

NASA JOHNSON SPACE CENTER ORAL HISTORY PROJECT

BIOGRAPHICAL DATA SHEET

NAME: Steven R. Nagel

ORAL HISTORY: 20 December 2002

EDUCATIONAL BACKGROUND:

B.S. in Aeronautical and Astronautical Engineering (high honors), University of Illinois, Urbana-Champaign, Illinois, 1969

M.S. in Mechanical Engineering, California State University, Fresno, California, 1978

PRE-NASA EXPERIENCE:

United States Air Force (1969-1995)

- Basic Pilot Training, Laredo Air Force Base (1969-1970)
- Pilot Training, Luke Air Force Base, Arizona (1970)
- Pilot, 68th Tactical Fighter Squadron, England Air Force Base, Louisiana (1970-1971)
- Instructor Pilot, Udorn RTAFB, Udorn, Thailand (1971-1972)
- Instructor Pilot and Flight Examiner, England Air Force Base, Louisiana (1972-1975)
- Student, USAF Test Pilot School, Edwards Air Force Base, California (1975)
- Test Pilot, 6,512th Test Squadron, Edwards Air Force Base, California (1976-1978)
- Detailed to NASA (1978-1995)
- Retired as Colonel (1995)

NASA EXPERIENCE:

NASA Johnson Space Center, Houston (1978-Present)

- Astronaut, Astronaut Office, Flight Crew Operations Directorate (1978-1995)
- Deputy Chief, Operations Development Branch, Astronaut Office, Flight Crew Operations Directorate (Dates Unknown)
- Acting Chief, Astronaut Office, Flight Crew Operations Directorate (1991-1992)
- Deputy Director for Operations Development, Safety, Reliability, and Quality Assurance Office (1995-1996)
- Research Pilot, Aircraft Operations Division (1996-Present)

MISSIONS:

STS 51-G (*Discovery*)

- Crew: Commander Daniel C. Brandenstein, Pilot John O. Creighton, Mission Specialist 1 Shannon W. Lucid, Mission Specialist 2 John M. Fabian, Mission Specialist 3 Steven R. Nagel, Payload Specialist 1 Patrick Baudry, Payload Specialist 2 Sultan Salman Al-Saud
- Launched: 17 June 1985 at 7:33:00 A.M. EDT from Kennedy Space Center, FL
- Duration: 7 days, 1 hours, 38 minutes, 52 seconds

- Landed: 24 June 1985 at 6:11:52 A.M. PDT, Edwards AFB, California
- Mission Highlights: Primary payload consisted of three communications satellites deployed using Payload Assist Module-D (PAM-D) motors: the MORE LOS-A for Mexico; the ARABSAT-A for the Arab Satellite Communications Organization; and TELESTAR-3D for AT&T. Also onboard were the deployable/retrievable Shuttle Pointed Autonomous Research Tool for Astronomy (SPARTAN-1); six “Get Away Special” canisters; the Strategic Defense Initiative sponsored High Precision Tracking Experiment (HPTE); the Automated Directional Solidification Furnace (ADSF); and two French biomedical experiments.

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, Jr., 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 noon EST from Kennedy Space Center, FL
- Duration: 7 days, 0 hours, 44 minutes, 51 seconds
- Landed: 6 November 1985 at 9:44:51 A.M. PST, Edwards AFB, California
- Mission Highlights: The Dedicated German Spacelab (D-1) made up the primary cargo on this mission. Encompassing 75 different experiments studying materials science, life science, and new technology in a microgravity environment, the scientific operations for the mission were controlled from German Space Operations Center at Oberpfaffenhofen, West Germany. The other objective was the Global Low Orbiting Message Relay (GLOMR) satellite deployed using a “Get Away Special.”

STS-37 (*Atlantis*)

- Crew: Commander Steven R. Nagel, Pilot Kenneth D. Cameron, Mission Specialist 1 Jerry L. Ross, Mission Specialist 2 Jay Apt, Mission Specialist 3 Linda M. Godwin
- Launched: 5 April 1991 at 9:22:44 A.M. EST from Kennedy Space Center, FL
- Duration: 5 days, 23 hours, 32 minutes, 44 seconds
- Landed: 11 April 1991 at 6:55:29 A.M. PDT, Edwards AFB, California
- Mission Highlights: Primary payload was the Gamma Ray Observatory (GRO) containing the Burst and Transient Source Experiment (BATSA), Imaging Compton Telescope (COMPTEL), Energetic Gamma Ray Experiment Telescope (EGRET), and the Oriented Scintillation Spectrometer Experiment (OSSEE) science instruments. A high-gain antenna failed to deploy on the GRO, necessitating an unscheduled space walk. Secondary payloads included: the Ascent Particle Monitor (APM); Shuttle Amateur Radio Experiment II (SAREX II); Protein Crystal Growth (PCG) experiment; the Bioserve/instrumentation Technology Associates Materials Dispersion Apparatus (BIMDA); Radiation Monitoring Equipment III (RME III); an Air Force Maui Optical Site (AMOS) experiment; and Crew and Equipment Translation Aids (CETA) which required a six-hour space walk.

STS-55 (*Columbia*)

- Crew: Commander Steven R. Nagel, Pilot Terence T. Hendricks, Mission Specialist 1 Jerry L. Ross, Mission Specialist 2 Charles J. Precourt, Mission Specialist 3 Dr. Bernard A. Harris Jr. Payload Specialist 1 Dr. Ulrich Walter, Payload Specialist 2 Hans Schlegel
- Launched: 26 April 1993 at 10:50 A.M. EDT from Kennedy Space Center, FL
- Duration: 9 days, 23 hours, 39 minutes, 59 seconds
- Landed: 6 May 1993 at 10:30 A.M. EDT Edwards AFB, California
- Mission Highlights: Launch scrubbed T-3 seconds on 22 March. Mission delayed for months. The second reusable German Spacelab (D-2) made up the primary payload. Eleven nations sponsored eighty-eight experiments in the fields of fluid physics, materials sciences, life sciences, biological sciences, technology, Earth observations, atmospheric physics, and astronomy. The mission also conducted the first tele-robotic capture of a free floating object by flight controllers in Germany, and the first intravenous saline solution injections to study fluid replacement in the body. Two amateur radio experiments, the SAREX II from the United States and the SAFEX from Germany, rounded out the orbiter's manifest.

AWARDS & CITATIONS:

- Flight Training Commander's, Flying, and Academic Trophies
- Orville Wright Achievement Award (Order of Daedalians)
- Air Force Distinguished Flying Cross
- Air Medal with 7 Oak Leaf Clusters
- Air Force Meritorious Service Medal (1978)
- NASA Space Flight Medal (1985 twice, 1991, 1993)
- Chavalier, French Legion of Honor (1985)
- NASA Exceptional Service Medal (1988, 1989)
- NASA Outstanding Leadership Medal (1992)
- American Astronautical Society, Flight Achievement Award, STS-37 Crew (1992)
- Outstanding Alumni Award, University of Illinois (1992)
- NASA Distinguished Service Medal (1994)
- Distinguished Alumni Award, California State University, Fresno (1994)
- Lincoln Laureate, State of Illinois (1994)

SELECT PUBLICATIONS & PATENTS:

Steven R. Nagel, "Space Shuttle crew escape," in: *Report to the aerospace profession; Society of Experimental Test Pilots, Symposium, 32nd, Beverly Hills, CA, 13-15 October 1988*, (Lancaster, CA: Society of Experimental Test Pilots, 1998), 303-320.

Steven R. Nagel, "Development of Rocket Extraction Escape System for the Space Shuttle," in: *Annual SAFE Symposium, 26th, Las Vegas, NV, 5-8 December 1988*, (Newhall, CA: SAFE Association, 1989), 46-50.

REFERENCES:

Douglas B. Hawthorne, Men and Women of Space (San Diego: Univelt, Incorporated, 1992), 513-514.

“French Legion of Honor for the 51-G Crew,” 25 July 1985, Steven R. Nagel Key Personnel File, Awards Office, NASA Lyndon B. Johnson Space Center, Houston, TX.

Michael Cassutt, Who’s Who in Space: International Space Station Edition (New York: Macmillan Library Reference USA, 1999), 206-207.

“Seven astronauts en route to international space station, three to stay,” Houston Chronicle Homepage, Online, <http://www.chron.com/cs/CDA/story.hts/space/1160927> (Last Updated 6 December 2001: Accessed 25 June 2002).

Steven R. Nagel NASA Biographical Data Sheet (April 1989), Steven R. Nagel Key Personnel File, Awards Office, NASA Lyndon B. Johnson Space Center, Houston, TX.

Steven R. Nagel NASA Biographical Data Sheet (March 1995), Steven R. Nagel Key Personnel File, Awards Office, NASA Lyndon B. Johnson Space Center, Houston, TX.

Steven R. Nagel NASA Biographical Data Sheet (June 2000), Johnson Space Center Homepage, Online, <http://www.jsc.nasa.gov/Bios/htmlbios/nagel.html> (Last Updated n.d; Accessed 3 May 2002).

“Shuttle Mission Archive, STS 51-G (18),” Kennedy Space Center Homepage, Online, <http://science.ksc.nasa.gov/shuttle/missions/51-g/mission-51-g.html> (Last Updated 29 June 2001; Accessed 24 June 2002).

“Shuttle Mission Archive, STS 61-A (22),” Kennedy Space Center Homepage, Online, <http://science.ksc.nasa.gov/shuttle/missions/61-a/mission-61-a.html> (Last Updated 29 June 2001; Accessed 11 June 2002).

“Shuttle Mission Archive, STS-37 (39),” Kennedy Space Center Homepage, Online, <http://science.ksc.nasa.gov/shuttle/missions/sts-37/mission-sts-37.html> (Last Updated 29 June 2001; Accessed 24 June 2002).

“Shuttle Mission Archive, STS-55 (55),” Kennedy Space Center Homepage, Online, <http://science.ksc.nasa.gov/shuttle/missions/sts-55/mission-sts-55.html> (Last Updated 29 June 2001; Accessed 24 June 2002).