Astronaut Fact Book

“It is with an iron will that they embark on the most daring of all endeavors . . . . to meet the shadowy future without fear and conquer the unknown.

— Ferdinand Magellan, circa 1520.
PREFACE

The National Aeronautics and Space Administration (NASA) selected the first group of astronauts in 1959. From 500 candidates having the required jet aircraft flight experience and engineering training as well as height below 5 feet 11 inches, 7 military men became the Nation's first astronauts. The second and third groups chosen included civilians who had extensive flying experience. By 1964, requirements had changed, and emphasis was placed on academic qualifications; in 1965, 6 scientist astronauts were selected from a group of 400 applicants who had a Doctorate or equivalent experience in the natural sciences, medicine, or engineering. The group named in 1978 was the first of space shuttle flight crews and since then, 14 additional groups have been selected with a mix of pilots and mission specialists.

There are currently 95 astronauts, 11 astronaut candidates and 46 management astronauts in the program; 132 astronauts have retired or resigned; and 36 are deceased.

Though most of the information in this document pertains only to U.S. Astronauts, several sections are included to provide information about the international astronauts and Russian trained Cosmonauts who are currently partners with the U.S. Space Program participating in the International Space Station endeavor. The non-U.S. information presented here was gathered from the biographies provided by the various space agencies with which these individuals are affiliated.

Payload specialists are career scientists or engineers selected by their employer or country for their expertise in conducting a specific experiment or commercial venture on a space shuttle mission. Information about them is not included in the Astronaut Fact Book.

The space flights and statistics listed in this publication resulted from the vertical takeoff of an American space vehicle or Soyuz taxi flights to the International Space Station. Astronauts listed (unless otherwise noted) are individuals who participated in the United States astronaut program including those who are in the training program.

NASA accepts applications for the Astronaut Candidate Program on a continuing basis and selects candidates as needed.

This document is online at: http://spaceflight.nasa.gov/spacenews/factsheets/pdfs/astro.pdf
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Image of Mars taken by the Hubble Space Telescope.
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## UNITED STATES ASTRONAUTS

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## UNITED STATES ASTRONAUTS

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**INTERNATIONAL ASTRONAUTS CURRENTLY IN THE U.S. PROGRAM**

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* Flew as a payload specialist on STS-55
### RUSSIAN COSMONAUTS CURRENTLY IN THE U.S. PROGRAM

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CURRENT U.S. ASTRONAUTS

ALTMAN, Scott D., Captain, U.S. Navy
Pilot.
Bachelor of Science in aeronautical/astronautical engineering from University of Illinois;
Master of Science in aeronautical engineering, Naval Postgraduate School.
Flew on STS-90, STS-106 and STS-109.
Cumulative days of space flight are more than 38.

ANDERSON, Clayton C., Civilian
Mission Specialist.
Born February 23, 1959, in Omaha, Nebraska. Hometown, Ashland, Nebraska.
Bachelor of Science in physics from Hastings College, Nebraska; Master of Science in
aerospace engineering from Iowa State University.

ANTONELLI, Dominic A., Lieutenant Commander, U.S. Navy
Pilot.
Born in Detroit, Michigan.
Bachelor of Science in aeronautics & astronautics from the Massachusetts Institute of
Technology; Masters of Science in aeronautics & astronautics from the University of
Washington.

ARCHAMBAULT, Lee J., Lieutenant Colonel, U.S. Air Force
Pilot.
Bachelor and Master of Science in aerospace/aeronautical engineering from University of
Illinois-Urbana.

BARRATT, Michael R., Civilian
Mission Specialist.
Bachelor of Science in zoology from the University of Washington; Doctor of Medicine from
Northwestern University; Masters of Science in aerospace medicine from Wright State
University. Board certified in Internal and Aerospace Medicine.

BARRY, Daniel T., Civilian
Mission Specialist.
Born December 30, 1953, in Norwalk, Connecticut. Hometown, South Hadley,
Massachusetts.
Bachelor of Science in electrical engineering from Cornell University; Master of Engineering,
Master of Arts and a Doctor of Philosophy in electrical engineering and computer
science from Princeton University; Doctor of Medicine from the University of Miami.
Flew on STS-72, STS-96 and STS-105.
Cumulative hours of space flight are more than 734.
Cumulative EVA time is more than 25 hours.

BEHNKEN, Robert L., Major, U.S. Air Force
Mission Specialist.
Born in Creve Coeur, Missouri.
Bachelor of Science in physics & mechanical engineering from Washington University;
Masters of Science and Doctor of Philosophy in mechanical engineering from the
California Institute of Technology.

BLOOMFIELD, Michael J., Colonel, U.S. Air Force
Pilot.
Bachelor of Science in engineering mechanics from the U.S. Air Force Academy; Master of
Science in engineering management from Old Dominion University.
Flew on STS-86, STS-97 and STS-110.
Cumulative hours of space flight are more than 753.
CURRENT U.S. ASTRONAUTS

Born October 1, 1964, in Miami, Florida.  
Bachelor of Science in aeronautical engineering from the U.S Air Force Academy; Master of Science in electrical engineering from the Georgia Institute of Technology.

BOWEN, Stephen G., Commander, U.S. Navy Mission Specialist.  
Born February 13, 1964, in Cohasset, Massachusetts.  
Bachelor of Science in electrical engineering from the U.S. Naval Academy; degree of Ocean Engineer from the Massachusetts Institute of Technology.

BURBANK, Daniel C., Commander, U.S. Coast Guard Mission Specialist.  
Bachelor of Science in electrical engineering from the U.S Coast Guard Academy and a Master of Science in aeronautical science from Embry-Riddle Aeronautical University.  
Flew on STS-106.  
Cumulative hours of space flight are more than 283.

CAGLE, Yvonne D., Colonel, U.S. Air Force Mission Specialist.  
Born in West Point, New York. Hometown, Novato, California.  
Bachelor of Science in biochemistry from San Francisco State University and a Doctor of Medicine from the University of Washington. Received certification as a senior aviation medical examiner from the Federal Aviation Administration.

CALDEIRO, Fernando (Frank), Civilian Mission Specialist.  
Bachelor of Science in mechanical engineering from the University of Arizona, an A.A.S. in aerospace technology from the State University of New York at Farmingdale and a Master of Science in engineering management from the University of Central Florida.

CALDWEII, Tracy E., Civilian Mission Specialist.  
Born August 14, 1969, in Arcadia, California.  
Bachelor of Science in chemistry from California State University-Fullerton; Doctor of Philosophy in physical chemistry from the University of California-Davis.

CAMARDA, Charles J., Civilian Mission Specialist.  
Bachelor of Science in aerospace engineering from the Polytechnic Institute of New York, a Master of Science in engineering science from George Washington University and a Doctor of aerospace engineering from Virginia Polytechnic Institute and State University.

Bachelor of Science in aerospace engineering and mechanics and a Master of Science in aerospace engineering from the University of Minnesota-Minneapolis.  
Flew on STS-109.  
Cumulative days of space flight are more than 10.

CHAMITOFF, Gregory E., Civilian Mission Specialist.  
Born August 6, 1962, in Montreal, Canada. Hometown, San Jose, California.  
Bachelor of Science in electrical engineering from California Polytechnic State University; Master of Science in aeronautical engineering from California Institute of Technology;
CURRENT U.S. ASTRONAUTS

Master of Science in planetary geology (Space Science) from the University of Houston, Clear Lake; Doctor of Philosophy in aeronautics/astronautics from the Massachusetts Institute of Technology.

CHIAO, Leroy, Civilian
Mission Specialist.
Bachelor of Science in chemical engineering from University of California, Berkeley; Master of Science and Doctor of Philosophy in chemical engineering from the University of California, Santa Barbara.
Flew on STS-65, STS-72 and STS-92.
Cumulative days of space flight are more than 36.
Cumulative EVA time is more than 26 hours.

COLEMAN, Catherine G., Lieutenant Colonel, U.S. Air Force
Mission Specialist.
Born December 14, 1960, in Charleston, South Carolina.
Bachelor of Science in chemistry from Massachusetts Institute of Technology; Doctor of Philosophy in polymer science & engineering from University of Massachusetts.
Flew on STS-73 and STS-93.
Cumulative hours of space flight are more than 500.

COLLINS, Eileen M., Colonel, U.S. Air Force
Pilot.
Born November 19, 1956, in Elmira, New York.
Bachelor of Arts in math and economics from Syracuse University; Master of Science in operations research from Stanford University; Master of Arts in space systems management from Webster University.
Flew on STS-63, STS-84 and STS-93.
Cumulative hours of space flight are more than 537.

CREAMER, Timothy J., Lieutenant Colonel, U. S. Army
Mission Specialist.
Bachelor of Science in chemistry from Loyola College in Baltimore, Maryland; Master of Science in physics from the Massachusetts Institute of Technology.

CURBEAM, Robert L., Jr., Commander, U.S. Navy
Mission Specialist.
Born March 5, 1962, in Baltimore, Maryland.
Bachelor of Science in aerospace engineering from the United States Naval Academy; Master of Science in aeronautical engineering from the Naval Postgraduate School; Degree of aeronautical and astronautical engineering from the Naval Postgraduate School.
Flew on STS-85 and STS-98.
Cumulative hours of space flight are more than 593.
Cumulative EVA time is more than 19 hours.

DREW, B. Alvin, Lieutenant Colonel, U.S. Air Force
Mission Specialist.
Born November 5, 1962, in Washington, D.C.
Bachelor of Science in physics & astronautical engineering from the U.S. Air Force Academy; Master of Science in aeronautical science from Embry-Riddle Aeronautical University.

FERGUSON, Christopher J., Commander, U.S. Navy
Pilot.
Bachelor of Science in mechanical engineering from Drexel University; Master of Science in aeronautical engineering from the Naval Postgraduate School.
CURRENT U.S. ASTRONAUTS

FEUSTEL, Andrew J., Civilian
Mission Specialist.
Bachelor of Science in solid earth sciences and Master of Science in geophysics from Purdue University; Doctor of Philosophy in seismology from Queen’s University-Canada.

FINCKE, Edward Michael “Mike”, Lieutenant Colonel, U.S. Air Force
Mission Specialist.
Bachelor of Science in aeronautics and astronautics as well as earth, atmospheric and planetary sciences from the Massachusetts Institute of Technology and a Master of Science in aeronautics and astronautics from Stanford University and a Master of Science in Physical Sciences (Planetary Geology) from the University of Houston, Clear Lake.
Cumulative days of space flight are more than 187.

FISHER, Anna L., Civilian
Mission Specialist.
Bachelor, Master of Science in chemistry and Doctor of Medicine from the University of California at Los Angeles.
Flew on STS 51-A.
Cumulative hours of space flight are more than 191.

FOALE, C. Michael, Civilian
Mission Specialist.
Bachelor of Arts in physics and Doctor of Philosophy in laboratory astrophysics from Cambridge University.
Flew on STS-45, STS-56, STS-63, STS-84/Mir, Mir/STS-86, STS-103 and Expedition 8.
Cumulative days of space flight are more than 374.
Cumulative EVA time is more than 22 hours.

FORD, Kevin A., Lieutenant Colonel, U.S. Air Force
Pilot.
Bachelor of Science in aerospace engineering from the University of Notre Dame; Master of Science in international relations from Troy State University; Master of Science in aerospace engineering from the University of Florida; Doctor of Philosophy in astronautical engineering from the Air Force Institute of Technology. Graduate of Squadron Officer School the Air Command and Staff College Associate Program, and Air War College.

FOREMAN, Michael J., Captain, U.S. Navy
Mission Specialist.
Born March 29, 1957, in Columbus, Ohio. Hometown, Wadsworth, Ohio.
Bachelor of Science in aerospace engineering from the U.S. Naval Academy; Master of Science in aeronautical engineering from the Naval Postgraduate School.

FORRESTER, Patrick G., Colonel, U.S. Army
Mission Specialist.
Born March 31, 1957, in El Paso, Texas.
Bachelor of Science in applied sciences and engineering from the U.S. Military Academy and a Master of Science in mechanical and aerospace engineering from the University of Virginia.
Flew on STS-105.
Cumulative hours of space flight are more than 285.
Cumulative EVA time is more than 11 hours.
CURRENT U.S. ASTRONAUTS

FOSSUM, Michael E., Civilian, U.S. Naval Reserve Mission Specialist.
Bachelor of Science in mechanical engineering from Texas A&M University; Master of Science in systems engineering from the Air Force Institute of Technology; Master of Science in physical science (space science) from the University of Houston-Clear Lake.

FRICK, Stephen N., Commander, U.S. Navy Pilot.
Bachelor of Science in aerospace engineering from the U.S. Naval Academy and a Master of Science in aeronautical engineering from the U.S. Naval Postgraduate School.
Flew on STS-110.
Cumulative hours of space flight are more than 259.

Bachelor of Science in economics from the State University of New York; Master of Aeronautical Science in aeronautics from Embry-Riddle Aeronautical University; Master of Science in aerospace engineering from the University of Florida.

GERNHARDT, Michael L., Civilian Mission Specialist.
Born May 4, 1956, in Mansfield, Ohio.
Bachelor of Science in physics from Vanderbilt University; Master of Science and Doctor of Philosophy in bioengineering from the University of Pennsylvania.
Flew on STS-69, STS-83, STS-94 and STS-104.
Cumulative days of space flight are more than 43.
Cumulative EVA time is more than 23 hours.

Bachelor and Master of Science in aerospace engineering from the University of Notre Dame.

GORIE, Dominic L., Captain, U.S. Navy Pilot.
Born May 2, 1957, in Lake Charles, Louisiana.
Bachelor of Science in ocean engineering from the United States Naval Academy; Master of Science in aviation systems from the University of Tennessee, Knoxville.
Flew on STS-91, STS-99 and STS-108.
Cumulative days of space flight are more than 32.

HALSELL, James D., Jr., Colonel, U.S. Air Force (Retired) Pilot.
Born September 29, 1956, in Monroe, Louisiana.
Bachelor of Science in engineering from the U.S. Air Force Academy; Master of Science in management from Troy State University; Master of Science in space operations from the Air Force Institute of Technology.
Cumulative hours of space flight are more than 1,250.

HAM, Kenneth T., Commander, U.S. Navy Pilot.
Born December 12, 1964, in Plainfield, New Jersey.
Bachelor of Science aerospace engineering from the U.S. Naval Academy; Master of Science in aeronautical engineering from the Naval Postgraduate School.
CURRENT U.S. ASTRONAUTS

HERRINGTON, John B., Commander, U.S. Navy
Mission Specialist.
Born September 14, 1958, in Wetumka, Oklahoma.
Bachelor of Science in applied mathematics from the University of Colorado at Colorado Springs and a Master of Science in aeronautical engineering from the U.S. Naval Postgraduate School.
Flew on STS-113.
Cumulative hours of space flight are more than 330.
Cumulative EVA time is more than 19 hours.

HIGGINBOTHAM, Joan E., Civilian
Mission Specialist.
Bachelor of Science in electrical engineering from Southern Illinois University at Carbondale; Masters of Science in management and in space systems from the Florida Institute of Technology.

HIRE, Kathryn P., Captain, U.S. Naval Reserve
Mission Specialist.
Born August 26, 1959, in Mobile, Alabama.
Bachelor of Science in engineering and management from the U.S. Naval Academy; Master of Science in space technology from the Florida Institute of Technology.
Flew on STS-90.
Cumulative hours of space flight are more than 381.

Born November 5, 1961, in Bar Harbor, Maine.
Bachelor of Science in aerospace engineering from the U.S. Naval Academy.
Flew on STS-114.
Cumulative hours of space flight are more than 306.

Bachelor of Science in engineering from California State University at Northridge; Master of Science and Doctor of Philosophy in aerospace engineering from the Georgia Institute of Technology.
Flew on STS-75, STS-82, STS-101 and STS-105.
Cumulative hours of space flight are more than 1,138.

Bachelor of Science in civil engineering from Tulane University.

IVINS, Marsha S., Civilian
Mission Specialist.
Born April 15, 1951, in Baltimore, Maryland.
Bachelor of Science in aerospace engineering from the University of Colorado.
Flew on STS-32, STS-46, STS-62, STS-81 and STS-98.
Cumulative hours of space flight are more than 1,318.

JETT, Brent W., Captain, U.S. Navy Pilot.
Bachelor of Science in aerospace engineering from the U.S. Naval Academy; Master of Science in aeronautical engineering from the U.S. Naval Postgraduate School.
Flew on STS-72, STS-81 and STS-97.
Cumulative hours of space flight are more than 699.
CURRENT U.S. ASTRONAUTS

JOHNSON, Gregory C., Civilian, U.S. Naval Reserve Pilot.
Bachelor of Science in aerospace engineering from the University of Washington.

Born May 12, 1962, in Upper Ruislip, Middlesex, United Kingdom.
Bachelor of Science in aeronautical engineering from the U.S. Air Force Academy; Master of Science in flight structures engineering from Columbia University.

KAVANDI, Janet L., Civilian Mission Specialist.
Born July 17, 1959, in Springfield, Missouri.
Bachelor of Science in chemistry from Missouri Southern State College; Master of Science in chemistry from the University of Missouri; Doctor of Philosophy in analytical chemistry from the University of Washington.
Flew on STS-91 and STS-99 and STS-104.
Cumulative days of space flight are more than 33.

Born May 14, 1964, in Burlington, Iowa.
Bachelor of Science in astronautical engineering from the U.S. Air Force Academy; Master of Science in aerospace engineering from the University of Alabama.
Flew on STS-102.
Cumulative hours of space flight are more than 307.

KELLY, Mark E., Commander, U.S. Navy Pilot.
Born February 21, 1964, in Orange, New Jersey. Hometown, West Orange, New Jersey.
Bachelor of Science in marine engineering and nautical science from the U.S. Merchant Marine Academy and a Master of Science in aeronautical engineering from the U.S. Naval Postgraduate School.
Flew on STS-108.
Cumulative hours of space flight are more than 283.

KELLY, Scott J., Commander, U.S. Navy Pilot.
Born February 21, 1964, in Orange, New Jersey.
Bachelor of Science in electrical engineering from the State University of New York Maritime College and a Master of Science in aviation systems from the University of Tennessee, Knoxville.
Flew on STS-103.
Cumulative hours of space flight are more than 191.

Born April 9, 1963, in Austin, Texas.
Bachelor of Science in computer science from the U.S. Military Academy; Master of Science in aerospace engineering from the Georgia Institute of Technology.

LAWRENCE, Wendy B., Captain, U.S. Navy Mission Specialist.
Born July 2, 1959, in Jacksonville, Florida.
Bachelor of Science in ocean engineering from the U.S. Naval Academy; Master of Science in ocean engineering from the Massachusetts Institute of Technology and the Woods Hole Oceanographic Institution (WHOI).
Flew on STS-67, STS-86 and STS-91.
Cumulative hours of space flight are more than 894.
CURRENT U.S. ASTRONAUTS

LINDSEY, Steven W., Colonel, U.S. Air Force Pilot.
Born August 24, 1960, in Arcadia, California. Hometown, Temple City, California.
Bachelor of Science in engineering sciences from the U.S. Air Force Academy; Master of Science in aeronautical engineering from the Air Force Institute of Technology.
Flew on STS-87, STS-95 and STS-104.
Cumulative hours of space flight are more than 896.

LINNEHAN, Richard M., Civilian Mission Specialist.
Born in Lowell, Massachusetts.
Bachelor of Science in animal sciences microbiology from the University of New Hampshire; Doctor of Veterinary Medicine from the Ohio State University College of Veterinary Medicine.
Flew on STS-78, STS-90 and STS-109.
Cumulative days of space flight are more than 43.
Cumulative EVA time is more than 21 hours.

LOVE, Stanley G., Civilian Mission Specialist.
Bachelor of Science in physics from Harvey Mudd College; Master of Science and Doctor of Philosophy in astronomy from the University of Washington.

LU, Edward T., Civilian Mission Specialist.
Bachelor of Science in electrical engineering from Cornell University; Doctor of Philosophy in applied physics from Stanford University.
Flew on STS-84, STS-106, Expedition 7 and Soyuz TMA-2.
Cumulative days of space flight are more than 206.
Cumulative EVA time is more than 6 hours.

MAGNUS, Sandra H., Civilian Mission Specialist.
Bachelor of Science in physics and Master of Science in electrical engineering from the University of Missouri-Rolla, and a Doctor of Philosophy in materials science and engineering from the Georgia Institute of Technology.
Flew on STS-112.
Cumulative days of space flight are more than 10.

MASSIMINO, Michael J., Civilian Mission Specialist.
Bachelor of Science in industrial engineering from Columbia University; Master of Science in mechanical engineering, Master of Science in technology and policy, a degree of mechanical engineer and Doctor of Philosophy in mechanical engineering from the Massachusetts Institute of Technology.
Flew on STS-109.
Cumulative days of space flight are more than 10.
Cumulative EVA time is more than 14 hours.
CURRENT U.S. ASTRONAUTS

MASTRACCHIO, Richard A., Civilian
Mission Specialist.
Bachelor of Science in electrical engineering and computer science from the University of Connecticut, a Master of Science in electrical engineering from the Rensselaer Polytechnic Institute and a Master of Science in physical sciences from the University of Houston-Clear Lake.
Flew on STS-106.
Cumulative hours of space flight are more than 283.

McARTHUR, K. Megan, Civilian
Mission Specialist.
Bachelor of Science in aerospace engineering from the University of California-Los Angeles; Doctor of Philosophy in oceanography from the University of California-San Diego.

McARTHUR, William S., Jr., Colonel, U.S. Army (Retired)
Mission Specialist.
Bachelor of Science in applied science and engineering from the U.S. Military Academy; Master of Science in aerospace engineering from the Georgia Institute of Technology.
Flew on STS-58, STS-74 and STS-92.
Cumulative days of space flight are more than 35.
Cumulative EVA time is more than 13 hours.

MELROY, Pamela A., Colonel, U.S. Air Force
Pilot.
Bachelor of Science in physics and astronomy from Wellesley College; Master of Science in earth and planetary sciences from the Massachusetts Institute of Technology.
Flew on STS-92 and STS-112.
Cumulative hours of space flight are more than 562.

MELVIN, Leland D., Civilian
Mission Specialist.
Born February 15, 1964, in Lynchburg, Virginia.
Bachelor of Science in chemistry from the University of Richmond; Master of Science in materials science engineering from the University of Virginia.

MORGAN, Barbara R., Civilian
Mission Specialist.
Born November 28, 1951, in Fresno, California. Hometowns, Fresno California and McCall, Idaho.
Bachelor of Arts in human biology from Stanford University; teaching credentials from the College of Notre Dame in Belmont, California.

NORIEGA, Carlos I., Lieutenant Colonel, U.S. Marine Corps (Retired)
Mission Specialist.
Born October 8, 1959, in Lima, Peru. Hometown, Santa Clara, California.
Bachelor of Science in computer science from the University of Southern California; Master of Science in computer science from the Naval Postgraduate School; Master of Science in space systems operations from the Naval Postgraduate School.
Flew on STS-84 and STS-97.
Cumulative hours of space flight are more than 461.
Cumulative EVA time is more than 19 hours.
CURRENT U.S. ASTRONAUTS

NOWAK, Lisa M., Commander, U.S. Navy
Mission Specialist.
Bachelor of Science in aerospace engineering from the U.S. Naval Academy and a Master of Science in aeronautical engineering and a degree of aeronautical and astronautical engineer from the U.S. Naval Postgraduate School.

NYBERG, Karen L., Civilian
Mission Specialist.
Bachelor of Science in mechanical engineering from the University of North Dakota; Master of Science and Doctor of Philosophy in mechanical engineering from the University of Texas.

OEFELEIN, William A., Commander, U.S. Navy
Pilot.
Bachelor of Science in electrical engineering from Oregon State University; Master of Science in aviation systems from the University of Tennessee Space Institute.

OLIVAS, John D., Civilian
Mission Specialist.
Bachelor of Science in mechanical engineering from the University of Texas-El Paso; Master of Science in mechanical engineering & materials science from Rice University.

PARAZYNSKI, Scott E., Civilian
Mission Specialist.
Bachelor of Science in biology and Doctor of Medicine from Stanford University.
Flew on STS-66, STS-86, STS-95 and STS-100.
Cumulative hours of space flight are more than 1,019.
Cumulative EVA time is more than 19 hours.

PATRICK, Nicholas J.M., Civilian
Mission Specialist.
Bachelor and Master of Arts in engineering from the University of Cambridge, England; Master of Science and Doctor of Philosophy in mechanical engineering from the Massachusetts Institute of Technology.

PETTIT, Donald R., Civilian
Mission Specialist.
Born April 20, 1955, in Silverton, Oregon.
Bachelor of Science in chemical engineering from Oregon State University and a Doctor in chemical engineering from the University of Arizona.
Flew on STS-113(up)/Exp 6.
Cumulative days of space flight are more than 161.
Cumulative EVA time is more than 13 hours.

PHILLIPS, John L., Civilian, U.S. Naval Reserve
Mission Specialist.
Bachelor of Science in mathematics and Russian from the U.S. Naval Academy; a Master of Science in aeronautical systems from the University of West Florida; and a Master of Science in geophysics and space physics, and a Doctor in geophysics and space physics from the University of California-Los Angeles.
Flew on STS-100.
Cumulative hours of space flight are more than 283.
CURRENT U.S. ASTRONAUTS

POINDEXTER, Alan G., Commander, U.S. Navy Pilot.
Bachelor of aerospace engineering from the Georgia Institute of Technology; Master of Science in aeronautical engineering from the Naval Postgraduate School.

POLANSKY, Mark L., Civilian Pilot.
Bachelor of Science in aeronautical and astronautical engineering and a Master of Science in aeronautics and astronautics from Purdue University.
Flew on STS-98.
Cumulative hours of space flight are more than 309.

REILLY, James F., Civilian, U.S. Naval Reserve Mission Specialist.
Bachelor of Science, Master of Science and Doctor of Philosophy in geosciences from the University of Texas-Dallas.
Flew on STS-89 and STS-104.
Cumulative hours of space flight are more than 517.
Cumulative EVA time is more than 16 hours.

REISMAN, Garrett E., Civilian Mission Specialist.
Bachelor of Science in economics and in mechanical engineering from the University of Pennsylvania; Master of Science and Doctor of Philosophy in mechanical engineering from the California Institute of Technology.

ROBINSON, Stephen K., Civilian Mission Specialist.
Born October 26, 1955, in Sacramento, California.
Bachelor of Science in mechanical/aeronautical engineering from the University of California, Davis; Master of Science in mechanical engineering from Stanford University; Doctor of Philosophy in mechanical engineering and Aeronautic/Astronautic engineering from Stanford University.
Flew on STS-85 and STS-95.
Cumulative hours of space flight are more than 497.

SELLERS, Piers J., Civilian Mission Specialist.
Born April 11, 1955, in Crowborough, Sussex, United Kingdom.
Bachelor of Science in ecological science from the University of Edinburgh (Scotland), and Doctor of Philosophy in biometeorology from Leeds University (United Kingdom).
Flew on STS-112.
Cumulative hours of space flight are more than 252.
Cumulative EVA time is more than 19 hours.

STEFANYSHYN-PIPER, Heidemarie M., Commander, U.S. Navy Mission Specialist.
Bachelor and a Master of Science in mechanical engineering from the Massachusetts Institute of Technology.

STOTT, Nicole P., Civilian Mission Specialist.
Bachelor of Science in aeronautical engineering from Emery Riddle Aeronautical University; Master of Science in engineering management from the University of Central Florida.
CURRENT U.S. ASTRONAUTS

STURCKOW, Frederick W., Lieutenant Colonel, U.S. Marine Corps
Pilot.
Born August 11, 1961, in La Mesa, California. Hometown, Lakeside, California.
Bachelor of Science in mechanical engineering from California Polytechnic State University.
Flew on STS-88 and STS-105.
Cumulative hours of space flight are more than 568.

SWANSON, Steven R., Civilian
Mission Specialist.
Bachelor of Science in engineering physics from the University of Colorado-Boulder. Master of Applied Science in computer systems from Florida Atlantic University; Doctor of Philosophy in computer science from Texas A&M University.

TANI, Daniel M., Civilian
Mission Specialist.
Bachelor and Master of Science in mechanical engineering from the Massachusetts Institute of Technology.
Flew on STS-108.
Cumulative days of space flight are more than 11.
Cumulative EVA time is more than 4 hours.

TANNER, Joseph R., Civilian
Mission Specialist.
Bachelor of Science in mechanical engineering from the University of Illinois.
Flew on STS-66, STS-82 and STS-97.
Cumulative hours of space flight are more than 762.
Cumulative EVA time is more than 33 hours.

THOMAS, Andrew S. W., Civilian
Mission Specialist.
Born December 18, 1951, in Adelaide, Australia.
Bachelor of engineering and Doctor of Philosophy in mechanical engineering from the University of Adelaide (South Australia).
Flew on STS-77, STS-89/Mir, Mir/STS-91 and STS-102.
Cumulative days of space flight are more than 163.
Cumulative EVA time is more than 6 hours.

VIRTS, Terry W., Jr., Lieutenant Colonel, U.S. Air Force
Pilot.
Born December 1967, in Baltimore, Maryland.
Bachelor of Science in mathematics from the U.S. Air Force Academy; Master of Aeronautical Science in aeronautics from Embry-Riddle Aeronautical University.

WALHEIM, Rex J., Lieutenant Colonel, U.S. Air Force
Mission Specialist.
Born October 10, 1962, in Redwood City, California. Hometown, San Carlos, California.
Bachelor of Science in mechanical engineering from the University of California-Berkeley and Master of Science in industrial engineering from the University of Houston.
Flew on STS-110.
Cumulative hours of space flight are more than 259.
Cumulative EVA time is more than 14 hours.

WHEELOCK, Douglas H., Lieutenant Commander, U.S. Army
Mission Specialist.
Bachelor of Science in applied science from the U.S. Military Academy; Master of Science in aerospace engineering from the Georgia Institute of Technology.
CURRENT U.S. ASTRONAUTS

WILCUTT, Terrence W., Colonel, U.S. Marine Corps (Retired)
   Pilot.
   Born October 31, 1949, in Russellville, Kentucky. Hometown, Louisville, Kentucky.
   Bachelor of Arts in math from Western Kentucky University.
   Flew on STS-68, STS-79, STS-89, and STS-106.
   Cumulative hours of space flight are more than 1,007.

WILLIAMS, Jeffrey N., Colonel, U.S. Army
   Mission Specialist.
   Bachelor of Science in applied sciences/engineering from the U.S. Military Academy;
   Master of Science in aeronautical engineering and degree of aeronautical engineer from
   the U.S. Naval Postgraduate School; Master of Arts degree in National security and
   strategic studies from the U.S. Naval War College.
   Flew on STS-101.
   Cumulative hours of space flight are more than 236.
   Cumulative EVA time is more than 6 hours.

WILLIAMS, Sunita L., Commander, U.S. Navy
   Mission Specialist.
   Bachelor of Science in physical science from the U.S. Naval Academy; Master of Science
   in engineering management from the Florida institute of Technology.

WILMORE, Barry E., Commander, U.S. Navy
   Pilot.
   Born December 29, 1962, in Murfreesboro, Tennessee.
   Bachelor and Master of Science in electrical engineering from Tennessee Technical
   University; Master of Science from the University of Tennessee-Knoxville.

WILSON, Stephanie D., Civilian
   Mission Specialist.
   Born September 27, 1966, in Boston, Massachusetts. Hometown, Pittsfield,
   Massachusetts.
   Bachelor of Science in engineering science from Harvard University and a Master of
   Science in aerospace engineering from the University of Texas.

WOLF, David A., Civilian
   Mission Specialist.
   Born August 23, 1956, in Indianapolis, Indiana.
   Bachelor of Science in electrical engineering from Purdue University; Doctor of Medicine
   from Indiana University.
   Flew on STS-58, STS-86/Mir, Mir/STS-89 and STS-112.
   Cumulative days of space flight are more than 143.
   Cumulative EVA time is more than 23 hours.

WOODWARD, Neil W., III, Commander, U.S. Navy
   Mission Specialist.
   Bachelor of Science in physics from the Massachusetts Institute of Technology; Master of
   Arts in physics from the University of Texas-Austin and a Masters in Engineering

ZAMKA, George D., Lieutenant Colonel, U.S. Marine Corps
   Pilot.
   Bachelor of Science in mathematics from the U.S. Naval Academy; Master of Science in
   engineering management from the Florida Institute of Technology.
DOI, Takao, Japan Aerospace Exploration Agency
   Mission Specialist.
   Born September 18, 1954 in Tokyo, Japan.
   Bachelor and Master of Engineering from the University of Tokyo; Doctor of Philosophy in aerospace engineering from the University of Tokyo.
   Flew on STS-87.
   Cumulative hours of space flight are more than 376.
   Cumulative EVA time is more than 12 hours.

EYHARTS, Léopold, European Space Agency
   Mission Specialist.
   Born April 28, 1957, in Biarritz, France.
   Graduated as engineer from the Salon de Provence Air Force Academy.

FUGLESANG, Christer, European Space Agency
   Mission Specialist.
   Master of Science in engineering physics from the Royal Institute of Technology (KTH), Stockholm, Sweden; Doctor of Philosophy in experimental particle physics from the University of Stockholm.

FURUKAWA, Satoshi, Japan Aerospace Exploration Agency
   Mission Specialist Candidate.
   Born 1964 in Yokohama, Kanagawa, Japan.
   Doctorate in Medicine, and Ph.D. in medical science from the University of Tokyo, Japan.

HADFIELD, Chris A., Canadian Space Agency, Colonel, Canadian Air Force
   Mission Specialist.
   Born August 29, 1959, in Sarnia, Ontario, Canada.
   Bachelor degree in mechanical engineering, Royal Military College, Kingston, Ontario, Canada; post-graduate research at University of Waterloo, Ontario, Canada; Master of Science in aviation systems, University of Tennessee.
   Flew on STS-74 and STS-100.
   Cumulative hours of space flight are more than 481.
   Cumulative EVA time is more than 14 hours.

HOSHIDE, Akihko Japan Aerospace Exploration Agency
   Mission Specialist Candidate.
   Born 1968 in Tokyo, Japan.
   Bachelor of Science in mechanical engineering from Keio University and Master of Science in aerospace engineering from University of Houston Cullen College of engineering.

MACLEAN, Steve, Canadian Space Agency
   Mission Specialist.
   Born December 14, 1954, in Ottawa, Ontario, Canada.
   Bachelor of Science in honors physics, and Doctor of Philosophy in physics from York University, Toronto, Canada.
   Flew as a payload specialist on STS-52.
   Cumulative hours of space flight are more than 236.

NESPOLI, Paolo, European Space Agency
   Mission Specialist.
   Born April 6, 1957, in Milan, Italy. Hometown, Verano Brianza, Milan, Italy.
   Bachelor of Science in aerospace engineering and Master of Science in aeronautics and astronautics from the Polytechnic University of New York. Laurea in Ingegneria Meccanica, Universita degli Studi di Firenze.
INTERNATIONAL ASTRONAUTS CURRENTLY IN THE U.S. SPACE PROGRAM

NICOLLIER, Claude, European Space Agency
Mission Specialist.
Born September 2, 1944, in Vevey, Switzerland.
Bachelor of Science in physics from the University of Lausanne, Switzerland; Master of Science in astrophysics from University of Geneva.
Flew on STS-46, STS-61, STS-75 and STS-103.
Cumulative hours of space flight are more than 1,000.
Cumulative EVA time is more than 8 hours.

NOGUCHI, Soichi, Japan Aerospace Exploration Agency
Mission Specialist.
Bachelor and Master of aeronautical engineering from the University of Tokyo, Japan.

PAYETTE, Julie, Canadian Space Agency
Mission Specialist.
Born October 20, 1963 in Montreal, Quebec, Canada.
International baccalauréate, United World International College of the Atlantic, South Wales, UK; Bachelor of electrical engineering from McGill University, Masters of Applied Science in computer engineering from the University of Toronto.
Flew on STS-96.
Cumulative hours of space flight are more than 235.

PONTES, Marcos, Brazilian Space Agency, Major, Brazil Air Force
Mission Specialist.
Born March 11, 1963 in Bauru, Brazil.
Bachelor of Science degree in aeronautical engineering from the Instituto Technologico de Aeronautica University, and Master of Science in systems engineering from the Navy Post Graduate School in Monterey, California.

SCHLEGEL, Hans, European Space Agency
Mission Specialist.
Born August 3, 1951, in Überlingen, Germany. Hometown, Aachen, Germany.
Masters degree in Physics from Aachen University.
Flew as a payload specialist on STS-55.
Cumulative hours of space flight are more than 222.

THIRSK, Robert B., Canadian Space Agency
Mission Specialist.
Born August 17, 1953, in New Westminister, British Columbia.
Received a Bachelor of Science degree in mechanical engineering from the University of Calgary, a Master of Science degree in mechanical engineering from the Massachusetts Institute of Technology (MIT) in 1978, a Doctorate Of Medicine from McGill University, and a Master of Business Administration from the MIT Sloan School of Management.
Flew on STS-78.
Cumulative hours of space flight are more than 405.

VITTORI, Roberto, European Space Agency
Mission Specialist.
Born October 15, 1964, in Viterbo, Italy.
Graduate of the Italian Air force Academy. Currently attending the IV year of a Physics degree at the University of Perugia.

WAKATA, Koichi, Japan Aerospace Exploration Agency
Mission Specialist.
Born August 1, 1963, in Omiya, Saitama, Japan.
Bachelor of Science in aeronautical engineering and Master of Science in applied mechanics and Doctor of Philosophy in aerospace engineering from Kyushu University.
Flew on STS-72 and STS-92.
Cumulative hours of space flight are more than 523.
INTERNATIONAL ASTRONAUTS CURRENTLY IN THE U.S. SPACE PROGRAM

WILLIAMS, Dafydd (Dave) Rhys, Canadian Space Agency
Mission Specialist.
Born May 16, 1954 in Saskatoon, Saskatchewan, Canada.
Bachelor of Science in biology, Master of Science in physiology, Doctor of Medicine and
Master of Surgery from McGill University, Montreal.
Flew on STS-90.
Cumulative hours of space flight are more than 381.

YAMAZAKI, Naoko, Japan Aerospace Exploration Agency
Mission Specialist Candidate.
Born in 1970 in Matsudo, Chiba Prefecture, Japan.
Bachelor and Master of Science in aerospace engineering from the University of Tokyo,
Japan.
RUSSIAN COSMONAUTS CURRENTLY IN THE U.S SPACE PROGRAM
(Trained by the Russian Space Agency)
Flight times include non-U.S. flight information from Cosmonaut bio sheets

BUDARIN, Nikolai, Russian Space Agency
Born April 29, 1953, at Kirya Settlement, Chuvashia, Russia.
Graduated from the S. Ordzhonikidze Moscow Aviation Institute with a mechanical
engineering diploma.
Flew on STS-71 (Mir crew upload.) and STS-113.
Cumulative days of space flight are more than 161.

DEZHUROV, Vladimir, Russian Space Agency
Born June 30, 1962, at Yavas Settlement, Zubovo-Polyansk district, Mordovia, Russia.
Graduated from the S.I. Gritsevich Khalikov Higher Military Aviation School with a flight-
engineering diploma.
Flew on STS-71 (Mir crew download.) and STS-105(up)/Exp 3/STS-108(down).
Cumulative days of space flight are more than 232.

GIDZENKO, Yuri, Russian Space Agency
Born March 26, 1962, in Elanets, Elanetsky district, Nikolayev region.
Graduated from Kharkov Military Aviation College of Pilots and from Moscow State
University of land surveying and cartography.
Flew on Exp 1/STS-102(down).
Cumulative days of U.S. space flight are more than 320.

KORZUN, Valery, Russian Space Agency
Born March 5, 1953, in Krasny Sulin.
Graduate of the Kachin Military Aviation College; Commander Department of the Gagarin
Air Force Academy.
Flew on STS-111(up)/Exp 5/STS-113(down).
Cumulative days of U.S. space flight are more than 381.
Cumulative EVA time is more than 9 hours.

KALERI, Alexander, Russian Space Agency
Born May 13, 1956, in Yurmala, Latvia.
Graduate of the Moscow Institute of Mechanical Physics.
Flew on Exp 8.
Cumulative days of space flight are more than 610.
Flight time includes 5 EVAs.

KRIKALEV, Sergei, Russian Space Agency
Born August 27, 1958, in Leningrad (St. Petersburg,) Russia.
Received a mechanical engineering degree from the Leningrad (St. Petersburg) Mechanical
Institute.
Flew on STS-60, STS-88 and Exp 1/STS-102(down).
Cumulative space flight time is more than 1 year, 5 months and 10 days.
Flight time includes 7 EVAs.

LONCHAKOV, Yuri, Russian Space Agency
Born March 4, 1965, in Balkhash, Dzhezkazkansk Region.
Graduated from Oresburg Air Force Pilot School as a pilot-engineer and Zhukovski Air
Force Academy as pilot-engineer-researcher.
Flew on STS-100.
Cumulative hours of space flight are more than 283.

MALENCHENKO, Yuri, Russian Space Agency
Born December 22, 1961, in Svetlovodsk, Kirovograd region, Ukraine.
Graduated from S.I. Gritsevets Kharkov Higher Military Aviation School with a pilot-
engineer's diploma; graduated from the Zhukovsky Air Force Engineering Academy.
Flew on STS-106 and Exp 7.
Cumulative days of space flight are more than 321.
Cumulative EVA time is more than 18 hours.
RUSSIAN COSMONAUTS CURRENTLY IN THE U.S SPACE PROGRAM
(Trained by the Russian Space Agency)
Flight times include non-U.S. flight information from Cosmonaut bio sheets

MORUKOV, Boris, Russian Space Agency
Born October 1, 1950, in Moscow, Russia.
Doctor of Medicine from the 2nd Moscow Medical Institute (now Moscow Medical University; Doctor of Philosophy in space, aviation and naval medicine from the Institute for Biomedical Problems.
Flew on STS-106.
Cumulative days of space flight are more than 11.

OUNFRIENKO, Yuri, Russian Space Agency
Born February 6, 1961, in Ryasnoe, Zolochev district, Kharkov region, Ukraine.
Graduated from the V.M. Komarov Eisk Higher Military Aviation School for Pilots with a pilot-engineer's diploma; graduated from Moscow State University with a degree in cartography.
Flew on STS-108(up)/Exp 4/STS-111(down).
Cumulative days of space flight are more than 388.
Cumulative EVA time is more than 12 hours.

PADALKA, Gennady, Russian Space Agency
Born June 21, 1958, in Krasnodar, Russia.
Graduated from Eisk Military Aviation College in 1979; in 1994 he left UNESCO International Center of Instruction Systems, where he was an engineer–ecologist.

POLESCHUK, Alexander, Russian Space Agency
Born October 30, 1953, in Cheremkhovo, Irkutsk region, Russia.
Graduated from S. Ordzhonikidze Moscow Aviation Institute with a mechanical engineering diploma.

RYUMIN, Valery, Russian Space Agency
Born August 16, 1939, in the city of Komsomolsk-on-Amur in the Russian Far East.
Graduated from the Kaliningrad Mechanical Engineering Technical College with the speciality "Cold Working of Metal;" graduated from the Department of Electronics and Computing Technology of the Moscow Forestry Engineering Institute with the speciality "Spacecraft Control Systems."
Flew on STS-91.
Cumulative days of space flight are more than 371.

SHARIPOV, Salizhan, Russian Space Agency
Born August 24, 1964, in Uzgen, Oshsk region, Kirghizia.
Graduated from the Air Force Pilot School; graduated from Moscow State University with a degree in cartography.
Flew on STS-89.
Cumulative hours of space flight are more than 211.
Cumulative EVA time is more than 5 hours.

SOLOVYEV, Anatoly, Russian Space Agency
Born January 16, 1948, in Riga.
Graduated from the Lenin Komsomol Chernigov Higher Military Aviation School.
Flew on STS-71 (Mir crew upload.)
Cumulative days of space flight are more than 188.
Cumulative EVA time is more than 5 hours.

STREKALOV, Gennady, Russian Space Agency
Born October 26, 1940, in the Mytishchi Moscow region, Russia.
Graduated from N.E. Bauman Moscow Higher Technical School with an engineer's diploma.
Flew on STS-71 (Mir crew download.)
Cumulative days of space flight are more than 153.
RUSSIAN COSMONAUTS CURRENTLY IN THE U.S SPACE PROGRAM
(Trained by the Russian Space Agency)
Flight times include non-U.S. flight information from Cosmonaut bio sheets

TITOV, Vladimir, Russian Space Agency
  Born January 1, 1947, in Sretensk, in the Chita Region of Russia.
  Flew on STS-63 and STS-86.
  Cumulative days of U.S. space flight are more than 387.
  Cumulative EVA time is more than 18 hours.

TOKAREV, Valery, Russian Space Agency
  Born October 29, 1952, at the town of Kap-Yar, Astrakhan region, Russia.
  Master's degree in state administration from the National Economy Academy affiliated with the Russian Federation Government in Moscow.
  Flew on STS-96.
  Cumulative hours of space flight are more than 235.

TRESCHEV, Sergei, Russian Space Agency
  Born August 18, 1958 in Volynsky District, Lipetsk Region (Russia).
  Graduated from the Moscow Energy Institute.
  Flew on STS-111(up)/Exp 5/STS-113(down).
  Cumulative days of U.S. space flight are more than 184.
  Cumulative EVA time is more than 5 hours.

TYURIN, Mikhail, Russian Space Agency
  Born March 2, 1960, in Kolomna, Russia.
  Graduated from the Moscow Aviation Institute with a degree in engineering and a specialization in creating mathematical models related to mechanical flight. He is currently doing graduate work in his field of research.
  Flew on STS-105(up)/Exp 3/STS-108(down).
  Cumulative days of space flight are more than 129.

USACHEV, Yury, Russian Space Agency
  Born October 9, 1957, in Donetsk, Rostov on Don Region, Russia.
  Graduated from the Moscow Aviation Institute with an engineering diploma.
  Flew on STS-101 and STS-102(up)/Exp 2/STS-105(down).
  Cumulative days of space flight are more than 670.
  Space flights include 6 EVAs.

YURCHIKHIN, Fyodor, Russian Space Agency
  Born January 3, 1959, in Batumi, Autonomous Republic of Ajara in Georgia (Russia).
  Attended the Moscow Aviation Institute named after Sergey Ordzhonikidze and is qualified as a mechanical engineer, specializing in airspace vehicles. Received a PhD in economics from the Moscow Service State University.
  Flew on STS-112.
  Cumulative hours of space flight are more than 259.
ASHBY, Jeffrey S., Captain, U.S. Navy (Retired)
Bachelor of Science in mechanical engineering from University of Idaho; Master of Science in aviation systems from University of Tennessee, Knoxville. Graduate of the Naval Test Pilot School, and the Naval Fighter Weapons School (Top Gun).
Flew on STS-93, STS-100 and STS-112.
Cumulative hours of space flight are more than 660.

BAKER, Ellen S., Civilian
Bachelor of Arts in geology from State University of New York at Buffalo; Masters in public health from the University of Texas School of Public Health. Doctor of Medicine from Cornell University.
Flew on STS-34, STS-50 and STS-71.
Cumulative hours of space flight are more than 686.

BAKER, Michael A., Captain, U.S. Navy (Retired)
Born October 27, 1953, in Memphis, Tennessee. Hometown, Lemoore, California.
Bachelor of Science in aerospace engineering from the University of Texas.
Flew on STS-43, STS-52, STS-68 and STS-81.
Cumulative hours of space flight are more than 965.

BOWERSOX, Kenneth D., Captain, U.S. Navy
Bachelor of Science in aerospace engineering from the U.S. Naval Academy; Master of Science in mechanical engineering from Columbia University.
Cumulative days of space flight are more than 211.
Cumulative EVA time is more than 13 hours.

BRAND, Vance D., Civilian
Born May 9, 1931, in Longmont, Colorado.
Bachelor of Science in business and aeronautical engineering from the University of Colorado; Master of Science in business administration from the University of California at Los Angeles.
Flew on Apollo-Soyuz Test Project, STS-5, STS 41-B, and STS-35.
Cumulative hours of space flight are more than 746.

BRIDGES, Roy D., Jr., Major General, U.S. Air Force (Retired)
Born July 19, 1943, in Atlanta, Georgia.
Bachelor of Science in engineering science from the U.S. Air Force Academy; Master of Science in aeronautics from Purdue University.
Flew on STS 51-F.
Cumulative hours of space flight are more than 190.

BURSCH, Daniel W., Captain, U.S. Navy
Bachelor of Science in physics from the U.S. Naval Academy; Master of Science in engineering science from the Naval Postgraduate School.
Flew on STS-51, STS-68, STS-77, STS-108(up)/Exp 4/STS-111(down).
Cumulative days of space flight are more than 227.
Cumulative EVA time is more than 11 hours.

CABANA, Robert D., Colonel, U.S. Marine Corps (Retired)
Born January 23, 1949, in Minneapolis, Minnesota.
Bachelor of Science in mathematics from the U.S. Naval Academy.
Flew on STS-41, STS-53, STS-65 and STS-88.
Cumulative hours of space flight are more than 1,010.
CAMERON, Kenneth D., Colonel, U.S. Marine Corps (Retired)  
Born November 29, 1949, in Cleveland, Ohio.  
Bachelor and Master of Science in aeronautics and astronautics from the Massachusetts  
Institute of Technology.  
Flew on STS-37, STS-56 and STS-74.  
Cumulative hours of space flight are more than 561.

CASPER, John H., Colonel, U.S. Air Force (Retired)  
Born July 9, 1943, in Greenville, South Carolina. Hometown, Gainesville, Georgia.  
Bachelor of Science in engineering science from the U.S. Air Force Academy; Master of  
Science in astronautics from Purdue University. Graduate of the Air Force Air War  
College.  
Flew on STS-36, STS-54, STS-62 and STS-77.  
Cumulative hours of space flight are more than 825.

CHANG-DIAZ, Franklin R., Civilian  
Born April 5, 1950, in San Jose, Costa Rica.  
Bachelor of Science in mechanical engineering from the University of Connecticut; Doctor of  
Philosophy in applied plasma physics from the Massachusetts Institute of Technology.  
Flew on STS 61-C, STS-34, STS-46, STS-60, STS-75, STS-91 and STS-111.  
Cumulative hours of space flight are more than 1,601.  
Cumulative EVA time is more than 19 hours.

CLEAVE, Mary L., Civilian  
Bachelor of Science in biological sciences from Colorado State University; Master of  
Science in microbial ecology and Doctor of Philosophy in civil and environmental  
engineering from Utah State University.  
Flew on STS 61-B and STS-30.  
Cumulative days of space flight are more than 10.

COCKRELL, Kenneth D., Civilian, U.S. Naval Reserve (Retired)  
Born April 9, 1950, in Austin, Texas. Hometown, Rockdale, Texas.  
Bachelor of Science in mechanical engineering from the University of Texas; Master of  
Science in aeronautical systems from the University of West Florida.  
Flew on STS-56, STS-69, STS-80, STS-98 and STS-111.  
Cumulative hours of space flight are more than 1,560.

CURRIE, Nancy J. (Sherlock), Lieutenant Colonel, U.S. Army  
Born December 29, 1958, in Wilmington, Delaware. Hometown, Troy, Ohio.  
Bachelor of Arts in biological science from Ohio State; Master of Science in safety  
engineering from the University of Southern California; Doctor of Philosophy in  
industrial engineering from the University of Houston.  
Flew on STS-57, STS-70, STS-88 and STS-109.  
Cumulative hours of space flight are more than 999.

DAVIS, N. Jan, Civilian  
Born November 1, 1953, in Cocoa Beach, Florida. Hometown, Huntsville, Alabama.  
Bachelor of Science in applied biology from the Georgia Institute of Technology; Bachelor  
of Science in mechanical engineering from Auburn University; Master of Science and  
Doctor of Philosophy in mechanical engineering from the University of Alabama in  
Huntsville.  
Flew on STS-47, STS-60 and STS-85.  
Cumulative hours of space flight are more than 673.
DUNBAR, Bonnie J., Civilian
Bachelor and Master of Science in ceramic engineering from University of Washington;
Doctor of Philosophy in mechanical/biomedical engineering from the University of Houston.
Flew on STS 61-A, STS-32, STS-50, STS-71 and STS-89.
Cumulative hours of space flight are more than 1,208.

FULLERTON, Charles G., Colonel, U.S. Air Force (Retired)
Born October 11, 1936, in Rochester, New York.
Bachelor and Master of Science in mechanical engineering from the California Institute of Technology.
Flew Space Shuttle approach and landing tests 1, 3 and 5; STS-3 and STS 51-F.
Cumulative hours of space flight are more than 382.

GODWIN, Linda M., Civilian
Bachelor of Science in mathematics and physics from Southeast Missouri State; Master of Science and Doctor of Philosophy in physics from the University of Missouri.
Flew on STS-37, STS-59, STS-76 and STS-108.
Cumulative days of space flight are more than 38.
Cumulative EVA time is more than 10 hours.

GREGORY, Frederick D., Colonel, U.S. Air Force (Retired)
Born January 7, 1941, in Washington, D.C.
Bachelor of Science from the U.S. Air Force Academy; Master of Science in information systems from George Washington University.
Flew on STS 51-B, STS-33, and STS-44.
Cumulative hours of space flight are more than 455.

GRUNSFELD, John M., Civilian
Bachelor of Science in physics from the Massachusetts Institute of Technology; Master of Science and Doctor of Philosophy in physics from the University of Chicago.
Flew on STS-67, STS-81, STS-103 and STS-109.
Cumulative days of space flight are more than 45.
Cumulative EVA time is more than 37 hours.

HAWLEY, Steven A., Civilian
Born December 12, 1951, in Ottawa, Kansas. Hometown, Salina, Kansas.
Bachelor of Arts in physics and astronomy from the University of Kansas; Doctor of Philosophy in astronomy and astrophysics from the University of California at Santa Cruz.
Flew on STS 41-D, STS 61-C, STS-31, STS-82 and STS-93.
Cumulative hours of space flight are more than 770.

LEESTMA, David C., Captain, U.S. Navy (Retired)
Born May 6, 1949, in Muskegon, Michigan.
Bachelor of Science in aeronautical engineering from the U.S. Naval Academy; Master of Science in aeronautical engineering from the U.S. Naval Postgraduate School.
Flew on STS 41-G, STS-28, and STS-45.
Cumulative hours of space flight are more than 532.

LOCKHART, Paul S., Lieutenant Colonel, U.S. Air Force
Born April 28, 1956, in Amarillo, Texas.
Bachelor of Arts in mathematics from Texas Tech University and a Master of Science in aerospace engineering from the University of Texas.
Flew on STS-111 and STS-113.
Cumulative days of space flight are more than 26.
U.S. ASTRONAUTS IN NASA MANAGEMENT POSITIONS

LOPEZ-ALEGRIA, Michael E., Captain, U.S. Navy
Bachelor of Science in systems engineering from the U.S. Naval Academy; Master of Science in aeronautical engineering from the U.S. Naval Postgraduate School.
Flew on STS-73, STS-92 and STS-113.
Cumulative days of space flight are more than 42.
Cumulative EVA time is more than 33 hours.

LORIA, Christopher J., Lieutenant Colonel, U.S. Marine Corps
Born July 9, 1960, in Newton, Massachusetts. Hometown, League City, Texas.
Bachelor of Science in general engineering from the U.S. Naval Academy; Master of Science in aeronautical engineering from Florida Institute of Technology; NASA Harvard Fellow.

LUCID, Shannon W., Civilian
Bachelor of Science in chemistry; Master of Science and Doctor of Philosophy in biochemistry from University of Oklahoma.
Flew on STS 51-G, STS-34, STS-43, STS-58, STS-76/Mir and Mir/STS-79.
Cumulative hours of space flight are more than 5,354.

MORIN, Lee M., Captain, U.S. Navy
Bachelor of Science in mathematical/electrical science from the University of New Hampshire; Master of Science in biochemistry, Doctor of Medicine and microbiology degrees from New York University, and Master of public health from the University of Alabama at Birmingham.
Flew on STS-110.
Cumulative hours of space flight are more than 259.
Cumulative EVA time is more than 14 hours.

NAGEL, Steven R., Colonel, U.S. Air Force (Retired)
Born October 27, 1946, in Canton, Illinois.
Bachelor of Science in aeronautical and astronautical engineering from the University of Illinois; Master of Science in mechanical engineering from California State University - Fresno.
Flew on STS 51-G, STS 61-A, STS-37, and STS-55.
Cumulative hours of space flight are more than 723.

NEWMAN, James H., Civilian
Bachelor of Arts in physics from Dartmouth College; Master of Arts and a Doctor of Philosophy in physics from Rice University.
Flew on STS-51, STS-69, STS-88 and STS-109.
Cumulative days of space flight are more than 43.
Cumulative EVA time is more than 43 hours.

OCHOA, Ellen, Civilian
Born May 10, 1958, in Los Angeles, California. Hometown, La Mesa, California.
Bachelor of Science in physics from San Diego State University; Master of Science and Doctor of Philosophy in electrical engineering from Stanford University.
Flew on STS-56, STS-66, STS-96 and STS-110.
Cumulative hours of space flight are more than 978.
O'CONNOR, Bryan D., Colonel, U.S. Marine Corps (Retired)
Born September 6, 1946, in Orange, California.
Bachelor of Science in engineering from the U.S. Naval Academy; Master of Science in
aeronautical systems from West Florida University. Graduated from the Naval Safety
School at the Naval Postgraduate School, Monterey, California and from the Naval Test
Pilot School, Naval Air Test Center, Patuxent River, Maryland.
Flew on STS 61-B and STS-40.
Cumulative hours of space flight are more than 383.

PARKER, Robert A. R., Civilian
Born December 14, 1936, in New York City, New York.
Bachelor of Arts in astronomy and physics from Amherst College; Doctor of Philosophy in
astronomy from the California Institute of Technology.
Flew on STS-9 and STS-35.
Cumulative hours of space flight are more than 462.

PRECOURT, Charles J., Colonel, U.S. Air Force (Retired)
Bachelor of Science in aeronautical engineering from the U.S. Air Force Academy; Master
of Science in engineering management from Golden Gate University; Master of Arts in
national security affairs and strategic studies from the United States Naval War College.
Flew on STS-55, STS-71, STS-84 and STS-91.
Cumulative hours of space flight are more than 932.

READDY, William F., Civilian Captain, U.S. Naval Reserve (Retired)
Bachelor of Science in aerospace engineering from the U.S. Naval Academy.
Flew on STS-42, STS-51 and STS-79.
Cumulative hours of space flight are more than 672.

ROMINGER, Kent V., Captain, U.S. Navy
Born August 7, 1956, in Del Norte, Colorado.
Bachelor of Science in civil engineering from Colorado State University; Master of Science
in aeronautical engineering from the U.S. Naval Postgraduate School.
Flew on STS-73, STS-80, STS-85, STS-96 and STS-100.
Cumulative hours of space flight are more than 1,608.

ROSS, Jerry L., Colonel, U.S. Air Force (Retired)
Bachelor and Master of Science in mechanical engineering from Purdue University.
Flew on STS 61-B, STS-27, STS-37, STS-55, STS-74, STS-88 and STS-110.
Cumulative hours of space flight are more than 1,393.
Cumulative EVA time is more than 58 hours.

RUNCO, Mario, Jr., Lieutenant Commander, U.S. Navy (Retired)
Bachelor of Science in meteorology and physical oceanography from City College of New
York; Master of Science in meteorology from Rutgers University; Doctor of Philosophy
in earth science from the City College of New York.
Flew on STS-44, STS-54 and STS-77.
Cumulative hours of space flight are more than 551.
Cumulative EVA time is more than 4 hours.

SMITH, Steven L., Civilian
Bachelor and Master of Science in electrical engineering and Masters in business
administration from Stanford University.
Flew on STS-68, STS-82, STS-103 and STS-110.
Cumulative hours of space flight are more than 959.
Cumulative EVA time is more than 49 hours.
U.S. ASTRONAUTS IN NASA MANAGEMENT POSITIONS

THOMAS, Donald A., Civilian
Born May 6, 1955, in Cleveland, Ohio.
Bachelor of Science in physics from Case Western Reserve University; Master of Science and Doctor of Philosophy in materials science from Cornell University.
Flew on STS-65, STS-70, STS-83 and STS-94.
Cumulative hours of space flight are more than 1,040.

VOSS, Janice E., Civilian
Bachelor of Science in engineering science from Purdue University; Master of Science in electrical engineering and Doctor of Philosophy in aeronautics and astronautics from the Massachusetts Institute of Technology.
Cumulative days of space flight are more than 49.

WALZ, Carl E., Colonel, U.S. Air Force
Born September 6, 1955, in Cleveland, Ohio.
Bachelor of Science in physics from Kent State University; Master of Science in solid-state physics from John Carroll University.
Cumulative days of space flight are more than 231.
Cumulative EVA time is more than 18 hours.

WETHERBEE, James D., Captain, U.S. Navy (Retired)
Bachelor of Science in aerospace engineering from the University of Notre Dame.
Cumulative hours of space flight are more than 1,592.

WHITSON, Peggy A., Civilian
Born February 9, 1960, in Mt. Ayr, Iowa.
Bachelor of Science in biology/chemistry from Iowa Wesleyan College and Doctor of Biochemistry from Rice University.
Flew on STS-111(up)/Exp 5/STS-113(down).
Cumulative days of space flight are more than 184.
Cumulative EVA time is more than 4 hours.

YOUNG, John W., Captain, U.S. Navy (Retired)
Born September 24, 1930, in San Francisco, California.
Bachelor of Science in aeronautical engineering from Georgia Institute of Technology.
Flew on Gemini 3, Gemini 10, Apollo 10, Apollo 16, STS-1 and STS-9.
Cumulative hours of space flight are more than 835.
Cumulative EVA time is more than 20 hours (on the moon.)
ACABA, Joseph M., Civilian
   Educator Mission Specialist.
   Born May 17, 1967 in Inglewood, California.
   Bachelor of Science in geology from the University of California-Santa Barbara.

ARNOLD, Richard R., II, Civilian
   Educator Mission Specialist.
   Born November 26, 1963 - Cheverly, Maryland.
   Bachelor of Science in accounting from Frostburg State University; Master of Science in marine, estuarine and environmental science from the University of Maryland.

BRESNIK, Randolph J., Major, USMC
   Pilot.
   Born September 11, 1967 in Fort Knox, Kentucky.
   Bachelor of Science in mathematics from The Citadel; Master of Science in aviation systems from the University of Tennessee-Knoxville.

CASSIDY, Christopher J., Lieutenant Commander, U.S. Navy
   Mission Specialist.
   Bachelor of Science in mathematics from U.S. Naval Academy; Master of Science in Ocean Engineering from the Massachusetts Institute of Technology.

DUTTON, James P., Jr., Major, U.S. Air Force
   Pilot.
   Born November 20, 1968 in Eugene, Oregon.
   Bachelor of Science in astronautical engineering from the U.S. Air Force Academy; Master of Science in Aeronautics & Astronautics from the University of Washington.

HERNANDEZ, Jose M., Civilian
   Mission Specialist.
   Born August 7, 1962 in French Camp, California.
   Bachelor of Science in electrical engineering from the University of the Pacific; Master of Science in electrical & computer engineering from the University of California-Santa Barbara.

KIMBROUGH, Robert S., Major, U.S. Army
   Mission Specialist.
   Born June 4, 1967 in Killeen, Texas.
   Bachelor of Science in aerospace engineering from the U.S. Military Academy; Master of Science in operations research from the Georgia Institute of Technology.

MARSHBURN, Thomas H., Major, U.S. Army
   Mission Specialist.
   Bachelor of Science in physics, Davidson College; Masters of Science in engineering physics from the University of Virginia; Master of Medical Science from the University of Texas Medical Branch; Medical Doctor from Wake Forest University.

METCALF-LINDENBURGER, Dorothy M., Civilian
   Educator Mission Specialist.
   Bachelor of Science in geology from Whitman College.

SATCHER, Robert L., Jr., Civilian
   Mission Specialist.
   Born September 22, 1965 in Hampton, Virginia.
   Bachelor of Science in chemical engineering from Massachusetts Institute of Technology; Doctorate in chemical engineering from Massachusetts Institute of Technology; Medical Doctor from Harvard University.
WALKER, Shannon, Civilian
Mission Specialist.
Born June 4, 1965 - Houston, Texas.
Bachelor of Arts in physics, Master of Science in space physics and a Doctorate in space physics from Rice University.
FORMER U.S. ASTRONAUTS

ADAMSON, James C., Colonel, U.S. Army (Retired)
Bachelor of Science in engineering from the U.S. Military Academy; Master of Science in aerospace engineering from Princeton University. Graduate of the U.S. Navy Test Pilot School.
Flew on STS-28 and STS-43.
Cumulative hours of space flight are more than 334.

AKERS, Thomas D., Lieutenant Colonel, U.S. Air Force (Retired)
Born May 20, 1951, in St. Louis, Missouri. Hometown, Eminence, Missouri.
Bachelor and Master of Science in applied mathematics from the University of Missouri-Rolla.
Flew on STS-41, STS-49, STS-61 and STS-79.
Cumulative hours of space flight are more than 814.
Cumulative EVA time is more than 29 hours.

ALDRIN, Buzz, Colonel, U.S. Air Force (Retired)
Born January 20, 1930, in Montclair, New Jersey.
Bachelor of Science in mechanical engineering from the U.S. Military Academy; Doctor of Science in aeronautics from the Massachusetts Institute of Technology.
Flew on Gemini 12 and Apollo 11.
Cumulative hours of space flight are more than 289.
Cumulative EVA time is more than 2 hours.

ALLEN, Andrew M., Lieutenant Colonel, U.S. Marine Corps (Retired)
Bachelor of Science in mechanical engineering from Villanova University.
Flew on STS-46, STS-62 and STS-75.
Cumulative hours of space flight are more than 904.

ALLEN, Joseph P., Civilian
Born June 27, 1937, in Crawfordsville, Indiana.
Bachelor of Arts in mathematics and physics from DePauw University; Master of Science and Doctor of Philosophy in physics from Yale University.
Flew on STS-5 and STS 51-A.
Cumulative hours of space flight are more than 313.
Cumulative EVA time is more than 12 hours.

ANDERS, William A., Civilian Major General, U.S. Air Force Reserve (Retired)
Born October 17, 1933, in Hong Kong.
Bachelor of Science in nuclear engineering from the U.S. Naval Academy; Master of Science in nuclear engineering from the Air Force Institute of Technology.
Flew on Apollo 8.
Cumulative hours of space flight are more than 147.

APT, Jerome, Civilian
Bachelor of Arts in physics from Harvard College; Doctor of Philosophy in physics from the Massachusetts Institute of Technology.
Flew on STS-37, STS-47, STS-59 and STS-79.
Cumulative hours of space flight are more than 847.
Cumulative EVA time is more than 10 hours.

ARMSTRONG, Neil A., Civilian
Born August 5, 1930, in Wapakoneta, Ohio.
Bachelor of Science in aeronautical engineering from Purdue University; Master of Science in aerospace engineering from the University of Southern California.
Flew on Gemini 8 and Apollo 11.
Cumulative hours of space flight are more than 205.
Cumulative EVA time is more than 2 hours.
FORMER U.S. ASTRONAUTS

BAGIAN, James P., Civilian
Bachelor of Science in mechanical engineering from Drexel University; Doctor of Medicine from Thomas Jefferson University.
Flew on STS-29 and STS-40.
Cumulative hours of space flight are more than 337.

BEAN, Alan L., Captain, U.S. Navy (Retired)
Born March 15, 1932, in Wheeler, Texas.
Bachelor of Science in aeronautical engineering from the University of Texas.
Flew on Apollo 12 and Skylab 3.
Cumulative hours of space flight are more than 1,671.
Cumulative EVA time is more than 10 hours.

BLAHA, John E., Colonel, U.S. Air Force (Retired)
Born August 26, 1942, in San Antonio, Texas.
Bachelor of Science in engineering science from the U.S. Air Force Academy; Master of Science in astronautical engineering from Purdue University.
Flew on STS-29, STS-33, STS-43, STS-58, STS-79/Mir and Mir/STS-81.
Cumulative hours of space flight are more than 3,864.

BLUFORD, Guion S., Jr., Colonel, U.S. Air Force (Retired)
Bachelor of Science in aerospace engineering from Pennsylvania State University; Master of Science and Doctor of Philosophy in aerospace engineering from the Air Force Institute of Technology; Master of Business Administration from the University of Houston-Clear Lake.
Cumulative hours of space flight are more than 688.

BOBKO, Karol J., Colonel, U.S. Air Force (Retired)
Bachelor of Science from the U.S. Air Force Academy; Master of Science in aerospace engineering from the University of Southern California.
Flew on STS-6, STS 51-D, and STS-51-J.
Cumulative hours of space flight are more than 386.

BOLDEN, Charles F., Jr., Brigadier General, U.S. Marine Corps
Born August 19, 1946, in Columbia, South Carolina.
Bachelor of Science in electrical science from the U.S. Naval Academy; Master of Science in systems management from the University of Southern California.
Flew on STS-61C, STS-31, STS-45, and STS-60.
Cumulative hours of space flight are more than 680.

BORMAN, Frank, Colonel, U.S. Air Force (Retired)
Born March 14, 1928, in Gary, Indiana.
Bachelor of Science from the U.S. Military Academy; Master of Science in aeronautical engineering from the California Institute of Technology.
Flew on Gemini 7 and Apollo 8.
Cumulative hours of space flight are more than 477.

BRADY, Charles E., Jr., Captain, U.S. Navy
Doctor of Medicine from Duke University.
Flew on STS-78.
Cumulative hours of space flight are more than 405.
FORMER U.S. ASTRONAUTS

BRANDENSTEIN, Daniel C., Captain, U.S. Navy (Retired)
Born January 17, 1943, in Watertown, Wisconsin.
Bachelor of Science in mathematics and physics from the University of Wisconsin - River Falls.
Flew on STS-8, STS 51-G, STS-32, and STS-49.
Cumulative hours of space flight are more than 788.

BROWN, Curtis L., Jr., Colonel, U.S. Air Force (Retired)
Born March 11, 1956, in Elizabethtown, North Carolina.
Bachelor of Science in electrical engineering from the U.S. Air Force Academy.
Flew on STS-47, STS-66, STS-77, STS-85, STS-95 and STS-103.
Cumulative hours of space flight are more than 1,381.

BROWN, Mark N., Colonel, U.S. Air Force (Retired)
Born November 18, 1951, in Valparaiso, Indiana.
Bachelor of Science in aeronautical and astronautical engineering from Purdue University;
Master of Science in astronautical engineering from the U.S. Air Force Institute of Technology.
Flew on STS-28 and STS-48.
Cumulative hours of space flight are more than 249.

BUCHLI, James F., Colonel, U.S. Marine Corps (Retired)
Born June 20, 1945, in New Rockford, North Dakota. Hometown, Fargo, North Dakota.
Bachelor of Science in aeronautical engineering from the U.S. Naval Academy; Master of Science in aeronautical engineering systems from the University of West Florida.
Cumulative hours of space flight are more than 490.

BULL, John S., Civilian
Born September 25, 1934, in Memphis, Tennessee.
Bachelor of Science in mechanical engineering from Rice University; Master of Science and Doctor of Philosophy in aeronautical engineering from Stanford University.

CARPENTER, M. Scott, Commander, U.S. Navy (Retired)
Born May 1, 1925, in Boulder, Colorado.
Bachelor of Science in aeronautical engineering from the University of Colorado.
Flew on Mercury 7.
Cumulative hours of space flight are more than 4.

CARR, Gerald P., Colonel, U.S. Marine Corps (Retired)
Born August 22, 1932, in Denver, Colorado.
Bachelor of Science in mechanical engineering from the University of Southern California;
Bachelor of Science in aeronautical engineering from the U.S. Naval Postgraduate School; Master of Science in aeronautical engineering from Princeton University;
honorary Doctor of Science in aeronautical engineering from Parks College, St. Louis University.
Flew on Skylab 4.
Cumulative hours of space flight are more than 2,017.
Cumulative EVA time is more than 15 hours.

CERNAN, Eugene A., Captain, U.S. Navy (Retired)
Born March 14, 1934, in Chicago, Illinois.
Bachelor of Science in electrical engineering from Purdue University; Master of Science in aeronautical engineering from the U.S. Navy Postgraduate School.
Flew on Gemini 9, Apollo 10, and Apollo 17.
Cumulative hours of space flight are more than 566.
Cumulative EVA time is more than 22 hours.
FORMER U.S. ASTRONAUTS

CHAPMAN, Philip K., Civilian
Born March 5, 1935, in Melbourne, Australia.
Bachelor of Science in physics and mathematics from the University of Sydney; Master of Science in aeronautics and astronautics and Doctor of Science in instrumentation from the Massachusetts Institute of Technology.

CHILTON, Kevin P., Brigadier General, U.S. Air Force
Born November 3, 1954, in Los Angeles, California.
Bachelor of Science in engineering sciences from the U.S. Air Force Academy; Master of Science in mechanical engineering from Columbia University.
Flew on STS-49, STS-59 and STS-76.
Cumulative hours of space flight are more than 704.

CLIFFORD, Michael R., Lieutenant Colonel, U.S. Army (Retired)
Born October 13, 1952, in San Bernardino, California. Hometown, Ogden, Utah.
Bachelor of Science from the U.S. Military Academy; Master of Science in aerospace engineering from the Georgia Institute of Technology.
Flew on STS-53, STS-59 and STS-76.
Cumulative hours of space flight are more than 666.
Cumulative EVA time is more than 6 hours.

COATS, Michael L., Captain, U.S. Navy (Retired)
Born January 16, 1946, in Sacramento, California.
Bachelor of Science from the U.S. Naval Academy; Master of Science in administration of science and technology from George Washington University; Master of Science in aeronautical engineering from the U.S. Naval Postgraduate School.
Flew on STS 41-D, STS-29, and STS-39.
Cumulative hours of space flight are more than 463.

COLLINS, Michael, Civilian Major General, U.S. Air Force Reserve (Retired)
Born October 31, 1930, in Rome, Italy.
Bachelor of Science from the U.S. Military Academy.
Flew on Gemini 10 and Apollo 11.
Cumulative hours of space flight are more than 265.
Cumulative EVA time is more than 1 hour.

COOPER, L. Gordon, Jr., Colonel, U.S. Air Force (Retired)
Born March 6, 1927, in Shawnee, Oklahoma.
Bachelor of Science from the U.S. Air Force Institute of Technology; Doctor of Science in aeronautical engineering from Oklahoma City University.
Flew on Mercury 9 and Gemini 5.
Cumulative hours of space flight are more than 225.

COVEY, Richard O., Colonel, U.S. Air Force (Retired)
Born August 1, 1946, in Fayetteville, Arkansas. Hometown, Fort Walton Beach, Florida.
Bachelor of Science in engineering sciences from the U.S. Air Force Academy; Master of Science in aeronautics and astronautics from Purdue University.
Flew on STS 51-I, STS-26, STS-38, and STS-61.
Cumulative hours of space flight are more than 645.

CREIGHTON, John O., Captain, U.S. Navy (Retired)
Born April 28, 1943, in Orange, Texas.
Bachelor of Science from the U.S. Naval Academy; Master of Science in administration of science and technology from George Washington University.
Cumulative hours of space flight are more than 404.

CRIPKEN, Robert L., Captain, U.S. Navy (Retired)
Bachelor of Science in aerospace engineering from the University of Texas.
Flew on STS-1, STS-7, STS 41-C, and STS 41-G.
Cumulative hours of space flight are more than 565.
FORMER U.S. ASTRONAUTS

CULBERTSON, Frank L., Jr., Captain, U.S. Navy (Retired)
Bachelor of Science in aerospace engineering from the U.S. Naval Academy.
Cumulative days of space flight are more than 146.
Cumulative EVA time is more than 5 hours.

CUNNINGHAM, Walter, Civilian Colonel, U.S. Marine Corps Reserve (Retired)
Born March 16, 1932, in Creston, Iowa.
Bachelor and Master of Arts in physics from the University of California - Los Angeles.
Advanced management program, Harvard Graduate School of Business.
Flew on Apollo 7.
Cumulative hours of space flight are more than 263.

DUFFY, Brian, Colonel, U.S. Air Force
Born June 20, 1953, in Boston, Massachusetts.
Bachelor of Science in mathematics from the U.S. Air Force Academy; Master of Science in systems management from the University of Southern California.
Flew on STS-45, STS-57, STS-72 and STS-92.
Cumulative hours of space flight are more than 976.

DUKE, Charles M., Jr., Brigadier General, U.S. Air Force (Retired)
Bachelor of Science in naval sciences from the U.S. Naval Academy; Master of Science in aeronautics from the Massachusetts Institute of Technology.
Flew on Apollo 16.
Cumulative hours of space flight are more than 265.
Cumulative EVA time is more than 20 hours.

EDWARDS, Joe F, Jr., Commander, U.S. Navy (Retired)
Bachelor of Science in aerospace engineering from the United States Naval Academy; Master of Science in aviation systems from the University of Tennessee, Knoxville.
Flew on STS-89.
Cumulative hours of space flight are more than 224.

ENGLAND, Anthony W., Civilian
Born May 15, 1942, in Indianapolis, Indiana.
Bachelor and Master of Science in earth sciences from the Massachusetts Institute of Technology; Doctor of Philosophy in geophysics from the Massachusetts Institute of Technology.
Flew on STS 51-F.
Cumulative hours of space flight are more than 190.

ENGLE, Joe H., Major General, Air National Guard/U.S. Air Force (Retired)
Born August 26, 1932, in Dickinson County, Kansas.
Bachelor of Science in aeronautical engineering from the University of Kansas.
Flew 16 flights in USAF/NASA X-15 - 3 flights into space; flew on Space Shuttle approach and landing tests 2 and 4, STS-2, and STS 51-I.
Cumulative hours of space flight are more than 224.

FABIAN, John M., Colonel, U.S. Air Force (Retired)
Born January 28, 1939, in Goosecreek, Texas.
Bachelor of Science in mechanical engineering from Washington State University; Master of Science in aerospace engineering from the U.S. Air Force Institute of Technology; Doctor of Philosophy in aeronautics and astronautics from the University of Washington.
Flew on STS-7 and STS 51-G.
Cumulative hours of space flight are more than 316.
FORMER U.S. ASTRONAUTS

FISHER, William F., Civilian
Born April 1, 1946, in Dallas, Texas.
Bachelor of Arts from Stanford University; Master of Science in engineering from the
University of Houston; Doctor of Medicine from the University of Florida.
Flew on STS 51-I.
Cumulative hours of space flight are more than 170.
Cumulative EVA time is more than 11 hours.

GARDNER, Dale A., Captain, U.S. Navy (Retired)
Born November 8, 1948, in Fairmont, Minnesota.
Bachelor of Science in engineering physics from the University of Illinois.
Flew on STS-8 and STS 51-A.
Cumulative hours of space flight are more than 336.
Cumulative EVA time is more than 11 hours.

GARDNER, Guy S., Colonel, U.S. Air Force (Retired)
Born January 6, 1948, in Altavista, Virginia.
Bachelor of Science in engineering sciences, astronautics and mathematics from the U.S.
Air Force Academy; Master of Science in astronautics from Purdue University.
Flew on STS-27 and STS-35.
Cumulative hours of space flight are more than 320.

GARRIOTT, Owen K., Civilian
Born November 22, 1930, in Enid, Oklahoma.
Bachelor of Science in electrical engineering from the University of Oklahoma; Master of
Science and Doctor of Philosophy in electrical engineering from Stanford University.
Flew on Skylab 3 and STS-9.
Cumulative hours of space flight are more than 1,674.
Cumulative EVA time is more than 13 hours.

GEMAR, Charles D., Lieutenant Colonel, U.S. Army
Bachelor of Science in engineering from the U.S. Military Academy.
Flew on STS-38, STS-48 and STS-62.
Cumulative hours of space flight are more than 581.

GIBSON, Edward G., Civilian
Born November 8, 1936, in Buffalo, New York.
Bachelor of Science in engineering from the University of Rochester; Master of Science in
engineering from the California Institute of Technology; Doctor of Philosophy in
engineering and physics from the California Institute of Technology.
Flew on Skylab 4.
Cumulative hours of space flight are more than 2,017
Cumulative EVA time is more than 15 hours.

GIBSON, Robert L., Captain, U.S. Navy (Retired)
Bachelor of Science in aeronautical engineering from California Polytechnic Institute.
Cumulative hours of space flight are more than 868.

GLENN, John H., Jr., Colonel, U.S. Marine Corps (Retired)
Born July 18, 1921, in Cambridge, Ohio.
Bachelor of Science in engineering from Muskingum College.
Flew on Mercury 6, and STS-95.
Cumulative hours of space flight are more than 217.
FORMER U.S. ASTRONAUTS

GORDON, Richard F., Jr., Captain, U.S. Navy (Retired)
Born October 5, 1929, in Seattle, Washington.
Bachelor of Science in chemistry from the University of Washington; honorary Doctor of Science from Niagara University.
Flew on Gemini 11 and Apollo 12.
Cumulative hours of space flight are more than 315.
Cumulative EVA time is more than 1 hour.

GRABE, Ronald J., Colonel, U.S. Air Force (Retired)
Bachelor of Science in engineering science from the U.S. Air Force Academy.
Cumulative hours of space flight are more than 627.

GRA VelINE, Duane F., Civilian
Born March 2, 1931, in Newport, Vermont.
Bachelor of Science and Doctor of Medicine from the University of Vermont; Master of Science in public health from Johns Hopkins University.

GREGORY, William G., Lieutenant Colonel, U.S. Air Force (Retired)
Bachelor of Science in engineering science from the U.S. Air Force Academy; Master of Science in engineering mechanics from Columbia University; Master of Science in management from Troy State University.
Flew on STS-67.
Cumulative hours of space flight are more than 399.

GUTIERREZ, Sidney M., Colonel, U.S. Air Force (Retired)
Born June 27, 1951, Albuquerque, New Mexico.
Bachelor of Science in aeronautical engineering from the U.S. Air Force Academy; Master of Arts in management from Webster College.
Flew on STS-40 and STS-59.
Cumulative hours of space flight are more than 488.

HAISE, Fred W., Jr., Civilian
Born November 14, 1933, in Biloxi, Mississippi.
Bachelor of Science in aeronautical engineering from the University of Oklahoma.
Flew on Apollo 13 and Space Shuttle approach and landing tests 1, 3, and 5.
Cumulative hours of space flight are more than 142.

HAMMOND, L. Blaine, Jr., Colonel, U.S. Air Force (Retired)
Born January 16, 1952, in Savannah, Georgia. Hometown, St. Louis, Missouri.
Bachelor of Science in engineering science and mechanics from the U.S. Air Force Academy; Master of Science in engineering science and mechanics from the Georgia Institute of Technology.
Flew on STS-39 and STS-64.
Cumulative hours of space flight are more than 462.

HARBAUGH, Gregory J., Civilian
Born April 15, 1956, in Cleveland, Ohio. Hometown, Willoughby, Ohio.
Bachelor of Science in aeronautical and astronautical engineering from Purdue University; Master of Science in physical science from the University of Houston-Clear Lake.
Flew on STS-39, STS-54, STS-71 and STS-82.
Cumulative hours of space flight are more than 817.
Cumulative EVA time is more than 18 hours.
FORMER U.S. ASTRONAUTS

HARRIS, Bernard A., Jr., Civilian
Born June 26, 1956, in Temple, Texas.
Bachelor of Science in biology from the University of Houston; Doctor of Medicine from Texas Tech University.
Flew on STS-55 and STS-63.
Cumulative hours of space flight are more than 438.
Cumulative EVA time is more than 4 hours.

HART, Terry J., Civilian
Born October 27, 1946, in Pittsburgh, Pennsylvania.
Bachelor of Science from Lehigh University; Master of Science in mechanical engineering from the Massachusetts Institute of Technology; Master of Science in electrical engineering from Rutgers University; honorary Doctor of Engineering from Lehigh University.
Flew on STS-41-C.
Cumulative hours of space flight are more than 167.

HARTSFIELD, Henry W., Jr., Colonel, U.S. Air Force (Retired)
Born November 21, 1933, in Birmingham, Alabama.
Bachelor of Science in physics from Auburn University; Master of Science in engineering science from the University of Tennessee.
Flew on STS-4, STS 41-D, and STS 61-A.
Cumulative hours of space flight are more than 482.

HAUCK, Frederick H., Captain, U.S. Navy (Retired)
Born April 11, 1941, in Long Beach, California.
Bachelor of Science in physics from Tufts University; Master of Science in nuclear engineering from the Massachusetts Institute of Technology.
Cumulative hours of space flight are more than 435.

HELMS, Susan J., Colonel, U.S. Air Force
Bachelor of Science in aeronautical engineering from the U.S. Air Force Academy; Master of Science in aeronautics and astronautics from Stanford University.
Flew on STS-54, STS-64, STS-78, STS-101 and STS-102(up)/Exp 2/STS-105(down).
Cumulative days of space flight are more than 211.
Cumulative EVA time is more than 8 hours.

HENRICKS, Terence T., “Tom”, Colonel, U.S. Air Force (Retired)
Bachelor of Science in civil engineering from the U.S. Air Force Academy; Master of Arts in public administration from Golden Gate University.
Flew on STS-44, STS-55, STS-70 and STS-78.
Cumulative hours of space flight are more than 1,026.

HIEB, Richard J., Civilian
Born September 21, 1955, in Jamestown, North Dakota.
Bachelor of Arts in mathematics and physics from Northwest Nazarene College; Master of Science in aerospace engineering from the University of Colorado.
Flew on STS-39, STS-49, and STS-65.
Cumulative hours of space flight are more than 766.
Cumulative EVA time is more than 17 hours.

HILMERS, David C., Colonel, U.S. Marine Corps (Retired)
Born January 28, 1950, in Clinton, Iowa.
Bachelor of Arts in mathematics from Cornell University; Master of Science in electrical engineering from the U.S. Naval Postgraduate School.
Flew on STS 51-J, STS-26, STS-36, and STS-42.
Cumulative hours of space flight are more than 494.
FORMER U.S. ASTRONAUTS

HOFFMAN, Jeffrey A., Civilian
Born November 2, 1944, in Brooklyn, New York. Hometown, Scarsdale, New York. Bachelor of Arts in astronomy from Amherst College; Masters degree in materials science from Rice University; Doctor of Philosophy in astrophysics from Harvard University. Flew on STS 51-D, STS-35, STS-46, STS-61 and STS-75. Cumulative hours of space flight are more than 1,211.

HOLMQUEST, Donald L., Civilian
Born April 7, 1939, in Dallas, Texas. Bachelor of Science in electrical engineering from Southern Methodist University; Doctor of Philosophy in physiology and Doctor of Medicine from Baylor University; Juris Doctor from the University of Houston.

JEMISON, Mae C., Civilian
Born October 17, 1956, in Decatur, Alabama. Bachelor of Science in chemical engineering from Stanford University; Doctor of Medicine from Cornell University. Flew on STS-47. Cumulative hours of space flight are more than 190.

JERNIGAN, Tamara E., Civilian
Born May 7, 1959, in Chattanooga, Tennessee. Bachelor of Science in physics and Master of Science in engineering science from Stanford University; Master of Science in astronomy from the University of California at Berkeley; Doctor of Philosophy in space physics and astronomy from Rice University. Flew on STS-40, STS-52, STS-67, STS-80 and STS-96. Cumulative hours of space flight are more than 1,513. Cumulative EVA time is more than 7 hours.

JONES, Thomas D., Civilian
Born January 22, 1955, in Baltimore, Maryland. Hometown, Essex, Maryland. Bachelor of Science in basic sciences from the U.S. Air Force Academy; Doctor of Philosophy in planetary science from the University of Arizona. Flew on STS-59, STS-68, STS-80 and STS-98. Cumulative hours of space flight are more than 1,272. Cumulative EVA time is more than 19 hours.

KERWIN, Joseph P., Captain, Medical Corps, U.S. Navy (Retired)
Born February 19, 1932, in Oak Park, Illinois. Bachelor of Arts in philosophy from the College of the Holy Cross; Doctor of Medicine from Northwestern University Medical School. Naval Aviator. Flew on Skylab 2. Cumulative hours of space flight are more than 672. Cumulative EVA time is more than 3 hours.

KILRAIN, Susan Still, Commander, U.S. Navy
Born October 24, 1961, in Augusta, Georgia. Bachelor of Science in aeronautical engineering from Embry-Riddle University; Master of Science in aerospace engineering from the Georgia Institute of Technology. Flew on STS-83 and STS-94. Cumulative hours of space flight are more than 471.

KREGEL, Kevin R., Civilian
Born September 16, 1956, in New York, New York. Hometown, Amityville, New York. Bachelor of Science in astronautical engineering from the U.S. Air Force Academy; Master of public administration from Troy State University. Flew on STS-70, STS-78, STS-87 and STS-99. Cumulative hours of space flight are more than 1,265.
FORMER U.S. ASTRONAUTS

LEE, Mark C., Colonel, U.S. Air Force
Bachelor of Science in civil engineering from the U.S. Air Force Academy; Master of Science in mechanical engineering from the Massachusetts Institute of Technology.
Flew on STS-30, STS-47, STS-64 and STS-82.
Cumulative hours of space flight are more than 789.
Cumulative EVA time is more than 26 hours.

LENOIR, William B., Civilian
Born March 14, 1939, in Miami, Florida.
Bachelor of Science, Master of Science and Doctor of Philosophy in electrical engineering from the Massachusetts Institute of Technology.
Flew on STS-5.
Cumulative hours of space flight are more than 122.

LIND, Don L., Civilian
Born May 18, 1930, in Midvale, Utah.
Bachelor of Science in physics from the University of Utah; Doctor of Philosophy in high-energy nuclear physics from the University of California - Berkeley.
Flew on STS 51-B.
Cumulative hours of space flight are more than 168.

LINENGER, Jerry M., Captain, U.S. Navy (Retired)
Bachelor of Science in bioscience from the U.S. Naval Academy; Master of Science in systems management from the University of Southern California; Doctor of Medicine from Wayne State University; Master of Public Health in health policy from the University of North Carolina; Doctor of Philosophy in epidemiology from the University of North Carolina.
Flew on STS-64, STS-81/Mir and Mir/STS-84.
Cumulative hours of space flight are more than 3,435.
Cumulative EVA time is more than 5 hours.

LLEWELLYN, John A., Civilian
Born April 22, 1933, in Cardiff, Wales, UK.
Bachelor of Science and Doctor of Philosophy in chemistry from the University College at Cardiff.

LOUNGE, John M., "Mike," Civilian
Born June 28, 1946, in Denver, Colorado.
Bachelor of Science in physics and mathematics from the U.S. Naval Academy; Master of Science in astrophysics from the University of Colorado.
Flew on STS 51-I, STS-26, and STS-35.
Cumulative hours of space flight are more than 482.

LOUSMA, Jack R., Colonel, U.S. Marine Corps (Retired)
Born February 29, 1936, in Grand Rapids, Michigan.
Bachelor of Science in aeronautical engineering from the University of Michigan; degree of aeronautical engineer from the U.S. Naval Postgraduate School.
Flew on Skylab 3 and STS-3.
Cumulative hours of space flight are more than 1,619.
Cumulative EVA time is more than 11 hours.

LOVELL, James A., Jr., Captain, U.S. Navy (Retired)
Born March 25, 1928, in Cleveland, Ohio.
Bachelor of Science from the U.S. Naval Academy; Advanced Management Program, Harvard Business School.
Flew on Gemini 7, Gemini 12, Apollo 8, and Apollo 13.
Cumulative hours of space flight are more than 715.
LOW, G. David, Civilian
Born February 19, 1956, in Cleveland, Ohio.
Bachelor of Science in physics-engineering from Washington and Lee University, and in mechanical engineering from Cornell University; Master of Science in aeronautics and astronautics from Stanford University.
Flew on STS-32, STS-43 and STS-57.
Cumulative hours of space flight are more than 714.
Cumulative EVA time is more than 5 hours.

MATTINGLY, Thomas K., II, Rear Admiral, U.S. Navy (Retired)
Born March 17, 1936, in Chicago, Illinois.
Bachelor of Science in aeronautical engineering from Auburn University.
Flew on Apollo 16, STS-4, and STS 51-C.
Cumulative hours of space flight are more than 508.
Cumulative EVA time is more than 1 hour.

McBRIDE, Jon A., Captain, U.S. Navy (Retired)
Born August 14, 1943, in Charleston, West Virginia.
Bachelor of Science in aeronautical engineering from the U.S. Naval Postgraduate School.
Flew on STS 41-G.
Cumulative hours of space flight are more than 197.

McCANDLES, Bruce, II, Captain, U.S. Navy (Retired)
Born June 8, 1937, in Boston, Massachusetts.
Bachelor of Science from the U.S. Naval Academy; Master of Science in electrical engineering from Stanford University; Master of Science in business administration from the University of Houston Clear Lake.
Flew on STS 41-B and STS-31.
Cumulative hours of space flight are more than 312.
Cumulative EVA time is more than 11 hours.

McCULLEY, Michael J., Captain, U.S. Navy (Retired)
Born August 4, 1943, in San Diego, California.
Bachelor and Master of Science in metallurgical engineering from Purdue University.
Flew on STS-34.
Cumulative hours of space flight are more than 119.

McDIVITT, James A., Brigadier General, U.S. Air Force (Retired)
Born June 10, 1929, in Chicago, Illinois.
Bachelor of Science in aeronautical engineering from the University of Michigan.
Flew on Gemini 4 and Apollo 9, and was the Apollo Spacecraft Program Manager.
Cumulative hours of space flight are more than 338.

McMONAGLE, Donald R., Colonel, U.S. Air Force (Retired)
Born May 14, 1952, in Flint, Michigan.
Bachelor of Science in astronautical engineering from the U.S. Air Force Academy; Master of Science in mechanical engineering from California State University - Fresno.
Flew on STS-39, STS-54 and STS-66.
Cumulative hours of space flight are more than 605.

MEADE, Carl J., Colonel, U.S. Air Force (Retired)
Bachelor of Science in electronics engineering from the University of Texas; Master of Science in electronics engineering from the California Institute of Technology.
Flew on STS-38, STS-50 and STS-64.
Cumulative hours of space flight are more than 712.
Cumulative EVA time is more than 6 hours.
FORMER U.S. ASTRONAUTS

MELNICK, Bruce E., Commander, U.S. Coast Guard (Retired)
Born December 5, 1949, in New York, New York.
Bachelor of Science in engineering from the U.S. Coast Guard Academy; Master of Science in aeronautical systems from West Florida University.
Flew on STS-41 and STS-49.
Cumulative hours of space flight are more than 311.

MICHEL, F. Curtis, Civilian
Born June 5, 1934, in LaCrosse, Wisconsin.
Bachelor of Science and Doctor of Philosophy in physics from the California Institute of Technology.

MITCHELL, Edgar D., Captain, U.S. Navy (Retired)
Born September 17, 1930, in Hereford, Texas.
Bachelor of Science in industrial management from the Carnegie Institute of Technology (now Carnegie-Mellon University); Bachelor of Science in aeronautical engineering from the U.S. Naval Postgraduate School; Doctor of Science in aeronautics and astronautics from the Massachusetts Institute of Technology.
Flew on Apollo 14.
Cumulative hours of space flight are more than 216.
Cumulative EVA time is more than 9 hours.

MULLANE, Richard M., Colonel, U.S. Air Force (Retired)
Born September 10, 1945, in Wichita Falls, Texas.
Bachelor of Science in military engineering from the U.S. Military Academy; Master of Science in aeronautical engineering from the U.S. Air Force Institute of Technology.
Flew on STS 41-D, STS-27, and STS-36.
Cumulative hours of space flight are more than 356.

MUSGRAVE, Story, Civilian
Bachelor of Science in mathematics and statistics from Syracuse University; Bachelor of Arts in chemistry from Marietta College; Master of Business Administration in operations analysis and computer programming from the University of California at Los Angeles; Master of Science in physiology and biophysics from the University of Kentucky; Master of Arts in literature from the University of Houston; Doctor of Medicine from Columbia University.
Flew on STS-6, STS 51-F, STS-33, STS-44, STS-61 and STS-80.
Cumulative hours of space flight are more than 1,166.
Cumulative EVA time is more than 26 hours.

NELSON, George D., Civilian
Born July 13, 1950, in Charles City, Iowa.
Bachelor of Science in physics from Harvey Mudd College; Master of Science and Doctor of Philosophy in astronomy from the University of Washington.
Cumulative hours of space flight are more than 410.
Cumulative EVA time is more than 9 hours.

O'LEARY, Brian T., Civilian
Born January 27, 1940, in Boston, Massachusetts.
Bachelor of Arts in physics from Williams College; Master of Arts in astronomy from Georgetown University; Doctor of Philosophy in astronomy from the University of California at Berkeley.

OSWALD, Stephen S., Civilian
Bachelor of Science in aerospace engineering from the U.S. Naval Academy.
Flew on STS-42, STS-56 and STS-67.
Cumulative hours of space flight are more than 814.
FORMER U.S. ASTRONAUTS

PETERSON, Donald H., Colonel, U.S. Air Force (Retired)
Born October 22, 1933, in Winona, Mississippi.
Bachelor of Science from the U.S. Military Academy; Master of Science in nuclear engineering from the U.S. Air Force Institute of Technology. Graduate of Air Force Test Pilot School and War College.
Flew on STS-6.
Cumulative hours of space flight are more than 120.

POGUE, William R., Colonel, U.S. Air Force (Retired)
Born January 23, 1930, in Okemah, Oklahoma.
Bachelor of Science in education from Oklahoma Baptist University; Master of Science in mathematics from Oklahoma State University.
Flew on Skylab 4.
Cumulative hours of space flight are more than 2,017.
Cumulative EVA time is more than 13 hours.

REIGHTLER, Kenneth S., Jr., Captain, U.S. Navy (Retired)
Born March 24, 1951, in Patuxent River, Maryland. Hometown, Virginia Beach, Virginia.
Bachelor of Science in aerospace engineering from the U.S. Naval Academy; Master of Science in aeronautical engineering from the U.S. Naval Postgraduate School; Master of Science in systems management from the University of Southern California.
Flew on STS-48 and STS-60.
Cumulative hours of space flight are more than 327.

RICHARDS, Paul W., Civilian
Bachelor of Science in mechanical engineering from Drexel University and a Master of Science in mechanical engineering from the University of Maryland.
Flew on STS-102.
Cumulative hours of space flight are more than 307.
Cumulative EVA time is more than 6 hours.

RICHARDS, Richard N., Captain, U.S. Navy (Retired)
Born August 24, 1946, in Key West, Florida. Hometown, St. Louis, Missouri.
Bachelor of Science in chemical engineering from the University of Missouri; Master of Science in aeronautical systems from the University of West Florida.
Flew on STS-28, STS-41, STS-50 and STS-64.
Cumulative hours of space flight are more than 813.

RIDE, Sally K., Civilian
Born May 26, 1951, in Los Angeles, California.
Bachelor of Science in physics; Bachelor of Arts in english; Master of Science and Doctor of Philosophy in physics from Stanford University.
Flew on STS-7 and STS 41-G.
Cumulative hours of space flight are more than 343.

SCHIRRA, Walter M., Jr., Captain, U.S. Navy (Retired)
Born March 12, 1923, in Hackensack, New Jersey.
Bachelor of Science from the U.S. Naval Academy; graduate of the U.S. Naval Test Pilot School.
Flew on Mercury 8, Gemini 6, and Apollo 7.
Cumulative hours of space flight are more than 295.

SCHMITT, Harrison H., Civilian
Born July 3, 1935, in Santa Rita, New Mexico.
Bachelor of Science in geology from the California Institute of Technology; Doctor of Philosophy in geology from Harvard University.
Flew on Apollo 17.
Cumulative hours of space flight are more than 301.
Cumulative EVA time is more than 22 hours.
FORMER U.S. ASTRONAUTS

SCHWEICKART, Russell L., Civilian
Born October 25, 1935 in Neptune, New Jersey.
Bachelor of Science in aeronautical engineering from the Massachusetts Institute of Technology; Master of Science in aeronautics and astronautics from the Massachusetts Institute of Technology.
Flew on Apollo 9.
Cumulative hours of space flight are more than 241.
Cumulative EVA time is more than 1 hour.

SCOTT, David R., Colonel, U.S. Air Force (Retired)
Born June 6, 1932, in San Antonio, Texas.
Bachelor of Science from the U.S. Military Academy; Master of Science in aeronautics and astronautics and engineer in aeronautics and astronautics from the Massachusetts Institute of Technology.
Flew on Gemini 8, Apollo 9, and Apollo 15.
Cumulative hours of space flight are more than 546.
Cumulative EVA time is more than 20 hours.

SCOTT, Winston E., Captain, U.S. Navy (Retired)
Born August 6, 1950, in Miami, Florida.
Bachelor of Arts in music from Florida State University; Master of Science in aeronautical engineering from the U.S. Naval Postgraduate School.
Flew on STS-72 and STS-87.
Cumulative hours of space flight are more than 590.
Cumulative EVA time is more than 19 hours.

SEARFOSS, Richard A., Colonel, U.S. Air Force (Retired)
Born June 5, 1956, in Mount Clemens, Michigan.
Hometown, Portsmouth, New Hampshire.
Bachelor of Science in aeronautical engineering from the U.S. Air Force Academy; Master of Aeronauts from the California Institute of Technology.
Flew on STS-58, STS-76 and STS-90.
Cumulative hours of space flight are more than 938.

SEDDON, Margaret Rhea, Civilian
Born November 8, 1947, in Murfreesboro, Tennessee.
Bachelor of Arts in physiology from the University of California at Berkeley; Doctor of Medicine from the University of Tennessee.
Flew on STS 51-D, STS-40 and STS-58.
Cumulative hours of space flight are more than 722.

SEGA, Ronald M., Civilian Colonel, U.S. Air Force Reserve
Born December 4, 1952, in Cleveland, Ohio.
Hometowns, Northfield, Ohio, and Colorado Springs, Colorado.
Bachelor of Science in physics and math from the U.S. Air Force Academy; Master of Science in physics from Ohio State University; Doctor of Philosophy in electrical engineering from the University of Colorado.
Flew on STS-60 and STS-76.
Cumulative hours of space flight are more than 420.

SHAW, Brewster H., Jr., Colonel, U.S. Air Force (Retired)
Born May 16, 1945, in Cass City, Michigan.
Bachelor and Master of Science in engineering mechanics from the University of Wisconsin.
Flew on STS-9, STS 61-B, and STS-28.
Cumulative hours of space flight are more than 533.
FORMER U.S. ASTRONAUTS

SHEPHERD, William M., Captain, U.S. Navy (Retired)
Bachelor of Science in aerospace engineering from the U.S. Naval Academy; degree of
ocean engineer and Master of Science in mechanical engineering from the
Massachusetts Institute of Technology.
Flew on STS-27, STS-41, STS-52 and Exp 1/STS-102(down).
Cumulative days of space flight are more than 159.

SHRIVER, Loren J., Colonel, U.S. Air Force (Retired)
Born September 23, 1944, in Jefferson, Iowa.
Bachelor of Science in aeronautical engineering from the U.S. Air Force Academy; Master of
Science in astronautical engineering from Purdue University.
Flew on STS 51-C, STS-31, and STS-46.
Cumulative hours of space flight are more than 386.

SPRING, Sherwood C., Colonel, U.S. Army (Retired)
Bachelor of Science in general engineering from the U.S. Military Academy; Master of
Science in aerospace engineering from the University of Arizona.
Flew on STS 61-B.
Cumulative hours of space flight are more than 165.

SPRINGER, Robert C., Colonel, U.S. Marine Corps (Retired)
Born May 21, 1942, in St. Louis, Missouri.
Bachelor of Science in naval science from the U.S. Naval Academy; Master of Science in
operations research and systems analysis from the U.S. Naval Postgraduate School.
Flew on STS-29 and STS-38.
Cumulative hours of space flight are more than 237.

STAFFORD, Thomas P., Lieutenant General, U.S. Air Force (Retired)
Born September 17, 1930, in Weatherford, Oklahoma.
Bachelor of Science from the U.S. Naval Academy.
Flew on Gemini 6, Gemini 9, Apollo 10, and Apollo-Soyuz Test Project.
Cumulative hours of space flight are more than 507.

STEWART, Robert L., Brigadier General, U.S. Army (Retired)
Born August 13, 1942, in Washington, D.C.
Bachelor of Science in mathematics from Southern Mississippi University; Master of
Science in aerospace engineering from the University of Texas at Arlington.
Flew on STS 41-B and STS 51-J.
Cumulative hours of space flight are more than 289.
Cumulative EVA time is more than 12 hours.

SULLIVAN, Kathryn D., Civilian
Born October 3, 1951, in Paterson, New Jersey.
Bachelor of Science in earth sciences from the University of California - Santa Cruz;
Doctor of Philosophy in geology from Dalhousie University, Halifax, Nova Scotia.
Flew on STS 41-G, STS-31, and STS-45.
Cumulative hours of space flight are more than 532.
Cumulative EVA time is more than 3 hours.

THAGARD, Norman E., Civilian
Bachelor and Master of Science in engineering science from Florida State University;
Doctor of Medicine from the University of Texas.
Cumulative hours of space flight are more than 3,360 including time on Mir.
FORMER U.S. ASTRONAUTS

THORNTON, Kathryn C., Civilian
Born August 17, 1952, in Montgomery, Alabama.
Bachelor of Science in physics from Auburn University; Master of Science and Doctor of Philosophy in physics from the University of Virginia.
Flew on STS-33, STS-49, STS-61 and STS-73.
Cumulative hours of space flight are more than 975.
Cumulative EVA time is more than 21 hours.

THORNTON, William E., Civilian
Born April 14, 1929, in Faison, North Carolina.
Bachelor of Science in physics and Doctor of Medicine from the University of North Carolina.
Flew on STS-8 and STS-51B.
Cumulative hours of space flight are more than 313.

THUOT, Pierre J., Commander, U.S. Navy
Bachelor of Science in physics from the U.S. Naval Academy; Master of Science in systems management from the University of Southern California.
Flew on STS-36, STS-49 and STS-62.
Cumulative hours of space flight are more than 654.
Cumulative EVA time is more than 17 hours.

TRULY, Richard H., Vice Admiral, U.S. Navy (Retired)
Born November 12, 1937, in Fayette, Mississippi.
Bachelor of aeronautical engineering from the Georgia Institute of Technology.
Flew on Space Shuttle approach and landing tests 2 and 4, STS-2, and STS-8.
Cumulative hours of space flight are more than 199.

VAN HOFFEN, James D. A., Civilian
Born June 11, 1944, in Fresno, California.
Bachelor of Science in civil engineering from the University of California - Berkeley; Master of Science in hydraulic engineering and Doctor of Philosophy in fluid mechanics from Colorado State University.
Flew on STS 41-C and STS 51-I.
Cumulative hours of space flight are more than 337.
Cumulative EVA time is more than 21 hours.

VOSS, James S., Colonel, U.S. Army (Retired)
Bachelor of Science in aerospace engineering from Auburn University; Master of Science in aerospace engineering sciences from the University of Colorado.
Cumulative days of space flight are more than 202.
Cumulative EVA time is more than 15 hours.

WEBER, Mary E., Civilian
Bachelor of Science in chemical engineering from Purdue University; Doctor of Philosophy in physical chemistry from the University of California at Berkeley.
Flew on STS-70 and STS-101.
Cumulative hours of space flight are more than 450.

WEITZ, Paul J., Captain, U.S. Navy (Retired)
Born July 25, 1932, in Erie, Pennsylvania.
Bachelor of Science in aeronautical engineering from Pennsylvania State University; Master of Science in aeronautical engineering from the U.S. Naval Postgraduate School.
Flew on Skylab 2 and STS-6.
Cumulative hours of space flight are more than 793.
Cumulative EVA time is more than 2 hours.
FORMER U.S. ASTRONAUTS

WILLIAMS, Donald E., Captain, U.S. Navy (Retired)
Born February 13, 1942, in Lafayette, Indiana.
Bachelor of Science in mechanical engineering from Purdue University.
Flew on STS 51-D and STS-34.
Cumulative hours of space flight are more than 287.

WISOFF, Peter J. K., Civilian
Born August 16, 1958, in Norfolk, Virginia.
Bachelor of Science in physics from University of Virginia; Master of Science and Doctor of Philosophy in applied physics from Stanford University.
Flew on STS-57, STS-68, STS-81 and STS-92.
Cumulative hours of space flight are more than 1,063.
Cumulative EVA time is more than 19 hours.

WORDEN, Alfred M., Colonel, U.S. Air Force (Retired)
Born February 7, 1932, in Jackson, Michigan.
Bachelor of Science in military science from the U.S. Military Academy; Master of Science in astronomical and aeronautical engineering and instrumentation engineering from the University of Michigan.
Flew on Apollo 15.
Cumulative hours of space flight are more than 295.
Cumulative EVA time is more than 39 minutes.
DECEASED U.S. ASTRONAUTS

ANDERSON, Michael P., Lieutenant Colonel, U.S. Air Force  
Bachelor of Science in physics/astronomy from University of Washington; Master of  
Science in physics from Creighton University.  
Flew on STS-89 and STS-107.  
Cumulative hours of space flight are more than 593.  
Died February 1, 2003, in the STS-107 accident.

BASSETT, Charles A., II, Captain, U.S. Air Force  
Born December 30, 1931, in Dayton, Ohio.  
Bachelor of Science in electrical engineering from the Texas Technological College.  
Died February 28, 1966, in St. Louis, Missouri, in the crash of a T-38 jet.

BROWN, David M., Captain, U.S. Navy  
Bachelor of Science in biology from the College of William and Mary and a Doctor of  
Medicine from Eastern Virginia Medical School.  
Flew on STS-107.  
Cumulative hours of space flight are more than 382.  
Died February 1, 2003, in the STS-107 accident.

CARTER, Manley Lanier, Jr., "Sonny," Captain, U.S. Navy  
Born August 15, 1947, in Macon, Georgia.  
Bachelor of Arts in chemistry and Doctor of Medicine from Emory University.  
Flew on STS-33.  
Cumulative hours of space flight are more than 120.  
Died April 5, 1991, near New Brunswick, Georgia, in the crash of a commercial airliner while  
on NASA business travel.

CHAFFEE, Roger B., Lieutenant Commander, U.S. Navy  
Bachelor of Science in aeronautical engineering from Purdue University.  
Died January 27, 1967, at NASA John F. Kennedy Space Center, Florida, in the Apollo  
spacecraft fire.

CHAWLA, Kalpana, Civilian  
Born July 1, 1961, in Karnal, India.  
Bachelor of Science in aeronautical engineering from Punjab Engineering College; Master  
of Science in aerospace engineering from University of Texas at Arlington; Doctor of  
Philosophy in aerospace engineering from University of Colorado.  
Flew on STS-87 and STS-107.  
Cumulative hours of space flight are more than 758.  
Died February 1, 2003, in the STS-107 accident.

CLARK, Laurel B., Commander, U.S. Navy  
Bachelor of Science in zoology and a Doctor of Medicine from the University of Wisconsin-Madison.  
Flew on STS-107.  
Cumulative hours of space flight are more than 382.  
Died February 1, 2003, in the STS-107 accident.

CONRAD, Charles, Jr., Captain, U.S. Navy (Retired)  
Bachelor of Science in aeronautical engineering from Princeton University.  
Flew on Gemini 5, Gemini 11, Apollo 12, and Skylab 2.  
Cumulative hours of space flight are more than 1,179.  
Cumulative EVA time is more than 13 hours.  
Died July 8, 1999, in Ojai, California, in a motorcycle accident.
DECEASED U.S. ASTRONAUTS

EISELE, Donn F., Colonel, U.S. Air Force (Retired)
Born June 23, 1930, in Columbus, Ohio.
Bachelor of Science in astronautics from the U.S. Naval Academy; Master of Science in astronautics from the U.S. Air Force Institute of Technology.
Flew on Apollo 7.
Cumulative hours of space flight are more than 260.
Died December 2, 1987, in Tokyo, Japan, of a heart attack.

EVANS, Ronald E., Captain, U.S. Navy (Retired)
Born November 10, 1933, in St. Francis, Kansas.
Bachelor of Science in electrical engineering from the University of Kansas; Master of Science in aeronautical engineering from the U.S. Naval Postgraduate School.
Flew on Apollo 17.
Cumulative hours of space flight are more than 301.
Cumulative EVA time is more than 1 hour.
Died April 6, 1990, in Scottsdale, Arizona, of a heart attack.

FREEMAN, Theodore C., Captain, U.S. Air Force
Born February 18, 1930, in Haverford, Pennsylvania.
Bachelor of Science from the U.S. Naval Academy; Master of Science in aeronautical engineering from the University of Michigan.

GIVENS, Edward Galen., Jr., Major, U.S. Air Force
Born January 5, 1930, in Quanah, Texas.
Bachelor of Science in naval sciences from the U.S. Naval Academy.
Died June 6, 1967, near Houston, Texas, in an automobile accident.

GRIGGS, S. David, Civilian
Born September 7, 1939, in Portland, Oregon.
Bachelor of Science from the U.S. Naval Academy; Master of Science in administration from George Washington University.
Flew on STS 51-D.
Cumulative hours of space flight are more than 167.
Cumulative EVA time is more than 3 hours.
Died June 17, 1989, near Earle, Arkansas, in the crash of a World War II era training plane.

GRISSOM, Virgil I., Lieutenant Colonel, U.S. Air Force
Born April 3, 1926, in Mitchell, Indiana.
Bachelor of Science in mechanical engineering from Purdue University.
Flew on Mercury 4 and Gemini 3.
Cumulative hours of space flight are more than 5.

HENIZE, Karl G., Civilian
Born October 17, 1926, in Cincinnati, Ohio.
Bachelor of Arts in mathematics from the University of Virginia; Master of Arts in astronomy from the University of Virginia; Doctor of Philosophy in astronomy from the University of Michigan.
Flew on STS 51-F.
Cumulative hours of space flight are more than 190.
Died October 5, 1993, of respiratory and heart failure during a climb of Mount Everest.

HUSBAND, Rick D., Colonel, U.S. Air Force
Born July 12, 1957, in Amarillo, Texas.
Bachelor of Science in mechanical engineering from Texas Tech University; Master of Science in mechanical engineering from California State University.
Flew on STS-96 and STS-107.
Cumulative hours of space flight are more than 617.
Died February 1, 2003, in the STS-107 accident.
DECEASED U.S. ASTRONAUTS

IRWIN, James B., Colonel, U.S. Air Force (Retired)
Born March 17, 1930, in Pittsburgh, Pennsylvania.
Bachelor of Science in naval science from the U.S. Naval Academy; Master of Science in
aeronautical engineering and instrumentation engineering from the University of
Michigan.
Flew on Apollo 15.
Cumulative hours of space flight are more than 295.
Cumulative EVA time is more than 19 hours.
Died August 8, 1991, of a heart attack.

McCLOUD, William C., Commander, U.S. Navy
Born September 23, 1961, in San Diego, California.
Bachelor of Science in applied science from the U.S. Naval Academy, a Master of Science
in computer science from the University of Maryland and a Master of Science in
aeronautical engineering from the U.S. Naval Postgraduate School.
Flew on STS-107.
Cumulative hours of space flight are more than 382.
Died February 1, 2003, in the STS-107 accident.

McNAIR, Ronald E., Civilian
Born October 21, 1950, in Lake City, South Carolina.
Bachelor of Science in physics from North Carolina A&T State College; Doctor of
Philosophy in physics from the Massachusetts Institute of Technology.
Flew on STS 41-B.
Cumulative hours of space flight are more than 191.

ONIZUKA, Ellison S., Lieutenant Colonel, U.S. Air Force
Born June 24, 1946, in Kealakekua, Kona, Hawaii.
Bachelor and Master of Science in aerospace engineering from the University of Colorado.
Flew on STS 51-C.
Cumulative hours of space flight are more than 73.

OVERMYER, Robert F., Colonel, U.S. Marine Corps (Retired)
Born July 14, 1936, in Lorain, Ohio.
Bachelor of Science in physics from Baldwin Wallace College; Master of Science in
aeronautics from the U.S. Naval Postgraduate School.
Flew on STS-5 and STS 51-B.
Cumulative hours of space flight are more than 290.
Died March 22, 1996, in the crash of a light aircraft he was testing.

RESNIK, Judith A., Civilian
Born April 5, 1949, in Akron, Ohio.
Bachelor of Science in electrical engineering from Carnegie-Mellon University; Doctor of
Philosophy in electrical engineering from the University of Maryland.
Flew on STS 41-D.
Cumulative hours of space flight are more than 144.

ROBERTSON, Patricia Hilliard, Civilian
Bachelor of Science in biology from Indiana University of Pennsylvania; Doctor of
Medicine from the Medical College of Pennsylvania.
Died May 24, 2001, of injuries sustained in the crash of a private plane at Wolfe Air Park,
Manvel, Texas.
DECEASED U.S. ASTRONAUTS

ROOSA, Stuart A., Colonel, U.S. Air Force (Retired)
Born August 16, 1933, in Durango, Colorado.
Bachelor of Science in aeronautical engineering from the University of Colorado.
Flew on Apollo 14.
Cumulative hours of space flight are more than 216.
Died December 12, 1994, due to complications of pancreatitis.

SCOBEE, Francis R., Major, U.S. Air Force (Retired)
Born May 19, 1939, in Cle Elum, Washington.
Bachelor of Science in aerospace engineering from the University of Arizona.
Flew on STS 41-C.
Cumulative hours of space flight are more than 167.

SEE, Elliot M., Jr., Civilian
Born July 23, 1927, in Dallas, Texas.
Bachelor of Science from the U.S. Merchant Marine Academy; Master of Science in engineering from the University of California - Los Angeles.
Died February 28, 1966, in St. Louis, Missouri, in the crash of a T-38 jet.

SHEPARD, Alan B., Jr., Rear Admiral, U.S. Navy (Retired)
Born November 18, 1923, in East Derry, New Hampshire.
Bachelor of Science from the U.S. Naval Academy.
Flew on Mercury 3 and Apollo 14.
Cumulative hours of space flight are more than 216.
Cumulative EVA time is more than 9 hours.

SLAYTON, Donald K., Civilian Major, U.S. Air Force Reserve
Born March 1, 1924, in Sparta, Wisconsin.
Bachelor of Science in aeronautical engineering from the University of Minnesota.
Flew on Apollo-Soyuz Test Project.
Cumulative hours of space flight are more than 217.

SMITH, Michael J., Captain, U.S. Navy
Born April 30, 1945, in Beaufort, North Carolina.
Bachelor of Science in naval science from the U.S. Naval Academy; Master of Science in aeronautical engineering from the U.S. Naval Postgraduate School.

SWIGERT, John L., Jr., Civilian
Born August 30, 1931, in Denver, Colorado.
Bachelor of Science in mechanical engineering from the University of Colorado; Master of Science in aerospace science from the Rensselaer Polytechnic Institute; Master of Business Administration from Hartford College.
Flew on Apollo 13.
Cumulative hours of space flight are more than 142.
Died December 27, 1982, of cancer.

THORNE, Stephen D., Lieutenant Commander, U.S. Navy
Born February 11, 1953, in Frankfurt-am-Main, West Germany.
Bachelor of Science in engineering from the U.S. Naval Academy.
Died May 24, 1986, in Alta Loma, Texas, in an airplane crash.

VEACH, Charles Lacy, Civilian
Bachelor of Science in engineering management from the U.S. Air Force Academy.
Flew on STS-39 and STS-52.
Cumulative hours of space flight are more than 436.
Died October 3, 1995, following a lengthy illness.
DECEASED U.S. ASTRONAUTS

WALKER, David M., Captain, U.S. Navy (Retired)
   Born May 20, 1944, in Columbus, Georgia. Hometown, Eustis, Florida.
   Bachelor of Science from the U.S. Naval Academy.
   Cumulative hours of space flight are more than 724.
   Died April 23, 2001, following a sudden and brief illness.

WHITE, Edward H., II, Lieutenant Colonel, U.S. Air Force
   Born November 14, 1930, in San Antonio, Texas.
   Bachelor of Science from the U.S. Military Academy; Master of Science in aeronautical
engineering from the University of Michigan.
   Flew on Gemini 4.
   Cumulative hours of space flight are more than 97.
   Cumulative EVA time is more than 23 minutes.
   Died January 27, 1967, at NASA John F. Kennedy Space Center, Florida, in the Apollo
   spacecraft fire.

WILLIAMS, Clifton C., Jr., Major, U.S. Marine Corps
   Born September 26, 1932, in Mobile, Alabama.
   Bachelor of Science in mechanical engineering from Auburn University.
   Died October 5, 1967, near Tallahassee, Florida, in the crash of a T-38 jet.
U.S. ASTRONAUT SELECTION BY GROUP

GROUP 1 -- Mercury Astronauts, April 1959: Carpenter, Cooper, Glenn, Grissom, Schirra, Shepard, Slayton (7)

GROUP 2 -- Pilot Astronauts, September 1962: Armstrong, Borman, Conrad, Lovell, McDivitt, See, Stafford, White, Young (9)

GROUP 3 -- Pilot Astronauts, October 1963: Aldrin, Anders, Bassett, Bean, Cernan, Chaffee, M. Collins, Cunningham, Eisele, Freeman, Gordon, Schweickart, D. Scott, C. Williams (14)

GROUP 4 -- Scientist Astronauts, June 1965: Garriott, E. Gibson, Graveline, Kerwin, Michel, Schmitt (6)


GROUP 7 -- Air Force Manned Orbiting Laboratory Astronauts, August 1969: Bobko, Crippen, Fullerton, Hartsfield, Overmyer, Peterson, Truly (7)


U.S. ASTRONAUT SELECTION BY GROUP

Melvin, Morgan, Oefelein, Olivas, Patrick, Poindexter, Reisman, Robertson, Swanson, Wheelock, S. Williams, Woodward, Zamka (25)


In honor of NASA's 20th anniversary, President Jimmy Carter visited NASA John F. Kennedy Space Center on October 1, 1978, and awarded the first Congressional Space Medal of Honor to six former astronauts. Authorized by Congress in 1969, the award recognized "any astronaut who in the performance of his duties has distinguished himself by exceptionally meritorious efforts and contributions to the welfare of the Nation and mankind." Recipients are recommended by the NASA Administrator and presented by the President of the United States. These astronauts received this special honor:

Neil A. Armstrong, for actions to overcome problems on the Gemini 8 mission and for Apollo 11 when he took his "...giant leap for mankind."

Frank Borman, who commanded the Gemini 7 and Apollo 8 missions. The latter was the first manned spacecraft to orbit the Moon.

Charles Conrad, Jr., who participated in four space flights of increasing duration, complexity and achievement: Gemini 5, Gemini 11, Apollo 12, and Skylab 2. On the first manned Skylab mission, he commanded the crew that performed repairs to the damaged orbital workshop, thus saving the two billion dollar program from potential failure.

John H. Glenn, Jr., who in Mercury 6 was the first American to orbit the Earth. The success of his flight demonstrated the value of the human pilot in space.

Virgil I. Grissom (posthumously), the second American in space, who took part in Mercury and Gemini flights and lost his life during preparations for the first Apollo flight. He flew on Mercury 4 and Gemini 3.

Alan B. Shepard, Jr., who was the first American in space, aboard Mercury 3. He also commanded the Apollo 14 mission.

Roger B. Chaffee (posthumously) was one of the third groups of astronauts chosen but lost his life before his first flight during preparations for the first Apollo flight. President William Clinton awarded the medal on December 17, 1997.

Edward H. White (posthumously) piloted Gemini 4 and performed the first U.S. space walk, floating outside the capsule for 21 minutes. President William Clinton awarded the medal on December 17, 1997.

John W. Young, who demonstrated leadership, courage, and technical skill in a space flight career that spanned two decades and five (at that time) space flights pivotal to human progress in space. He flew on Gemini 3, Gemini 10, Apollo 10, Apollo 16, and STS-1 prior to receipt of the medal which was presented May 19, 1981, by President Ronald Reagan.

Thomas J. Stafford, who commanded the first flight of the lunar module to the Moon and the American crew that rendezvoused with a Soviet spacecraft in 1975. He was recognized for his past contributions, and for continuing to serve the Nation in charting a future vision for our space program. He flew on Gemini 6 and 9, Apollo 10, and the Apollo-Soyuz Test Project. Vice President Dan Quayle at the direction of President George Bush presented the medal 1992.

James A. Lovell, who flew on Gemini 7 and 12, and Apollo 8 and 13, was presented the medal on July 26, 1995. In his remarks, President Bill Clinton especially commended Lovell for his performance on Apollo 13, which demonstrated, “the kind of resourcefulness, grit, and grace under pressure that is the province of heroes.”

Shannon Lucid, who spent 188 days in space on the U.S. shuttle and Russian space station Mir, was presented the medal on December 2, 1996. Noting that the medal is given out sparingly because it honors “extraordinary service to the nation,” President Bill Clinton added that “Dr. Lucid achieved that kind of service for 188 days this year, the longest flight by an American in space, the longest time for any woman of any nation in space, five shuttle missions altogether.”

William Shepherd, who was the first astronaut to command a crew on the International Space Station, received the medal from President George W. Bush on January 15, 2003. Shepherd and the two
other members of his crew spent 141 days in space, beginning a new era of international cooperation in space exploration.

Francis R. Scobee, Michael J. Smith, Judith A. Resnik, Ellison S. Onizuka, Ronald E. McNair, Gregory B. Jarvis and Sharon Christa McAuliffe were posthumously presented the medal for their ultimate sacrifice in service to their Nation and mankind. NASA Administrator Sean O'Keefe presented the medal to their families on July 23, 2004.
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          Hartsfield, Mattingly, James Voss
          Troy State: Ford, Halsell, Kregel
          W. Gregory |
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          Covey | U of Arizona: Caldeiro, Pettit
            Jones, Spring
            Scobee |
| AZ | Creamer, S. Smith | Phillips | U of Arizona: Caldeiro, Pettit
            Jones, Spring
            Scobee |
          Borman, E. Gibson, Meade, Michel, Schmitt, Seafoss |
          U of CA (Berkley): Chiao, Walheim
          Jernigan, Lind, O'Leary, Seddon, van Hoften, Weber
          Cunningham, Musgrave
          See |
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          R. Gibson
          U of CA (Davis): Caldwell, Robinson
          U of CA (San Diego): K. McArthur
          U of CA (Santa Barbara): Acaba, Chiao, J. Hernandez
          U of CA (Santa Cruz): Hawley
          Sullivan |
          CA State (Fresno): Nagel
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          Husband |
          CA State (Fullerton): Caldwell
          CA State (Northridge): Horowitz
          Golden Gate: Precourt
          Henricks |
          Harvey Mudd: Love
          Nelson
          San Diego State: Ochoa
          San Francisco: Cagle
          Southern Cal: Currie, Noriega
          Armstrong, Bobko, Bolden, Carr, Duffy, Linenger, Reightler, Thuo |
| Cont. | | | Stanford: E. Collins, Fincke, Lu, Morgan, Ochoa
          Parazynski, Robinson, S. Smith
          Bull, W. Fisher, Gariott, Helms, Jemison, Jernigan, Low, McCandless, Ride, Wisoff |
          Naval Postgrad: Altman, Bursch, Curbeam, Ferguson,
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## ASTRONAUTS AFFILIATIONS TO STATES

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CURRENT-REGULAR - FORMER-ITALICS - DECEASED BOLD ITALICS
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CURRENT-REGULAR - FORMER-ITALICS - DECEASED **BOLD ITALICS**

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CURRENT-REGULAR - FORMER-ITALICS - DECEASED BOLD ITALICS
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*See biographical sketches for city.
ASTRONAUTS’ SCOUTING RECORDS (Includes Current International Astronauts)

EAGLE:
Bowersox, Chamitoff, Forrester, Fossum, Fullerton, G.H. Johnson, Lindsey, Parazynski, Pettit, Tanner,
Adamson, Armstrong, Bagian, Bluford, Brady, Carr, Covey, Creighton, Duke, W. Gregory, Hoffman, Jones, Lee, Lind, Llewellyn (King’s Scout, U.K.), Lovell, McCulley, O’Leary, Oswald, Rightler, Seearfoss, Truly
Carter, Chaffee, Eisele, Griggs, McCool, Onizuka, See, D. Walker

LIFE:
Anders, Cooper, Fabian, G. Gardner, Low, Mattingly, Mitchell, D. Scott, Spring, Springer, van Holten
Bassett, D. Brown, Evans, Givens, C. Williams

STAR:
Barry, Marshburn, Noguchi, J. Williams
Grissom, McNair

1st Class:
C. Anderson, Bloomfield, Camarda, Foreman, Linnehan, Oefelein, Reilly
Freeman, Henize, Overmyer, Shepard, Veach

2nd Class:
Altman, Herrington, Parker, Woodward, Young
Bolden, Buchli, Carpenter, Cernan, Culbertson, Mullane, Pogue, Shriver, W. Thornton
Husband, Swigert, White

TENDERFOOT:
Bursch, Garan, Hawley, Kopra, Love, S. Smith
Aldrin, Lousma, McDivitt, Michel, P. Richards, Schmitt

EXPLORER:
Barratt
O’Connor, D. Williams

GIRL SCOUT:
Cagle, E. Collins, Currie, Davis, A. Fisher, Higginbotham, Hire, Lawrence, Magnus, K.M. McArthur, Metcalf-Lindenburger, Morgan, Nowak, Stefanyshyn-Piper, Janice Voss
Helms, Jernigan, Kilrain, Seddon, Sullivan, K. Thornton, Weber
Clark

CUB SCOUT:
Burbank, Carey, Dutton, Foale (Wolf, Germany), Gernhardt, Hadfield, Hobaugh, M. Kelly, S. Kelly, Lopez-Alegria, Loria, Massimino, Phillips, Readdy, Rominger, Sellers (Wolf), Thomas, D.R. Williams, Wolf
A. Allen, C. Brown, Duffy, Henricks, Leestma, McBride, Meade, Musgrave, Shepherd, Thuot
Conrad

WEBELO:
Arnold, Drew, Fincke, Ford, Gorie, J. Kelly, Loria, Massimino, Noriega, Olivas
M. Anderson

RANK UNKNOWN:
Morin, Polansky
Bull, Harris, James Voss

CAMP FIRE GIRL:
S. Walker
UNITED STATES SERVICE ACADEMIES FROM WHICH ASTRONAUTS
EARNED DEGREES

The Citadel: Bresnik

Blaha, Bobko, C. Brown, Chilton, Covey, Duffy, G. Gardner, Grabe, W. Gregory, Gutierrez, Hammond, Helms, Henricks, Jones, Lee, McMonagle, Searfoss, Sega, Shriver
Veach

U.S. Air Force Institute of Technology: Ford, Fossum, Halsell, Lindsey,
Anders, Bluford, M. Brown, Cooper, Fabian, Mullane, Peterson

Eisele

U.S. Coast Guard Academy: Burbank, Melnick

U.S. Merchant Marine Academy: M. Kelly, See

U.S. Military Academy: Forrester, Gemar, Kimbrough, Kopra, W. McArthur, Wheelock, J. Williams
Adamson, Aldrin, Borman, Clifford, M. Collins, Mullane, Peterson, D. Scott, Spring, Worden

White

U.S. Naval Academy: Bowen, Bowersox, Bursch, Cabana, Cassidy, Creighton, Curbear, Foreman, Frick, Gorie, Ham, Hire, Hobaugh, Jett, Lawrence, Leestma, Lopez-Alegria, Loria, Nowak, O'Connor, Phillips, Readdy, S. Williams, Zamka
Eisele, Freeman, Givens, Griggs, Irwin, McCool, Shepard, M. Smith, Thorne, D. Walker

U.S. Naval Postgraduate School: Altman, Bursch, Curbear, Ferguson, Foreman, Frick, Ham, Herrington, Jett, M. Kelly, Leestma, Lopez-Alegria, Noriega, Nowak, Poindexter, Rominger, W. Scott, J. Williams
Carr, Cerman, Coats, Hilmers, Lousma, McBride, Mitchell, Reightler, Springer, Weitz
Evans, McCool, Overmyer, M. Smith,

U.S. Naval War College: J. Williams
CURRENT U.S. ASTRONAUTS IN ACTIVE & RESERVE MILITARY SERVICE

AIR FORCE:

AIR FORCE RESERVES:
Fossum

ARMY:
Creamer, Currie, Forrester, Kimbrough, Kopra, Wheelock, J. Williams

COAST GUARD:
Burbank

MARINE CORPS:
Bresnik, Hobaugh, Hurley, Loria, Sturckow, Wilcutt, Zamka

NAVY:
Altman, Antonelli, Bowen, Bowersox, Burch, Cassidy, Curbeam, Ferguson, Foreman, Frick, Gorie, Ham, Herrington, Jett, M. Kelly, S. Kelly, Lawrence, Lopez-Alegria, Morin, Nowak, Oefelein, Poindexter, Rominger, Stefanyshyn-Piper, Wetherbee, S. Williams, Wilmore, Woodward

NAVY RESERVES:
Hire, G.C. Johnson, Phillips
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<td>Stafford, Cernan</td>
<td>June 3 to 6, 1966</td>
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<td>Lovell, Aldrin</td>
<td>Nov. 11 to 15, 1966</td>
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<td>Mar. 3-13, 1969</td>
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<td>July 15 to 24, 1975</td>
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Source: NASA Historical Data Book Volumes 1 and 11
## U.S. HUMAN SPACE FLIGHT LOG

### Space Transportation System

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<td>STS-3 Lousma, Fullerton</td>
<td>Mar. 22-30, 1982192:04</td>
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<td>Jun. 18-24, 1983146:23</td>
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<td>STS-9 Young, Shaw, Garriott, Parker, Lichtenberg, Merbold</td>
<td>Nov. 28-Dec. 8, 1983247:47</td>
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<td>41-B Brand, R. Gibson, McCandless, McNair, Stewart</td>
<td>Feb. 3-11, 1984</td>
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<td>41-C Crippen, Scobee, van Hoften, G. Nelson, Hart</td>
<td>Apr. 6-13, 1984 167:40:07</td>
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<td>41-D Hartsfield, Coats, Resnik, Hawley, Mullane, C. Walker</td>
<td>Aug. 30-Sep. 5, 1984144:56</td>
<td>0430022:42:40</td>
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<td>51-F Fullerton, Bridges, Musgrave, England, Henize, Acton, Bartoe</td>
<td>Jul. 29-Aug. 6, 1985</td>
<td>190:45:26</td>
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<td>61-A Hartsfield, Nagel, Buchli, Bluford, Dunbar, Furrer, Messerschmid, Ockels</td>
<td>Oct. 30-Nov. 6, 1985168:44:53</td>
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<td>51-L Scobee, M. Smith, Resnik, Onizuka, McNair, Jarvis, McAuliffe</td>
<td>Jan. 28, 1986</td>
<td>n/a42474:30:14</td>
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<td>STS-26 Hauck, Covey, Lounge, G. Nelson, Hilmers</td>
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<td>STS-27 R. Gibson, G. Gardner, Mullane, Ross, Shepherd</td>
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<td>STS-28 Shaw, R. Richards, Adamson, Leestma, M. Brown</td>
<td>Aug. 8-3, 1989</td>
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<td>Date</td>
<td>MET (lift-off)</td>
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<td></td>
<td></td>
<td>to main gear</td>
<td>(in space,</td>
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<td></td>
<td>touchdown)</td>
<td>hr:min:sec</td>
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<td>STS-37</td>
<td>Nagel, Cameron, Ross, Apt, Godwin</td>
<td>Apr. 5-11, 1991 143:32:4452118:34:55</td>
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<td>Gaffney, Hughes-Fulford</td>
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<td>Lichtenberg</td>
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<td>STS-46</td>
<td>Shriver, A. Allen, Hoffman, Chang-Diaz, Nicollier, Ivins, Malerba</td>
<td>Jul. 31-Aug. 8, 1992 191:15:03 65756:0</td>
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<td>STS-52</td>
<td>Wetherbee, M. Baker, Veach, Shepherd, Jernigan, MacLean</td>
<td>Oct. 22-Nov. 1, 1992 236:56:13 68511:1</td>
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<td>STS-54</td>
<td>Casper, McMonagle, Runco, Harbaugh, Helms</td>
<td>Jan. 13-19, 1993143:38:1970106:00:43</td>
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<td>Cabana, Halsell, Hieb, Walz, Chiao, Thomas, Mukai</td>
<td>July 8-23, 1994 353:55:00 86040:53:58</td>
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U.S. HUMAN SPACE FLIGHT LOG

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<td>McMonagle, C. Brown, Ochoa, Tanner, Clervoy, Parazynski</td>
<td>Nov. 3-14, 1994</td>
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<td>STS-67</td>
<td>Oswald, W. Gregory, Grunsfeld, Lawrence, Jernigan, Durrance, Parise</td>
<td>Mar. 2-18, 1995</td>
<td>399:08:4894796:45:46</td>
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<td>STS-74</td>
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<td>Nov. 12-20, 1996</td>
<td>195196:30:46 man-hours</td>
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<td>STS-72</td>
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<td>Casper, C. Brown, A. Thomas, Bursch, Runco, Garneau</td>
<td>May 19-29, 1996</td>
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<td>STS-80</td>
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<td>STS-82</td>
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<td>STS-106</td>
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<td>Cockrell, Polansky, Curbeam, Ivins, Jones</td>
<td>Feb. 7-20, 2001</td>
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<td>STS-102</td>
<td>Wetherbee, J. Kelly, A. Thomas, P. Richards, Jim Voss, Helms, Usachev, Shepherd, Gidzenko, Krikalev</td>
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<td>STS-104</td>
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<td>Mar. 1-12, 2002</td>
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<td>STS-110</td>
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Broke apart on reentry.
# U.S. HUMAN SPACE FLIGHT LOG

## INTERNATIONAL SPACE STATION

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<th>Dates</th>
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