed 17 July 2002).

“STS-32,” Kennedy Space Center Historical Archive for Manned Missions Homepage, Online, <http://science.ksc.nasa.gov/shuttle/missions/sts-32/mission-sts-32.html> (Last Updated 29 June 2001; Accessed 17 July 2002).

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