

# NASA JOHNSON SPACE CENTER ORAL HISTORY PROJECT

## BIOGRAPHICAL DATA SHEET

**NAME:** Brian Duffy

**ORAL HISTORY:** 21 JUNE 2004

### **EDUCATIONAL BACKGROUND:**

B.S. in Mathematics, United States Air Force Academy, Colorado Springs, CO, 1975  
M.S. in Systems Management, University of Southern California, Los Angeles, CA, 1981

### **PRE-NASA EXPERIENCE:**

United States Air Force (1971-2001)

- Cadet, United States Air Force Academy, Colorado Springs, CO (1971-1975)
- Undergraduate Pilot Training, Columbus Air Force Base, MS (1975-1976)
- Pilot, Langley Air Force Base, VA (1976-1979)
- Pilot, Kadena Air Force Base, Okinawa, Japan (1979-1982)
- U.S. Air Force Test Pilot School, Edwards Air Force Base, CA (1982-1983)
- Director, F-15 Tests, 3247<sup>th</sup> Test Squadron, Eglin Air Force Base, FL (1983-1985)
- Detailed to NASA (1985-2001)
- Retired as Colonel (2001)

### **NASA EXPERIENCE:**

Johnson Space Center, Houston, TX (1985-2001)

- Astronaut Candidate, Astronaut Office, Flight Crew Operations Directorate (1985)
- Astronaut, Astronaut Office, Flight Crew Operations Directorate (1986-2001)
- Technical Assistant, Flight Crew Operations (1987-1988)
- Assistant Director, Technical, Office of the Director (1996)
- Acting Deputy Director, Office of the Director (1996-unknown)

### **POST-NASA EXPERIENCE:**

Lockheed-Martin Corporation (2001-present)

- Vice President and Associate Program Manager; Lockheed Martin Space Operations Company; Consolidated Space Operations Contract; NASA Kennedy Space Center, Florida (2001-2004)
- Vice President, Military Space; Lockheed Martin Technical Operations Company; Colorado Springs, Colorado (2004-present)

### **MISSIONS:**

STS-45 (*Atlantis*)

- Crew: Commander Charles F. Bolden, Pilot Brian Duffy, Payload Commander Kathryn D. Sullivan, Mission Specialist 2 David C. Leestma, Mission Specialist 3 C. Michael Foale, Payload Specialist 1 Byron K. Lichtenberg, Payload Specialist 2 Dirk D. Frimout

- Launched: 24 March 1992 at 8:13 A.M. EST from Kennedy Space Center, FL
- Duration: 8 days, 22 hours, 9 minutes, 28 seconds
- Landed: 2 April 1992 at 6:23 A.M. EST, Kennedy Space Center, FL
- Mission Highlights: Carried first Atmospheric Laboratory for Applications and Science (ATLAS-1) on Spacelab pallets mounted in orbiter's cargo bay. The non-deployable payload, equipped with 12 instruments from the U.S., France, Germany, Belgium, Switzerland, The Netherlands and Japan, conducted studies in atmospheric chemistry, solar radiation, space plasma physics and ultraviolet astronomy. ATLAS-1 instruments were: Atmospheric Trace Molecule Spectroscopy (ATMOS); Grille Spectrometer; Millimeter Wave Atmospheric Sounder (MAS); Imaging Spectrometric Observatory (ISO); Atmospheric Lyman-Alpha Emissions (ALAE); Atmospheric Emissions Photometric Imager (AEPI); Space Experiments with Particle Accelerators (SEPAC); Active Cavity Radiometer (ACR); Measurement of Solar Constant (SOLCON); Solar Spectrum (SOLSPEC); Solar Ultraviolet Spectral Irradiance Monitor (SUSIM); and Far Ultraviolet Space Telescope (FAUST). Other payloads included Shuttle Solar Backscatter Ultraviolet (SSBUV) experiment, one get-away Special (GAS) experiment and six mid-deck experiments.

#### STS-57 (*Endeavour*)

- Crew: Commander Ronald J. Grabe, Pilot Brian Duffy, Mission Specialist 2 Nancy J. Sherlock, Mission Specialist 3 Peter J. Wisoff, Mission Specialist 4 Janice E. Voss, Payload Commander G. David Low
- Launched: 21 June 1993, 9:07 a.m. EDT from Kennedy Space Center, FL
- Duration: 9 days, 23 hours, 44 minutes, 54 seconds
- Landed: 1 July 1993, 8:52 a.m. EDT, Kennedy Space Center, FL
- Mission Highlights: Biomedical and materials sciences experiments were conducted inside the pressurized SPACEHAB module. The European Retrieval Carrier (EURECA), deployed from the Shuttle Atlantis in the summer of 1992 and containing several experiments to study the long-term effects of exposure to microgravity, was retrieved by the crew and stowed inside Endeavour's payload bay. Mission Specialists David Low and Jeff Wisoff participated in a spacewalk to correct an improperly installed electrical connector on the Remote Manipulator System (RMS) arm, secured EURECA's dual antennas against the science satellite, and completed maneuvers for an abbreviated extravehicular activity (EVA) Detailed Test Objective using the robot arm. The crew conducted experiments in the Spacehab module studying body posture, the spacecraft environment, crystal growth, metal alloys, wastewater recycling and the behavior of fluids.

#### STS-72 (*Endeavour*)

- Crew: Commander Brian Duffy, Pilot Brent W. Jett, Mission Specialist Leroy Chiao, Mission Specialist Daniel T. Barry, Mission Specialist Winston E. Scott, Mission Specialist Koichi Wakata
- Launched: 11 January 1996 at 4:41:00.072 EST from Kennedy Space Center, FL
- Duration: 8 days, 22 hours, 01 minutes, 47 seconds
- Landed: 20 January 1996 2:41:41 A.M. EST, Kennedy Space Center, FL

- Mission Highlights: Captured and returned to Earth the Japanese Space Flyer Unit (SFU) microgravity research spacecraft. Deployed for about 50 hours then retrieved the Office of Aeronautics and Space Technology Flyer (OAST-Flyer) spacecraft, the seventh in a series of missions aboard reusable free-flying Spartan carriers. OAST-Flyer contained four experiments: Return Flux Experiment (REFLEX), Global Positioning System Attitude Determination and Control Experiment (GADACS), Solar Exposure to Laser Ordnance Device (SELODE) and the University of Maryland Spartan Packet Radio Experiment (SPRE). Other experiments conducted onboard STS-72 were the Shuttle Solar Backscatter Ultraviolet Experiment (SSBUV-8), Shuttle Laser Altimeter Payload (SLA-01/GAS(5)), National Institutes of Health NIH-R3 Experiment, Space Tissue Loss Experiment (STL/NIH-C), Pool Boiling Experiment (PBE), and the Thermal Energy Storage (TES-2) experiment. Get Away Special payloads were the United States Air Force Academy G-342 Flexible Beam Experiment (FLEXBEAM-2), Society of Japanese Aerospace Companies' G-459 - Protein Crystal Growth Experiment, and the Jet Propulsion Laboratory's GAS Ballast Can with Sample Return Experiment. *Endeavour's* 10th flight included two 6.5 hour spacewalks by three astronauts to test hardware and tools to be used in the assembly of the International Space Station. EVA-1 on flight day five was conducted by Leroy Chiao (EV1) and Dan Barry (EV2) while EVA-2 on flight day seven was performed by Leroy Chiao (EV1) and Winston Scott (EV2).

#### STS-92 (*Discovery*)

- Crew: Commander Brian Duffy, Pilot Pamela A. Melroy, Mission Specialist Koichi Wakata, Mission Specialist Leroy Chiao, Mission Specialist Michael E. Lopez-Alegria, Mission Specialist William S. McArthur
- Launched: October 11, 2000, 7:17 p.m EDT from Kennedy Space Center, FL
- Duration: 12 days, 21 hours, 43 minutes
- Landed: October 24, 2000 4:59 p.m. EDT, Edwards AFB,
- Mission Highlights: A space station assembly flight, STS-92 brought the Z1 Truss, Control Moment Gyros (CMGs), Pressurized Mating Adapter-3 (PMA-3) and two DC to DC Converter Unit (DDCU) (heat pipes to the International Space Station (ISS). The mission included 7 days docked to Space Station and 4 EVAs. Two teams of space walkers, assisted by the Canadarm robot arm, installed the Z1 (Z for zenith port) truss structure on top of the U.S. Unity connecting node and attached the third Pressurized Mating Adapter (PMA-3). Z1 contained four Control Moment Gyros (CMGs), gyroscopic devices used to maneuver the ISS into the proper orientation on orbit, and is the platform on which the U.S. solar arrays will be mounted on a following shuttle assembly flight. Weighing about 600 lbs., the CMGs provide non-propulsive (electrically powered) attitude control when activated. PMA-3 provided a shuttle docking port for solar array and Lab installation and berthing of new station components.

**AWARDS & CITATIONS:**

- UPT Flying Training Award
- Distinguished Flying Cross
- Defense Meritorious Service Medal
- Defense Superior Service Medal
- Air Force Meritorious Service Medal
- Air Force Commendation Medal
- NASA Space Flight Medals
- NASA Exceptional Service Medal
- NASA Outstanding Leadership Medal
- Legion of Merit

**REFERENCES:**

“Astronaut Duffy becomes new JSC associate director,” Space News Roundup (NASA Lyndon B. Johnson Space Center), 1 March 1996, 1.

"Boeing People Search Results," Johnson Space Center Homepage, Online, <http://houb02.jsc.nasa.gov/blues/default.cfm> (Last Updated n.d.; Accessed 20 April 2004).

"Brian Duffy NASA Biographical Data Sheet," Astronaut Biographies Homepage, Online, <http://www.jsc.nasa.gov/Bios/htmlbios/duffy.html> (Sheet Last Updated August 2002.; Accessed 5 April 2004).

“Correction,” Space News Roundup (NASA Lyndon B. Johnson Space Center), 8 March 1996, 4.

Jim Dumoulin, ed., "STS-45," Kennedy Space Center Homepage, Online, <http://science.ksc.nasa.gov/shuttle/missions/sts-45/mission-sts-45.html> (Last Updated 26 September 2000; Accessed 8 April 2004).

Jim Dumoulin, ed., "STS-57 (56)," Kennedy Space Center Homepage, Online, <http://science.ksc.nasa.gov/shuttle/missions/sts-57/mission-sts-57.html> (Last Updated 22 September 2003; Accessed 16 April 2004).

Jim Dumoulin, ed., "STS-72 (74)," Kennedy Space Center Homepage, Online, <http://science.ksc.nasa.gov/shuttle/missions/sts-72/mission-sts-72.html> (Last Updated 29 June 2001; Accessed 16 April 2004).

Jim Dumoulin, ed., "STS-92 (100)," Kennedy Space Center Homepage, Online, <http://science.ksc.nasa.gov/shuttle/missions/sts-92/mission-sts-92.html> (Last Updated 29 June 2001; Accessed 16 April 2004).

“JSC deputy director to fly shuttle mission,” Space News Roundup (NASA Lyndon B. Johnson Space Center), 13 December 1996, 1.