Man must rise above the Earth – to the top of the atmosphere and beyond – for only thus will he fully understand the world in which he lives.

Socrates
500 B.C.
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 50 active astronauts and 35 management astronauts in the program; 196 astronauts have retired or resigned; and 49 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 Cosmonauts who are currently partners with the U.S. Space Program participating in the International Space Station endeavor.

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

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

This document is online at: www.nasa.gov/centers/johnson/about/resources/jscfacts/index.html

Astronaut bios can be found online at: http://www.jsc.nasa.gov/Bios/index.html

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2.0 LIST OF INTERNATIONAL ASTRONAUTS CURRENTLY IN THE U.S. PROGRAM

International astronauts are those individuals from international space agencies who have trained or served with NASA Astronauts. Former astronauts are those who are no longer employed by their agency.

2.1 ACTIVE AND MANAGEMENT INTERNATIONAL ASTRONAUTS

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<td>Perrin, Philippe (CNES)</td>
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<td>Pontes, Marcos (Brazil)</td>
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<tr>
<td>Ramon, Ilan</td>
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<td>Thirsk, Robert B. (CSA)</td>
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<td>Tognini, Michel (ESA)</td>
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<td>Tryggvason, Bjarni V. (CSA)</td>
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<td>Walter, Ulrich</td>
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<td>Williams, David R. (CSA)</td>
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<td>Yamazaki, Naoko (JAXA)</td>
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</table>

* A special category of astronauts typically titled payload specialist refers to individuals selected and trained by commercial or research organizations for flights of a specific payload on a space flight mission.
### 3.0 LIST OF COSMONAUTS WHO HAVE TRAINED IN THE U.S. PROGRAM

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<tr>
<th>Cosmonaut</th>
<th># of flights</th>
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<td>ARTEMIEV, Oleg Germanovich</td>
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<td>BORISENKO, Andrey Ivanovich</td>
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<td>IVANISHIN, Anatoly Alekseyevich</td>
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<td>VINOGRADOV, Pavel Vladimirovich</td>
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<td>ZALETIN, Sergei</td>
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</table>
4.0 BIOGRAPHICAL SKETCHES

4.1 CURRENT U.S. ASTRONAUTS

ACABA, Joseph M., Civilian
   Educator Astronaut
   Born May 17, 1967 in Inglewood, California
   Bachelor of Science in geology from the University of California-Santa Barbara
   Master of Science in geology from University of Arizona
   Flew STS-119 on Discovery in 2009
   Flew Expedition 31/32 on Soyuz in 2012
   2 EVAs with total time of 12 hours 57 minutes
   Total time in space: 137 days 19 hours 22 minutes

ANTONELLI, Dominic, Commander, U.S. Navy
   Born Detroit, Michigan
   Bachelor of Science in aeronautics & astronautics from MIT
   Master of Science in aeronautics & astronautics from University of Washington
   Flew STS-119 on Discovery in 2009
   Flew STS-132 on Atlantis in 2010
   Total time in space: 24 days 3 hours 58 minutes

ARNOLD, Richard R., II
   Educator Astronaut
   Born November 26, 1963 in 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
   Flew STS-119 on Discovery in 2009
   2 EVAs with total time of 12 hours 34 minutes
   Total time in space: 12 days 19 hours 30 minutes

AUNON, Serena M., (M.D.) Civilian
   Bachelor of Science in electrical engineering from George Washington University
   Doctor of Medicine from the University of Texas – Health Science Center in Houston
   Board Certified in Internal and Aerospace Medicine
   Time in Space: 0 (un-flown)

BARRATT, Michael R., (M.D. & M.S.) Civilian
   Bachelor of Science in zoology from the University of Washington
   Doctor of Medicine from Northwestern University
   Master of Science in aerospace medicine from Wright State University
   Board Certified in Internal and Aerospace Medicine
   Flew Expedition 19/20 on Soyuz in 2009
   Flew STS-133 on Discovery in 2011
   1 EVA with total time 4 hours 54 minutes
   Total time in space: 211 days 11 hours 46 minutes
BEHNKEN, Robert L., (Ph.D.) Colonel, U.S. Air Force
Born in Creve Coeur, Missouri; Hometown: St. Ann, Missouri.
Bachelor of Science in physics & mechanical engineering from Washington University
Master of Science and Doctor of Philosophy in mechanical engineering from California Institute of Technology
Flew STS-123 on Endeavour in 2008
Flew STS-130 on Endeavour in 2010
6 EVAs with total time of 37 hours 33 minutes
Total time in space: 29 days 12 hours 17 minutes

BOE, Eric A., Colonel, U.S. Air Force
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
Flew STS-126 on Endeavour in 2008
Flew STS-133 in Discovery in 2011
Total time in space: 28 days 15 hours 34 minutes

BOWEN, Stephen G., Captain, U.S. Navy
Born February 13, 1961 in Cohasset, Massachusetts
Bachelor of Science in electrical engineering from the U.S. Naval Academy
Master of Science in Ocean Engineering from MIT
Flew STS-126 on Endeavour in 2008
Flew STS-132 on Atlantis in 2010
Flew STS-133 on Discovery in 2011
7 EVAs with total time of 47 hours 18 minutes
Total time in space: 40 days 10 hours 5 minutes

BRESNIK, Randolph J., Colonel, U.S. Marine Corps
Born September 11, 1967 in Fort Knox, Kentucky
Bachelor of Arts in mathematics from The Citadel
Master of Science in aviation systems from the University of Tennessee-Knoxville
Graduate of Air War College
Flew STS-129 on Atlantis in 2009
2 EVAs with total time of 11 hours 50 minutes
Total time on space: 10 days 19 hours 16 minutes

BURBANK, Daniel C., Captain, U.S. Coast Guard (Retired)
Bachelor of Science in electrical engineering from the U.S. Coast Guard Academy
Master of Science in aeronautical science from Embry-Riddle Aeronautical University
Flew STS-106 on Atlantis in 2000
Flew STS-115 on Atlantis in 2006
Flew Expedition 29/30 on Soyuz in 2012
1 EVA with total time of 7 hours 11 minutes
Total time in space: 188 days hours 49 minutes

CALDWELL (Dyson), Tracy E., (Ph.D.) Civilian
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
Flew STS-118 on Endeavour in 2007
Flew Expedition 23/24 on Soyuz in 2010
3 EVAs with total time of 22 hours 49 minutes
Total time in space: 188 days 19 hours 15 minutes

CASSIDY, Christopher J., Commander, U.S. Navy
Bachelor of Science in mathematics from U.S. Naval Academy
Master of Science in Ocean Engineering from MIT
Flew STS-127 on Endeavour in 2009
3 EVAs with total time on 18 hours 5 minutes
Total time in space: 15 days 16 hours 45 minutes
(ASSIGNED to Expedition 35)

CHAMITOFF, Gregory E., (Ph.D.) Civilian
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
Doctor of Philosophy in aeronautics and astronautics from MIT
Master of Science in planetary geology from University of Houston-Clear Lake
Flew Expedition 17/18: STS-124 on Discovery(up) / STS-126 Endeavour(down) in 2008
Flew STS-134 on Endeavour in 2011
2 EVAs with total time on 13 hours 43 minutes
Total time in space: 198 days 18 hours 2 minutes

COLEMAN, Catherine G. “Cady”, (Ph.D.) Colonel, U.S. Air Force (Retired)
Born December 14, 1960 in Charleston, South Carolina
Bachelor of Science in chemistry from MIT
Doctor of Philosophy in polymer science & engineering from University of Massachusetts
Flew STS-73 on Columbia in 1995
Flew STS-93 on Columbia in 1999
Flew Expedition 26/27 on Soyuz in 2011
Total time in space: 180 days 4 hours

DREW, B. Alvin, Jr., Colonel, U.S. Air Force (Retired)
Born November 5, 1962 in Washington, D.C.
Bachelor of Science in physics & astronautical engineering from U.S. Air Force Academy
Master of Aerospace Science from Embry-Riddle Aeronautical University
Master of Strategic Studies in Political Science from U.S. Air Force Academy
Flew STS-118 on Endeavour in 2007
Flew STS-133 on Discovery in 2011
2 EVAs with total time of 12 hours 48 minutes
Total time in space: 25 days 13 hours

EPPS, Jeanette J., (Ph.D.) Civilian
Born in Syracuse, New York
Bachelor of Science in physics from LeMoyne College
Master of Science and Doctor of Philosophy in aerospace engineering from University of Maryland
Time in space 0 (un-flown)
FEUSTEL, Andrew J., (Ph.D.) Civilian
Bachelor of Science in solid earth sciences from Purdue University
Master of Science in geophysics from Purdue University
Doctor of Philosophy in seismology from Queen’s University-Canada
Flew STS-125 on Atlantis in 2009
Flew STS-134 on Endeavour in 2011
6 EVAs with total time of 42 hours 18 minutes
Total time in space: 28 days 15 hours 17 minutes

FINCKE, Edward Michael “Mike”, Colonel, U.S. Air Force
Bachelor of Science in aeronautics & astronautics from MIT
Bachelor of Science in earth, atmospheric & planetary sciences from MIT
Master of Science in aeronautics & astronautics from Stanford University
Master of Science in physical sciences (Planetary Geology) from University of Houston-Clear Lake
Flew Expedition 9 on Soyuz in 2004
Flew Expedition 18 on Soyuz in 2008
Flew STS-134 on Endeavour in 2011
9 EVAs with total time of 48 hours 37 minutes
Total time in space: 381 days 15 hours 11 minutes

FISCHER, Jack D., Lt. Colonel, U.S. Air Force
Born in 1974 in Louisville, Colorado
Bachelor of Science in astronautical engineering from U.S. Air Force Academy
Master of Science in aeronautics & astronautics from MIT
Time in space: 0 (un-flown)

FOALE, C. Michael, (Ph.D.) Civilian
Bachelor of Arts in physics from Cambridge University
Doctor of Philosophy in laboratory astrophysics from Cambridge University
Flew STS-45 on Atlantis in 1992
Flew STS-56 on Discovery in 1993
Flew STS-63 on Discovery in 1995
Flew Mir 23 on STS-84 Atlantis(up) and STS-86 Atlantis(down) in 1997
Flew STS-103 on Discovery in 1999
Flew Expedition 8 on Soyuz in 2003
4 EVAs with total time of 22 hours 44 minutes
Total time in space: 373 days 18 hours 18 minutes

FORD, Kevin A., (Ph.D.) Colonel, U.S. Air Force (Retired)
Bachelor of Science in aerospace engineering from University of Notre Dame
Master of Science in international relations from Troy State University
Master of Science in aerospace engineering from University of Florida
Doctor of Philosophy in astronautical engineering from Air Force Institute of Technology
Graduate of Squadron Officer School the Air Command and Staff College Associate Program and Air War College
Flew STS-128 on Discovery in 2009
Flew Expedition 33/34 on Soyuz in 2013
Total time in space: 157 days 13 hours 9 minutes
*(FLYING Expedition 33)*

**FOSSUM, Michael E., Civilian, U.S. Air Force Reserves (Retired)**
Born December 19, 1957 in Sioux Falls, South Dakota; Hometown: McAllen, Texas.
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
Flew STS-121 on Discovery in 2006
Flew STS-124 on Discovery in 2008
Flew Expedition 28/29 on Soyuz in 2011
7 EVAs with total time of 48 hours 32 minutes
Total time in space: 193 days 19 hours 2 minutes

**HOPKINS, Michael S., Colonel, U.S. Air Force**
Born in Lebanon, Missouri
Bachelor of Science in aerospace engineering from University of Illinois
Master of Science in aerospace engineering from Stanford University
Time in space: 0 (un-flown)
*(ASSIGNED to Expedition 37)*

**HURLEY, Douglas G., Colonel, U.S. Marine Corps**
Bachelor of Science in civil engineering from Tulane University
Flew STS-127 on Endeavour in 2009
Flew STS-135 on Atlantis in 2011
Total time in space: 28 days 11 hours 13 minutes

**JOHNSON, Gregory H., Colonel, U.S. Air Force, (Retired)**
Born May 12, 1962 in South Ruislip, Middlesex, United Kingdom
Bachelor of Science in aeronautical engineering from U.S. Air Force Academy
Master of Science in flight structures engineering from Columbia University
Master of Business Administration from University of Texas
Flew STS-123 on Endeavour in 2008
Flew STS-134 on Endeavour in 2011
Total time in space: 31 days 11 hours 50 minutes

**KELLY, Scott J., Captain, U.S. Navy (Retired)**
Born February 21, 1964 in Orange, New Jersey
Bachelor of Science in electrical engineering from State University of New York Maritime College
Master of Science in aviation systems from University of Tennessee, Knoxville
Flew STS-103 on Discovery in 1999
Flew STS-118 on Endeavour in 2007
Flew Expedition 26 on Soyuz in 2010
Total time in space: 180 days 1 hour 51 minutes
*(Assigned to 1-year mission)*
KIMBROUGH, Robert Shane, Colonel, U.S. Army
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 Georgia Institute of Technology
Flew STS-126 on Endeavour in 2008
2 EVAs with total time on 12 hours 52 minutes
Total time in space: 15 days 20 hours 30 minutes

KOPRA, Timothy L., Colonel, U.S. Army (Retired)
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 Georgia Institute of Technology
Master of Strategic Studies from U. S. Army War College
Flew Expedition 20: STS-127 Endeavour(up) and STS-128 Discovery(down) in 2009
1 EVA with total time of 5 hours 2 minutes
Total time in space: 58 days 2 hours 50 minutes

LINDGREN, Kjell N. (M.D.) Civilian
Born in Taipei, Taiwan
Bachelor of Science in biology from U.S. Air Force Academy (minor in Mandarin Chinese)
Master of Science in cardiovascular physiology from Colorado State University
Doctor of Medicine from University of Colorado
Master of Science in health informatics at University of Minnesota
Master of Science in public health at University of Texas Medical Branch-Galveston
Board certified in emergency medicine and aerospace medicine
Time in space 0 (un-flown)
(ASSIGNED to Expedition 44)

MARSHBURN, Thomas H., (M.D.) Civilian
Born August 29, 1960 in Statesville, North Carolina
Bachelor of Science in physics from Davidson College
Master of Science in engineering physics from the University of Virginia
Doctor of Medicine from Wake Forest University
Master of medical science from University of Texas Medical Branch-Galveston
Flew STS-127 on Endeavour in 2009
3 EVAs with total time of 18 hours 59 minutes
(Flying Expedition 34)

MASTRACCHIO, Richard A., Civilian
Born February 11, 1960 in Waterbury, Connecticut
Bachelor of Science in electrical engineering and computer science from University of Connecticut
Master of Science in electrical engineering from Rensselaer Polytechnic Institute
Master of Science in physical sciences from University of Houston-Clear Lake
Flew STS-106 on Atlantis in 2000
Flew STS-118 on Endeavour in 2007
Flew STS-131 on Discovery in 2010
6 EVAs with total time of 38 hours 30 minutes
Total time in space: 39 days 15 hours 55 minutes
(ASSIGNED to Expedition 38)
McARTHUR, K. Megan, (Ph.D.)  Civilian
Born August 30, 1971 in Honolulu, Hawaii; Home state: California.
Bachelor of Science in aerospace engineering from University of California- Los Angeles
Doctor of Philosophy in oceanography from University of California-San Diego
Flew STS-125 on Atlantis in 2009
Total time in space: 12 days 21 hours 37 minutes

METCALF-LINDENBURGER, Dorothy M., Civilian
Educator Astronaut
Bachelor of Arts in geology from Whitman College
Flew STS-131 on Discovery in 2010
Total time in space: 15 days 2 hours 47 minutes

NYBERG, Karen L., (Ph.D.)  Civilian
Born October 7, 1969 in Parker’s Prairie, Minnesota; Hometown: Vining, Minnesota.
Bachelor of Science in mechanical engineering from University of North Dakota
Master of Science and Doctor of Philosophy in mechanical engineering from University of Texas
Flew STS-124 on Discovery in 2008
Total time in space: 13 days 18 hours 13 minutes
(ASSIGNED to Expedition 36)

PETTIT, Donald R., (Ph.D.)  Civilian
Born April 20, 1955 in Silverton, Oregon
Bachelor of Science in chemical engineering from Oregon State University
Doctor in chemical engineering from University of Arizona
Flew Expedition 6 on Soyuz in 2003
Flew STS-126 on Endeavour in 2008
Flew Expedition 30/31 on Soyuz in 2012
2 EVAs for total time of 13 hours 17 minutes
Total time in space: 369 days 16 hours 42 minutes

RUBINS, Kathleen “Kate”, (Ph.D.)  Civilian
Born in 1978 in Farmington, Connecticut, and raised in Napa, California
Bachelor of Science in molecular biology from University of California-San Diego
Doctor of philosophy in cancer biology from Stanford University Medical School
Time in space: 0 (un-flown)

STOTT, Nicole P., (Ph.D.)  Civilian
Bachelor of Science in aeronautical engineering from Embry-Riddle Aeronautical University
Master of Science in engineering management from University of Central Florida
Flew Expedition 20/21: STS-128 Discovery(up), STS-129 Atlantis(down) in 2009
Flew STS-133 on Discovery in 2011
1 EVA with total time of 6 hours 39 minutes
Total time in space: 103 days 5 hours 49 minutes

SWANSON, Steven R., (Ph.D.)  Civilian
Bachelor of Science in engineering physics from University of Colorado
Master of Applied Science in computer systems from Florida Atlantic University
Doctor of Philosophy in computer science from Texas A&M University
Flew STS-117 on Atlantis in 2007
Flew STS-119 on Discovery in 2009
4 EVAs with total time of 26 hours 22 minutes
Total time in space: 26 days 15 hours 41 minutes
(ASSIGNED to Expedition 39)

TINGLE, Scott D., Commander, U.S. Navy
Born in Attleboro, Massachusetts; Hometown: Randolph, Massachusetts.
Bachelor of Science in mechanical engineering from Southeastern Massachusetts University
Master of Science in mechanical engineering with specialty in fluid mechanics and propulsion from Purdue University
Time in space: 0 (un-flown)

VANDE HEI, Mark T., Colonel, U.S. Army
Born in 1966 in Falls Church, Virginia
Bachelor of Science in physics from Saint John’s University, Collegeville, Minnesota
Master of Science in applied physics from Stanford University
Time in space: 0 (un-flown)

VIRTS, Terry, Colonel, U.S. Air Force
Born December 1967 in Baltimore, Maryland; Hometown: Columbia, Maryland.
Bachelor of Science in mathematics & minor in French from U.S. Air Force Academy
Master of Advanced Studies in aeronautics from Embry-Riddle Aeronautical University
Flew STS-130 on Endeavour in 2010
Total time in space: 13 days 18 hours 6 minutes
(ASSIGNED to Expedition 42)

WALHEIM, Rex J., Colonel, U.S. Air Force (Retired)
Born October 10, 1962 in Redwood, California; Hometown: San Carlos, California.
Bachelor of Science in mechanical engineering from University of California-Berkeley
Master of Science in industrial engineering from University of Houston
Flew STS-110 on Atlantis in 2002
Flew STS-122 on Atlantis in 2008
Flew STS-135 on Atlantis in 2011
5 EVAs with total time of 36 hours 23 minutes
Total time in space: 36 days 8 hours 32 minutes

WALKER, Shannon, (Ph.D.) Civilian
Born June 4, 1965 in Houston, Texas
Bachelor of Arts, Master of Science, and Doctor of Philosophy in space physics from Rice University
Flew Expedition 24/25 on Soyuz in 2010
Total time in space: 163 days 7 hours 11 minutes

WHEELOCK, Douglas H., Colonel, U.S. Army
Bachelor of Science, applied science and engineering from U.S. Military Academy
Master of Science in aerospace engineering from Georgia Institute of Technology
Flew STS-120 on Discovery in 2007
Flew Expedition 24/25 on Soyuz in 2010
6 EVAs with total time of 43 hours 30 minutes
Total time in space: 178 days 9 hours 30 minutes

WHITSON, Peggy A., (Ph.D.) Civilian
Born February 9, 1960 in Mt. Ayr, Iowa; Hometown: Beaconsfield, Iowa.
Bachelor of Science in biology/chemistry from Iowa Wesleyan College
Doctor of philosophy in biochemistry from Rice University
Flew Expedition 5: STS-111 Endeavour (up) & STS-113 Endeavour (down) in 2002
Flew Expedition 16 on Soyuz in 2007
6 EVAs with total time of 39 hours 46 minutes
Total time in space: 376 days 17 hours 22 minutes

WILLIAMS, Jeffrey N., Colonel, U.S. Army (Retired)
Bachelor of Science in applied science/engineering from U.S. Military Academy
Master of Science in aeronautical engineering from U.S Naval Post Graduate School
Master of Arts in national security and strategic studies from U.S. Naval War College
Flew STS-101 on Atlantis in 2000
Flew Expedition 13 on Soyuz in 2006
Flew Expedition 21/22 on Soyuz in 2009
3 EVAs with total time on 19 hours 9 minutes
Total time in space: 361 days 23 hours 3 minutes

WILLIAMS, Sunita L., Captain, U.S. Navy
Born September 19, 1965 in Euclid, Ohio; Hometown: Needham, Massachusetts.
Bachelor of Science in physical science from U.S. Naval Academy
Master of Science in engineering management from Florida Institute of Technology
Flew Expedition 14/15: STS-116 Discovery(up) & STS-117 Atlantis(down) in 2007
Flew Expedition 32/33 on Soyuz in 2012
7 EVAs with total time of 50 hours 40 minutes
Total time in space: 321 days 17 hours 15 minutes

WILMORE, Barry E. "Butch", Captain, U.S. Navy
Born December 29, 1962 in Murfreesboro, Tennessee
Bachelor of Science and Master of Science in electrical engineering from Tennessee Technological University
Master of Science in aviation systems from University of Tennessee
Flew STS-129 on Atlantis in 2009
Total time in space: 10 days 19 hours 16 minutes
(ASSIGNED to Expedition 41)

WILSON, Stephanie D., Civilian
Born September 27, 1966 in Boston, Massachusetts; Hometown: Pittsfield, Massachusetts.
Bachelor of Science in engineering science from Harvard University
Master of Science in aerospace engineering from University of Texas
Flew STS-121 on Discovery in 2006
Flew STS-120 on Discovery in 2007
Flew STS-131 on Discovery in 2010
Total time in space 42 days 23 hours 46 minutes

WISEMAN, G. Reid, Commander, U.S. Navy
Born in 1975      Hometown: Baltimore, Maryland
Bachelor of Science in computer & systems engineering from Rensselaer Polytechnic
Institute, Troy, New York
Master of Science in systems engineering from Johns Hopkins University
Time in space: 0 (un-flown)
(ASSIGNED to Expedition 40)
4.2 U.S. ASTRONAUTS IN MANAGEMENT POSITIONS

BAKER, Michael A., Captain, U.S. Navy (Retired)
NASA/Johnson
Born October 27, 1953 in Memphis, Tennessee; Hometown: Lemoore, California.
Bachelor of Science in aerospace engineering from University of Texas
Flew STS-43 on Atlantis in 1991
Flew STS-52 on Columbia in 1992
Flew STS-68 on Endeavour in 1994
Flew STS-81 on Atlantis in 1997
Total time in space: 40 days 4 hours 59 minutes

BOLDEN, Charles F., Jr. Major General, U.S. Marine Corps (Retired)
NASA/Headquarters
Born August 19, 1946 in Columbia, South Carolina
Bachelor of Science in electrical science from U.S Naval Academy
Master of Science in systems management from University of Southern California
Flew STS-61-C on Columbia in 1986
Flew STS-31 on Discovery in 1990
Flew STS-45 on Atlantis in 1992
Flew STS-60 on Discovery in 1994
Total time in space: 28 days 8 hours 37 minutes

CABANA, Robert D. Colonel, U.S. Marine Corps (Retired)
NASA/Kennedy
Born January 23, 1949 in Minneapolis, Minnesota
Bachelor of Science in mathematics from U.S. Naval Academy
Flew STS-41 on Discovery in 1990
Flew STS-53 on Discovery in 1992
Flew STS-65 on Columbia in 1994
Flew STS-88 on Endeavour in 1998
Total time in space: 37 days 22 hours 42 minutes

CAGLE, Yvonne D., (M.D.) Colonel, U.S. Air Force
NASA/Ames
Born in West Point, New York; Hometown: Novato, California.
Bachelor of Arts in biochemistry from San Francisco State University
Doctor of Medicine from University of Washington
Certified senior aviation medical examiner from FAA
Total time in space: 0 (unflown)

CAMARDA, Charles J., (Ph.D.) Civilian
NASA/Johnson
Born May 8, 1952 in Queens, New York
Bachelor of Science in aerospace engineering from Polytechnic Institute of Brooklyn
Master of Science in engineering science from George Washington University
Doctor of philosophy in aerospace engineering from Virginia Polytechnic Institute and State University
Flew STS-114 on Discovery in 2005
Total time in space: 13 days 21 hours 32 minutes
Casper, John H., Colonel, U.S. Air Force (Retired)
NASA/Johnson
Born July 9, 1943 in Greenville, South Carolina; Hometown: Gainesville, Georgia.
Bachelor of Science in engineering science from U.S. Air Force Academy
Master of Science in astronautics from Purdue University
Graduate of Air Force Air War College
Flew STS-36 on Atlantis in 1990
Flew STS-54 on Endeavour in 1993
Flew STS-62 on Columbia in 1994
Flew STS-77 on Endeavour in 1996
Total time in space: 34 days 9 hours 52 minutes

Cockrell, Kenneth D., U.S. Naval Reserves (Retired)
NASA/Johnson
Born April 9, 1950 in Austin, Texas; Hometown: Rockdale, Texas.
Bachelor of Science in mechanical engineering from University of Texas
Master of Science in aeronautical systems from University of West Florida
Flew STS-56 on Discovery in 1993
Flew STS-69 on Endeavour in 1995
Flew STS-80 on Columbia in 1996
Flew STS-98 on Atlantis in 2001
Flew STS-111 on Endeavour in 2002
Total time in space: 64 days 12 hours 25 minutes

Creamer, Timothy J., Colonel, U.S. Army (Retired)
NASA/Johnson
Bachelor of Science in chemistry from Loyola College in Baltimore, Maryland
Master of Science in physics from MIT
Flew Expedition 22/23 on Soyuz in 2010
Total time in space: 163 days 5 hours 32 minutes

Currie, Nancy J. (Sherlock), (Ph.D.) Colonel, U.S. Army (Retired)
NASA NESC/Johnson
Born December 29, 1958 in Wilmington, Delaware; Hometown: Troy, Ohio.
Bachelor of Arts in biological science from Ohio State University
Master of Science in safety engineering from University of Southern California
Doctor of Philosophy in industrial engineering from University of Houston
Flew STS-57 on Endeavour in 1993
Flew STS-70 on Discovery in 1995
Flew STS-88 on Endeavour in 1998
Flew STS-109 on Columbia in 2002
Total time in space: 41 days 15 hours 32 minutes

Dutton, James P., Jr., Colonel, U.S. Air Force
NASA/Johnson
Born November 20, 1968 in Eugene, Oregon
Bachelor of Science in astronautical engineering from U.S. Air Force Academy
Master of Science in aeronautics & astronautics from the University of Washington
Flew STS-131 on Discovery in 2010
Total time in space: 15 days 2 hours 47 minutes
FISHER, Anna L., (M.D.) Civilian
NASA/Johnson
 Bachelor of Science and Master of Science in chemistry from University of California-Los Angeles
 Doctor of Medicine from University of California-Los Angeles
 Flew STS-51-A on Discovery in 1984
 Total time in space: 7 days 23 hours 44 minutes

FOREMAN, Michael J., Captain, U.S. Navy (Retired)
NASA/Johnson
 Born March 29, 1957 in Columbus, Ohio; Hometown: Wadsworth, Ohio.
 Bachelor of Science in aerospace engineering from U.S. Naval Academy
 Master of Science in aeronautical engineering from U.S. Naval Postgraduate School
 Flew STS-123 on Endeavour in 2008
 Flew STS-129 on Atlantis in 2009
 5 EVAs with total time on 32 hours 19 minutes
 Total time in space: 26 days 13 hours 27 minutes

FORRESTER, Patrick G., Colonel, U.S. Army (Retired)
NASA/Johnson
 Born March 31, 1957 in El Paso, Texas
 Bachelor of Science in applied sciences and engineering from U.S. Military Academy
 Master of Science in mechanical & aerospace engineering from University of Virginia
 Flew STS-105 on Discovery in 2001
 Flew STS-117 on Atlantis in 2007
 Flew STS-128 on Discovery in 2009
 4 EVAs with total time on 25 hours 30 minutes
 Total time in space: 39 days 14 hours 18 minutes

FRICK, Stephen N., Captain, U.S. Navy (Retired)
NASA/Johnson
 Bachelor of Science in aerospace engineering from U.S. Naval Academy
 Master of Science in aeronautical engineering from U.S Naval Postgraduate School
 Flew STS-110 on Atlantis in 2002
 Flew STS-122 on Atlantis in 2008
 Total time in space: 23 days 14 hours 4 minutes

GARAN, Ronald J., Jr., Colonel, U.S. Air Force (Retired)
NASA/Johnson
 Born October 30, 1961 in Yonkers, New York
 Bachelor of Science in business economics from State University of New York
 Master of Aeronautical Science in aeronautics from Embry-Riddle Aeronautical University
 Master of Science in aerospace engineering from University of Florida
 Flew STS-124 on Discovery in 2008
 Flew Expedition 27/28 on Soyuz in 2011
 4 EVAs with total time of 27 hours 3 minutes
 Total time in space: 177 days 23 hours 54 minutes
GERNHARDT, Michael L., Civilian
  NASA/Johnson
  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 University of Pennsylvania
  Flew STS-69 on Endeavour in 1995
  Flew STS-83 on Columbia in 1997
  Flew STS-94 on Columbia in 1997
  Flew STS-104 on Atlantis in 2001
  4 EVAs with total time on 23 hours 16 minutes
  Total time in space: 43 days 7 hours 1 minute

GOOD, Michael T., Colonel, U.S. Air Force (Retired)
  NASA/Johnson
  Bachelor of Science and Master of Science in aerospace engineering from University of Notre Dame
  Flew STS-125 on Atlantis in 2009
  Flew STS-132 on Atlantis in 2010
  4 EVAs with total time of 29 hours 53 minutes
  Total time in space: 24 days 16 hours 6 minutes

GRUNSFELD, John M., (Ph.D.) Civilian
  NASA/Headquarters
  Born in Chicago, Illinois
  Bachelor of Science in physics from MIT
  Master of Science and Doctor of Philosophy in physics from University of Chicago
  Flew STS-67 on Endeavour in 1995
  Flew STS-81 on Atlantis in 1997
  Flew STS-103 on Discovery in 1999
  Flew STS-109 on Columbia in 2002
  Flew STS-125 on Atlantis in 2009
  8 EVAs with total time of 58 hours 30 minutes
  Total time in space: 58 days 15 hours 3 minutes

HIRE, Kathryn P. “Kay”, Captain, U.S Naval Reserves
  NASA/Johnson
  Born August 26, 1959 in Mobile, Alabama; Hometown: Merritt Island, Florida.
  Bachelor of Science in engineering & management from U.S Naval Academy
  Master of Science in space technology from Florida State Institute of Technology
  Flew STS-90 on Columbia in 1998
  Flew STS-130 on Endeavour in 2010
  Total time in space: 29 days 15 hours 56 minutes

JOHNSON, Gregory C., Captain, U.S. Navy (Retired)
  NASA/Johnson
  Born July 30, 1954 in Seattle, Washington
  Bachelor of Science in aerospace engineering from University of Washington
  Flew STS-125 on Atlantis in 2009
  Total time in space 12 days 21 hours 38 minutes
KAVANDI, Janet L., (Ph.D.) Civilian
NASA/Johnson
Born July 17, 1959 in Springfield, Missouri
Bachelor of Science in chemistry from Missouri Southern State College
Master of Science in chemistry from University of Missouri
Doctor of Philosophy in analytical chemistry from University of Washington
Flew STS-91 on Discovery in 1998
Flew STS-99 on Endeavour in 2000
Flew STS-104 on Atlantis in 2001
Total time in space: 33 days 20 hours 8 minutes

KELLY, James M., Colonel, U.S. Air Force (Retired)
NASA/Johnson
Born May 14, 1964 in Burlington, Iowa
Bachelor of Science in astronautical engineering from U.S. Air Force Academy
Master of Science in aerospace engineering from University of Alabama
Flew STS-102 on Discovery in 2001
Flew STS-114 on Discovery in 2005
Total time in space: 26 days 17 hours 21 minutes

LEESTMA, David C., Captain, U.S. Navy (Retired)
NASA/Johnson
Born May 6, 1949 in Muskegon, Michigan
Bachelor of Science in aeronautical engineering from U.S. Naval Academy
Master of Science in aeronautical engineering from U.S. Naval Postgraduate School
Flew STS-41-G on Challenger in 1984
Flew STS-28 on Columbia in 1989
Flew STS-45 on Atlantis in 1992
1 EVA with total time of 3 hours 29 minutes
Total time in space: 22 days 4 hours 32 minutes

LINNEHAN, Richard M., (BS, D.V.M., MPA) Civilian
NASA/Johnson
Born in Lowell Massachusetts
Bachelor of Science in animal sciences (minor in microbiology) from University of New Hampshire
Doctor of Veterinary Medicine from Ohio State University College of Veterinary Medicine
Master of Public Administration from Kennedy School of Government at Harvard University
Flew STS-78 on Columbia in 1996
Flew STS-90 on Columbia in 1998
Flew STS-109 on Columbia in 2002
Flew STS-123 on Endeavour in 2008
6 EVAs with total time of 43 hours 11 minutes
Total time in space: 59 days 11 hours 59 minutes

LOVE, Stanley G., (Ph.D.) Civilian
NASA/Johnson
Born June 8, 1965 in San Diego, California; Hometown: Eugene, Oregon.
Bachelor of Science in physics from Harvey Mudd College
Master of Science and Doctor of philosophy in astronomy from University of Washington
Flew STS-122 on Atlantis in 2008
2 EVAs with total time of 15 hours 23 minutes
Total time in space: 12 days 18 hours 22 minutes

MASSIMINO, Michael J., Civilian
NASA/Johnson
Bachelor of Science in industrial engineering from Columbia University
Master of Science in technology and policy from MIT
Master of Science in mechanical engineering from MIT
Doctor of Philosophy in mechanical engineering from MIT
Flew STS-109 on Columbia in 2002
Flew STS-125 on Atlantis in 2009
4 EVAs with total time of 30 hours 32 minutes
Total time in space: 23 days 19 hours 48 minutes

McARTHUR, William S. “Bill”, Jr., Colonel, U.S. Army (Retired)
NASA/Johnson
Bachelor of Science in applied science & engineering from U.S. Military Academy
Master of Science in aerospace engineering from Georgia Institute of Technology
Flew STS-58 on Columbia in 1993
Flew STS-74 on Atlantis in 1995
Flew STS-92 on Discovery in 2000
Flew Expedition 12 on Soyuz in 2005
4 EVAs with total time on 24 hours 21 minutes
Total time in space: 224 days 22 hours 19 minutes

MELVIN, Leland D., Civilian
NASA/Headquarters
Born February 15, 1964 in Lynchburg, Virginia
Bachelor of Science in chemistry from University of Richmond
Master of Science in materials science engineering from University of Virginia
Flew STS-122 on Atlantis in 2008
Flew STS-129 on Atlantis in 2009
Total time in space: 23 days 13 hours 38 minutes

MORIN, Lee M., (M.D., Ph.D.) Captain, U.S. Navy
NASA/Johnson
Born September 9, 1952 in Manchester, New Hampshire
Bachelor of Science in mathematical/electrical science from university of New Hampshire
Master of public health from University of Alabama - Birmingham
Master of Science in biochemistry from New York University
Doctor of Medicine from New York University
Doctorate of Philosophy in microbiology from New York University
Flew STS-110 on Atlantis in 2002
2 EVAs with total time on 14 hours 7 minutes
Total time in space: 10 days 19 hours 42 minutes
OCHOA, Ellen, Civilian
NASA/Johnson
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 STS-56 on Discovery in 1993
Flew STS-66 on Atlantis in 1994
Flew STS-96 on Discovery in 1999
Flew STS-110 on Atlantis in 2002
Total time in space: 40 days 19 hours 37 minutes

RICHARDS, Paul W., Civilian
NASA/Goddard
Bachelor of Science in mechanical engineering from Drexel University
Master of Science in mechanical engineering from University of Maryland
Flew STS-102 on Discovery in 2001
1 EVA with total time of 6 hours 21 minutes
Total time in space: 12 days 19 hours 49 minutes

RUNCO, Mario, Jr., Lt. Commander, U.S Navy (Retired)
NASA/Headquarters
Born January 26, 1952 in Bronx, New York
Bachelor of Science in earth & planetary science from City College of New York
Master of Science in atmospheric physics from Rutgers University
Flew STS-44 on Atlantis in 1991
Flew STS-54 on Endeavour in 1993
Flew STS-77 on Endeavour in 1996
1 EVA with total time on 4 hours 28 minutes
Total time in space: 22 days 23 hours 8 minutes

SELLERS, Piers J., (Ph.D.) Civilian
NASA/Goddard
Born April 11, 1955 in Crowborough, Sussex, United Kingdom
Bachelor of Science in ecological science from University of Edinburgh (Scotland)
Doctor of philosophy in biometeorology from Leeds University (United Kingdom)
Flew STS-112 on Atlantis in 2002
Flew STS-121 on Discovery in 2006
Flew STS-132 on Atlantis in 2010
6 EVAs with total time of 41 hours 10 minutes
Total time in space: 34 days 23 hours 4 minutes

SMITH, Steven L., Civilian
NASA/Johnson
Born December 30, 1958 in Phoenix, Arizona; Hometown: San Jose, California.
Bachelor of Science in electrical engineering from Stanford University
Master of Science in electrical engineering from Stanford University
Master in business administration from Stanford University
Flew STS-68 on Endeavour in 1994
Flew STS-82 on Discovery in 1997
THOMAS, Andrew S.W., (Ph.D.)  Civilian
NASA/Johnson
Born December 18, 1951 in Adelaide, South Australia
Bachelor of engineering in mechanical engineering from University of Adelaide
Doctor of Philosophy in mechanical engineering from University of Adelaide
Flew STS-77 on Endeavour in 1996
Flew Mir: STS-89 on Endeavour (up) in 1998 and STS-91 on Discovery (down) in 1998
Flew STS-102 on Discovery in 2001
Flew STS-114 on Discovery in 2005
1 EVA with total time of 6 hours 21 minutes
Total time in space:  177 days 9 hours 14 minutes

WILCUTT, Terrence W., Colonel,  U.S. Marine Corps
NASA/Johnson
Born October 31, 1949 in Russellville, Kentucky; Hometown: Louisville, Kentucky.
Bachelor of Arts in mathematics from Western Kentucky University
Flew STS-68 on Endeavour in 1994
Flew STS-79 on Atlantis in 1996
Flew STS-89 on Endeavour in 1998
Flew STS-106 on Atlantis in 2000
Total time in space:  42 days 0 hours 5 minutes
4.3 FORMER U.S. ASTRONAUTS

ACTON, Loren W., Civilian
    Payload Specialist
    Born March 7, 1936 in Lewiston, Montana
    Bachelor of Science from Montana State University
    Doctorate from the University of Colorado
    Flew STS 51F on Challenger in 1985
    Total time in space: 7 days 22 hours 45 minutes

ADAMSON, James C., Colonel, U. S. Army (Retired)
    Born March 3, 1946 in Warsaw, New York
    Bachelor of Science in engineering from the U.S. Military Academy
    Master of Science in aerospace engineering from Princeton University
    Graduate of Navy Test Pilot School
    Flew STS-28 on Columbia in 1989
    Flew STS-43 on Atlantis in 1991
    Total time in space: 13 days 22 hours 21 minutes

AKERS, Thomas D., Colonel, U.S. Air Force (Retired)
    Born May 20, 1951 in St. Louis, Missouri; Hometown: Eminence, Missouri.
    Bachelor of Science and Master of Science in applied mathematics from the University of Missouri-Rolla
    Flew STS-41 on Discovery in 1990
    Flew STS-49 on Endeavour in 1992
    Flew STS-61 on Endeavour in 1993
    Flew STS-79 on Atlantis in 1996
    4 EVAs with total time on 29 hours 40 minutes
    Total time in space: 33 days 22 hours 44 minutes

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 astronautics from MIT
    Flew Gemini 12 in 1966
    Flew Apollo 11 in 1969
    2 EVAs with total time of 7 hours 52 minutes
    Total time in space: 12 Days 1 hour 53 minutes

ALLEN, Andrew M., Lt. Colonel, U.S. Marine Corps (Retired)
    Born August 4, 1955 in Philadelphia, Pennsylvania
    Bachelor of Science in mechanical engineering from Villanova University
    Master in Business Administration from the University of Florida
    Flew STS-46 on Atlantis in 1992
    Flew STS-62 on Columbia in 1994
    Flew STS-75 on Columbia in 1996
    Total time in space: 37 days 18 hours 13 minutes

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 STS-5 on Columbia in 1982
Flew STS-51-A on Discovery in 1984
2 EVAs with total time of 12 hours 14 minutes
Total time in space: 13 days 1 hour 59 minutes

ALTMAN, Scott D., Captain, U.S. Navy (Retired)
Born August 15, 1959 in Lincoln, Illinois
Bachelor of Science in aeronautical & astronautical engineering from University of Illinois
Master of Science in aeronautical engineering from the U.S. Naval Postgraduate School
Flew STS-90 on Columbia in 1998
Flew STS-106 on Atlantis in 2000
Flew STS-109 on Columbia in 2002
Flew STS-125 on Atlantis in 2009
Total time in space: 51 days 12 hours 51 minutes

ANDERS, William A., 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 Apollo 8 in 1968
Total time in space: 6 days 3 hours 0 minutes

ANDERSON, Clayton C., Civilian
Born February 23, 1959 in Omaha, Nebraska; Hometown: Ashland, Nebraska.
Bachelor of Science in physics from Hastings College
Master of Science in aerospace engineering from Iowa State University
Flew Expedition 15 in 2007 - STS-117 on Atlantis (up) - STS-120 on Discovery (down)
Flew STS-131 on Discovery in 2010
6 EVAs with total time of 38 hours 28 minutes
Total time in space: 166 days 21 hours 10 minutes

APT, Jerome, Civilian
Bachelor of Arts in physics from Harvard College
Doctor of Philosophy in physics from MIT
Flew STS-37 on Atlantis in 1991
Flew STS-47 on Endeavour in 1992
Flew STS-59 on Endeavour in 1994
Flew STS-79 on Atlantis in 1996
2 EVAs with total time of 10 hours 49 minutes
Total time in space: 35 days 7 hours 10 minutes

ARCHAMBAULT, Lee J., Colonel, U.S. Air Force
Bachelor of Science and Master of Science in aeronautical/astronautical engineering from
University of Illinois-Urbana
Flew 117 on Atlantis in 2007
Flew 119 on Discovery in 2009
Total time in space: 26 days 15 hours 41 minutes
ASHBY, Jeffrey S., Captain, U.S. Navy (Retired)
Born 1954 in Dallas, Texas; Hometown: Evergreen, Colorado.
Bachelor of Science in mechanical engineering from the University of Idaho
Master of Science in aviation systems from the University of Tennessee
Graduate of Naval Test Pilot School
Graduate of Naval Fighter Weapons School (Top Gun)
Flew STS-93 on Columbia in 1999
Flew STS-100 on Endeavour in 2001
Flew STS-112 on Atlantis in 2002
Total time in space: 27 days 07 hours 42 minutes

BAGIAN, James P., Civilian
Born February 22, 1952 in Philadelphia, Pennsylvania
Bachelor of Science in mechanical engineering from Drexel University
Doctor of Medicine from Thomas Jefferson University
Flew STS-29 on Discovery in 1989
Flew STS-40 on Columbia in 1991
Total time in space: 14 days 1 hour 53 minutes

BAKER, Ellen S. (M.D.), Civilian
Bachelor of Arts in geology from the State University of New York – Buffalo
Doctor of medicine from Cornell University
Master degree in public health from the University of Texas
Flew STS-34 on Atlantis in 1989
Flew STS-50 on Columbia in 1992
Flew STS-71 on Atlantis in 1995
Total time in space: 28 days 14 hours 31 minutes

BARRY, Daniel T. (M.D.), Civilian
Bachelor of Science in electrical engineering from Cornell University
Master of engineering from Princeton University
Master of Arts and Doctor of Philosophy in electrical engineering/computer science from Princeton University
Doctor of medicine from University of Miami
Flew STS-72 on Endeavour in 1996
Flew STS-96 on Discovery in 1999
Flew STS-105 on Discovery in 2001
4 EVAs with total time of 25 hours 49 minutes
Total time in space: 30 days 12 hours 53 minutes

BARTOE, John-David F., Civilian
Payload Specialist
Born November 17, 1944 in Abington, Pennsylvania
Bachelor of Science in physics from Lehigh University
Master of Science and Doctor of Philosophy of physics from Georgetown University
Flew on STS-51F on Challenger in 1985
Total time in space: 7 days 22 hours 45 minutes
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 in 1969
Flew on Skylab 3 in 1973
3 EVAs with total time of 10 hours 26 minutes
Total time in space: 69 days 15 hours 45 minutes

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 STS-29 on Discovery in 1989
Flew STS-33 on Discovery in 1989
Flew STS-43 on Atlantis in 1991
Flew STS-58 on Columbia in 1993
Flew Mir: STS-79 on Atlantis (up) in 1996 and STS-81 on Atlantis (down) in 1997
Total time in space: 160 days 21 hours 17 minutes

BLOOMFIELD, Michael J., Colonel, U.S. Air Force (Retired)
Bachelor of Science in engineering mechanics from the U.S. Air Force Academy
Master in engineering management from Old Dominion University
Flew STS-86 on Atlantis in 1997
Flew STS-97 on Endeavour in 2000
Flew STS-110 on Atlantis in 2002
Total time in space: 32 days 11 hours 2 minutes

BLUFORD, Guion S., Jr, Colonel, U.S. Air Force (Retired)
Born November 22, 1942 in Philadelphia, Pennsylvania
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
Flew STS-8 on Challenger in 1983
Flew STS-61-A on Challenger in 1985
Flew STS-39 on Discovery in 1991
Flew STS-53 on Discovery in 1992
Total time in space: 28 days 17 hours 47 minutes

BOBKO, Karol J., Colonel, U.S. Air Force (Retired)
Born December 23, 1937 in New York, New York
Bachelor of Science from the U.S. Air Force Academy
Master of Science in aerospace engineering from the University of Southern California
Flew STS-6 on Challenger in 1983
Flew STS-51-D on Discovery in 1985
Flew STS-51-J on Atlantis in 1985
Total time in space: 16 days 2 hours 3 minutes

BORMAN, Frank, Colonel, U.S. Air Force (Retired)
Born March 14, 1928 in Gary Indiana
Bachelor of Science, U.S. Military Academy
Master of Science in aeronautical engineering from the California Institute of Technology
Flew Gemini 7 in 1965
Flew Apollo 8 in 1968
Total time in space: 19 days 21 hours 35 minutes

BOWERSOX, Kenneth D., Captain, U.S. Navy (Retired)
Bachelor of Science in aerospace engineering from the U.S. Naval Academy
Master of Science in mechanical engineering from Columbia University
Flew STS-50 on Columbia in 1992
Flew STS-61 on Endeavour in 1993
Flew STS-73 on Columbia in 1995
Flew STS-82 on Discovery in 1997
Flew Expedition 6 – STS-113 Endeavour (up) in 2002
Flew Expedition 6 – Soyuz (down) in 2003
2 EVAs with a total time of 13 hours 17 minutes
Total time in space: 211 days 14 hours 14 minutes

BRAND, Vance D., U.S. Marine Corps, Marine Corps Reserve and Air National Guard (Retired)
Born May 9, 1931 in Longmont, California
Bachelor of Science in business and Bachelor of Science in aeronautical engineering from the University of Colorado
Master in business administration from the University of California Los Angeles
Flew ASTP in 1975
Flew STS-5 on Columbia in 1982
Flew STS-41-B on Challenger in 1984
Flew STS-35 on Columbia in 1990
Total time in space: 31 days 8 hours 3 minutes

BRANDENSTEIN, Daniel C., Captain, U.S. Navy (Retired)
Born January 17, 1943 in Watertown, Wisconsin
Bachelor of Science in mathematics & physics from the University of Wisconsin
Flew STS-8 on Challenger in 1983
Flew STS-51-G on Discovery in 1985
Flew STS-32 on Columbia in 1990
Flew STS-49 on Endeavour in 1992
Total time in space: 32 days 21 hours 3 minutes

BRIDGES, Roy D., Jr., Major General, U.S. Air Force (Retired)
Born in Atlanta, Georgia
Bachelor in engineering science from the U.S Air Force Academy
Master of Science in astronautics from Purdue University
Flew STS-51-F on Challenger in 1985
Total time in space: 7 days 22 hours 45 minutes

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 STS-47 on Endeavour in 1992
Flew STS-66 on Atlantis in 1994
Flew STS-77 on Endeavour in 1996
Flew STS-85 on Discovery in 1997
Flew STS-95 on Discovery in 1998
Flew STS-103 on Discovery in 1999
Total time in space: 57 days 15 hours 7 minutes

BROWN, Mark N., Colonel, U.S. Air Force (Retired)
Born November 18, 1951 in Valparaiso, Indiana
Bachelor of Science in aeronautical & astronautical engineering from Purdue University
Master of Science in astronautical engineering from the Air Force Institute of Technology
Flew STS-28 on Columbia in 1989
Flew STS-48 on Discovery in 1991
Total time in space: 10 days 9 hours 27 minutes

BUCHLI, James F., Colonel, U.S. Marine Corps (Retired)
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
Flew STS-51-C on Discovery in 1985
Flew STS-61-A on Challenger in 1985
Flew STS-29 on Discovery in 1989
Flew STS-48 on Discovery in 1991
Total time in space: 20 days 10 hours 24 minutes

BUCKEY, Jay Clark, Civilian
Payload Specialist
Born June 6, 1956 in New York, New York
Bachelor of Science in electrical engineering Cornell University
Doctorate in Medicine Cornell University
Flew on STS-90 on Columbia 1998
Total time in space: 15 days 21 hours 51 minutes

BURSCH, Daniel W., Captain, U.S. Navy (Retired)
Bachelor of Science in physics from the U.S. Naval Academy
Master of Science in engineering science from the Naval Postgraduate School
Flew STS-51 on Discovery in 1993
Flew STS-68 on Endeavour in 1994
Flew STS-77 on Endeavour in 1996
Flew Expedition 4: STS-108 Endeavour (up) and STS-111 Endeavour (down) in 2002
2 EVAs with a total time of 11 hours 48 minutes
Total time in space: 226 days 22 hours 16 minutes

CAMERON, Kenneth D., Colonel, U.S. Marine Corps (Retired)
Born in Cleveland Ohio
Bachelor of Science and Master of Science in aeronautics & astronautics from MIT
Graduated from U.S. Navy test pilot school
Master of business administration from Michigan State University
Flew STS-37 on Atlantis in 1991
Flew STS-56 on Discovery in 1993
Flew STS-74 on Atlantis in 1995
Total time in space: 23 days 10 hours 11 minutes
CAREY, Duane G., Lt. Colonel, U.S. Air Force (Retired)
Born April 30, 1957 in St. Paul, Minnesota
Bachelor of Science in aerospace engineering & mechanics from the University of Minnesota-Minneapolis
Master of Science in aerospace engineering from the University of Minnesota-Minneapolis
Flew STS-109 on Columbia in 2002
Total time in space: 10 days 22 hours 11 minutes

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 Mercury 7 in 1962
Total time in space: 4 hours 54 minutes

CARR, Gerald P., Colonel, U.S. Marine Corps (Retired)
Born August 22, 1932 in Denver, Colorado
Bachelor of Engineering in mechanical engineering from the University of Southern California
Bachelor of Science in aeronautical engineering from the U.S. Naval Post Graduate School
Master of Science in aeronautical engineering from Princeton University
Honorary Doctor of Science in aeronautical engineering from Parks College-St. Louis University
Flew Skylab 4 in 1974
3 EVAs with total time of 15 hours 48 minutes
Total time in space: 84 days 1 hour 15 minutes

CENKER, Robert, Civilian
Payload Specialist
Born Nov. 5, 1948 in Uniontown, Pennsylvania
Bachelor in aerospace engineering from Penn State
Masters in aerospace engineering from Penn State
Masters in electrical engineering from Rutgers University
Flew on STS 61-C on Columbia
Total time in space: 6 days 2 hours 3 minutes

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 Gemini 9 in 1966
Flew Apollo 10 in 1969
Flew Apollo 17 in 1972
4 EVAs with total time of 24 hours 11 minutes
Total time in space: 23 days 14 hours 15 minutes

CHANG-DIAZ, Franklin R., Civilian
Born April 5, 1950 in San Jose, Costa Roca
Bachelor of Science in mechanical engineering from the University of Connecticut
Doctor of Philosophy in applied plasma physics from MIT
Flew STS-61-C on Columbia in 1986
Flew STS-34 on Atlantis in 1989
Flew STS-46 on Atlantis in 1992
Flew STS-60 on Discovery in 1994
Flew STS-75 on Columbia in 1996
Flew STS-91 on Discovery in 1998
Flew STS-111 on Endeavour in 2002
3 EVAs with total time of 19 hours 31 minutes
Total time in space: 66 days 18 hours 16 minutes

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 from MIT
Doctor of Science in instrumentation for MIT
Total time in space: 0 (un-flown)

CHIAO, Leroy, Civilian
Born August 28, 1960 in Milwaukee, Wisconsin; Hometown: Danville, California.
Bachelor of Science in chemical engineering from the University of California-Berkeley
Master of Science and Doctorate in chemical engineering from the University of California-Santa Barbara
Flew STS-65 on Columbia in 1994
Flew STS-72 on Endeavour in 1996
Flew STS-92 on Discovery in 2000
Flew Expedition 10 on Soyuz in 2004-2005
6 EVAs with a total time of 36 hours 7 minutes
Total time in space: 229 days 7 hours 38 minutes

CHILTON, Kevin P., General, U.S. Air Force (Retired)
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 STS-49 on Endeavour in 1992
Flew STS-59 on Endeavour in 1994
Flew STS-76 on Atlantis in 1996
Total time in space: 29 days 4 hours 23 minutes

CLEAVE, Mary L., Civilian
Born February 5, 1947 in Southampton, New York
Bachelor of Science in biological sciences from Colorado State University
Master of Science in microbial ecology from Utah State University
Doctor of Philosophy in environmental engineering from Utah State University
Flew STS-61B on Atlantis in 1985
Flew STS-30 on Atlantis in 1989
Total time in space: 10 days 22 hours 1 minute

CLIFFORD, Michael R., Lt. Colonel, U.S. Army (Retired)
Born October 13, 1952 in San Bernardino, California; Hometown: Ogden, Utah.
Bachelor of Science from U.S. Military Academy
Master of Science in aerospace engineering from the Georgia Institute of Technology
Flew STS-53 on Discovery in 1992
Flew STS-59 on Endeavour in 1994
Flew STS-76 on Atlantis in 1996
1 EVA with total time of 6 hours 2 minutes
Total time in space: 27 days 18 hours 25 minutes

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 & technology from George Washington University
Master of Science in aeronautical engineering from the U.S Naval Postgraduate School
Flew STS-41-D on Discovery in 1984
Flew STS-29 on Discovery in 1989
Flew STS-39 on Discovery in 1991
Total time in space: 19 days 7 hours 57 minutes

COLLINS, Eileen M., Colonel, U.S Air Force (Retired)
Born November 19, 1956 in Elmira, New York
Bachelor of Arts in mathematics & economics from Syracuse University
Master of Science in operations research from Stanford University
Master of Arts in space systems management from Webster University
Flew STS-63 on Discovery in 1995
Flew STS-84 on Atlantis in 1997
Flew STS-93 on Columbia in 1999
Flew STS-114 on Discovery in 2005
Total time in space: 37 days 2 hours 10 minutes

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 Gemini 10 in 1966
Flew Apollo 11 in 1969
1 EVA with total time of 1 hour and 27 minutes
Total time in space: 11 days 2 hours 4 minutes

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 STS-51-I on Discovery in 1985
Flew STS-26 on Discovery in 1988
Flew STS-38 on Atlantis in 1990
Flew STS-61 on Endeavour in 1994
Total time in space: 26 days 21 hours 11 minutes

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 & technology from George Washington University
CRIPPEN, Robert L., Captain, U.S. Navy (Retired)
Born September 11, 1937 in Beaumont, Texas
Bachelor of Science in aerospace engineering from the University of Texas
Flew STS-1 on Columbia in 1981
Flew STS-7 on Challenger in 1983
Flew STS-41-C on Challenger in 1984 (April)
Flew STS-41-G on Challenger in 1984 (October)
Total time in space: 23 days 13 hours 48 minutes

CROUCH, Roger K., Civilian
Payload Specialist
Born September 12, 1940 in Jamestown, Tennessee
Bachelor of Science in physics from the Tennessee Polytechnic Institute
Masters of Science and Doctor of Philosophy in physics from the Virginia Polytechnic Institute.
Flew STS-83 on Columbia in 1997
Flew STS-94 on Columbia in 1997
Total time in space: 19 days 15 hours 58 minutes

CULBERTSON, Frank L., Jr., Captain, U.S. Navy (Retired)
Born May 15, 1949 in Charleston, South Carolina; Hometown: Holly Hill, South Carolina.
Bachelor of Science in aerospace engineering from the U.S. Naval Academy
Flew STS-38 on Atlantis in 1990
Flew STS-51 on Discovery in 1993
Flew Expedition 3: STS-105 Discovery (up) and STS-108 Endeavour (down) in 2001
1 EVA with total time of 5 hours 4 minutes
Total time in space: 143 days 14 hours 50 minutes

CUNNINGHAM, Walter, Civilian Colonel, U.S. Marine Corps Reserve (Retired)
Born March 16, 1932 in Creston, Iowa
Bachelor of Arts and Master of Arts in physics from the University of California-Los Angeles
Flew Apollo 7 in 1968
Total time in space: 10 days 20 hours 8 minutes

CURBEAM, Robert L., Jr., Captain, U.S. Navy (Retired)
Born March 5, 1962 in Baltimore, Maryland
Bachelor of Science in aerospace engineering from the U.S. Naval Academy
Master of Science in aeronautical engineering from the Naval Postgraduate School
Degree in aeronautical & astronautical engineering from Naval Postgraduate School
Flew STS-85 on Discovery in 1997
Flew STS-98 on Atlantis in 2001
Flew STS-116 on Discovery in 2006
7 EVAs with a total time of 45 hours 34 minutes
Total time in space: 37 days 14 hours 33 minutes
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-Huntsville
Flew STS-47 on Endeavour in 1992
Flew STS-60 on Discovery in 1994
Flew STS-85 on Discovery in 1997
Total time in space: 28 days 58 minutes

DELCAS, Lawrence J., Civilian
Payload Specialist
Born July 11, 1950 in Syracuse, N. Y.
Bachelor of Science and Master of Science in chemistry from the University of Alabama at Birmingham. (UAB)
Bachelor of Science degree in physiological optics from UAB
Doctorate in Optometry and Doctorate in biochemistry from UAB
Flew on STS-50 aboard Columbia in 1992
Time in space: 13 hours 19 hours 30 minutes

DUFFY, Brian, Colonel, U.S. Air Force (Retired)
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 STS-45 on Atlantis in 1992
Flew STS-57 on Endeavour in 1993
Flew STS-72 on Endeavour in 1996
Flew STS-92 on Discovery in 2000
Total time in space: 40 days 17 hours 35 minutes

DUKE, Charles M., Jr., Brig. General, U.S. Air Force (Retired)
Born October 3, 1935 in Charlotte, North Carolina
Bachelor of Science in naval sciences from the U.S Naval Academy
Master of Science in aeronautics from MIT
Flew Apollo 16 in 1972
3 EVAs with total time of 20 hours 15 minutes
Total time in space: 11 days 1 hour 51 minutes

DUNBAR, Bonnie, Civilian
Born March 3, 1949 in Sunnyside Washington
Bachelor of Science and Master of Science in ceramic engineering from the University of Washington
Doctor of Philosophy in mechanical/biomedical engineering from the University of Houston
Certified Professional Engineer in Texas
Flew STS-61-A on Challenger in 1985
Flew STS-32 on Columbia in 1990
Flew STS-50 on Columbia in 1992
Flew STS-71 on Atlantis in 1995
Flew STS-89 on Endeavour in 1998
Total time in space: 50 days 7 hours 40 minutes
DURRANCE, Samuel T., Civilian
    Payload Specialist
    Bachelor of Science and Master of Science in physics from California State University, Los Angeles, California.
    Doctor of Philosophy astro-geophysics from the University of Colorado
    Flew STS 35 on Columbia in 1990
    Flew STS 67 on Endeavour in 1995
    Total time in space: 25 days 14 hours 14 minutes

EDWARDS, Joe F., Jr., Commander, U.S. Navy (Retired)
    Born February 3, 1958 in Richmond, Virginia; Hometowns: Raonold and Lineville, Alabama.
    Bachelor of Science in aerospace engineering from the U.S. Naval Academy
    Master of Science in aviation systems from the University of Tennessee-Knoxville
    Flew STS-89 on Endeavour in 1998
    Total time in space: 8 days 19 hours 1 minute

ENGLAND, Anthony W., Civilian
    Born May 15, 1942 in Indianapolis, Indiana; Hometown: West Fargo, North Dakota.
    Bachelor of Science and Master of Science in geology from MIT
    Doctor of Philosophy in geophysics from MIT
    Flew STS-51-F on Challenger in 1985
    Total time in space: 7 days 22 hours 45 minutes

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 – Flew 3 flights into space
    Flew ALT flights 2 and 4
    Flew STS-2 on Columbia in 1981
    Flew STS-51-I on Discovery in 1985
    Total time in space: 9 days 8 hours 30 minutes

FABIAN, John M., Colonel, U.S. Air Force (Retired)
    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 & astronautics from the University of Washington
    Flew STS-7 on Challenger in 1983
    Flew STS-51-G on Discovery in 1985
    Total time in space: 13 days 4 hours 3 minutes

FERGUSON, Christopher J., Captain, U.S. Navy (Retired)
    Born September 1, 1961 in Philadelphia, Pennsylvania
    Bachelor of Science in mechanical engineering from Drexel University
    Master of Science in aeronautical engineering from the U.S. Naval Postgraduate School
    Flew STS-115 on Atlantis in 2006
    Flew STS-126 on Endeavour in 2008
    Flew STS-135 on Atlantis in 2011
    Total time in space: 40 days 10 hours 4 minutes
FETTMAN, Martin J., Civilian
  Payload Specialist
  Born December 31, 1956 in Brooklyn, New York
  Bachelor of Science in animal nutrition from Cornell University
  Doctor of Philosophy in physiology from Colorado State University
  Flew STS-58 on Columbia
  Time in space: 14 days 12 minutes

FISHER, William F., (M.D.) 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 STS-51-I on Discovery in 1985
  2 EVAs with total time of 11 hours 52 minutes
  Total time in space: 7 days 2 hours 17 minutes

FULLERTON, C. Gordon, Colonel, U.S. Air Force (Retired)
  Born October 11, 1936 in Rochester, New York
  Bachelor of Science and Master of Science in mechanical engineering from the California Institute of Technology
  Flew STS-3 on Columbia in 1982
  Flew STS-51-F on Challenger in 1985
  Total time in space: 15 days 22 hours 50 minutes

GAFFNEY, F. Andrew (Drew), Civilian
  Payload Specialist
  Born June 9, 1946 in Carlsbad, New Mexico
  Bachelor of Arts in psychology from the University of California, Berkeley
  Doctorate of Medicine from the University of New Mexico
  Flew STS-40 on Columbia in 1991
  Total time in space: 9 days 2 hours 14 minutes

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 STS-8 on Challenger in 1983
  Flew STS-51-A on Discovery in 1984
  2 EVAs with total time of 12 hours 14 minutes
  Total time in space: 14 days 0 hours 53 minutes

GARDNER, Guy S., Colonel, U.S. Air Force (Retired)
  Born January 6, 1948 in Alta-Vista, 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 STS-27 on Atlantis in 1988
  Flew STS-35 on Columbia in 1990
  Total time in space: 13 days 8 hours 10 minutes
GARN, Jake, U. S. Senator  
Payload Specialist  
Born October 12, 1932 in Richfield, Utah  
Bachelor of Science in business and finance from the University of Utah  
Flew STS-51D on Discovery in 1985  
Total time in space:  6 days  23 hours 55 minutes

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 Skylab 3 in 1973  
Flew STS-9 on Columbia in 1983  
3 EVAs with total time of 13 hours 42 minutes  
Total time in space:  69 days 18 hours 56 minutes

GEMAR, Charles D., Lt. Colonel, U.S. Army  
Born August 4, 1955 in Yanktown, South Dakota; Hometown: Scotland, South Dakota.  
Bachelor of Science in engineering from the U.S. Military Academy  
Flew STS-38 on Atlantis in 1990  
Flew STS-48 on Discovery in 1991  
Flew STS-62 on Columbia in 1994  
Total time in space:  24 days 5 hours 38 minutes

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 and Doctor of Philosophy in engineering from the California Institute of Technology  
Flew Skylab 4 in 1974  
3 EVAs with total time of 15 hours 17 minutes  
Total time in space:  84 days 1 hour 15 minutes

GIBSON, Robert L. “Hoot”, Captain, U.S. Navy (Retired)  
Born October 30, 1946 in Cooperstown, New York; Hometown: Lakewood, California.  
Bachelor of Science in aeronautical engineering from the California Polytechnic Institute  
Flew STS-41-B on Challenger in 1984  
Flew STS-61-C on Columbia in 1986  
Flew STS-27 on Atlantis in 1988  
Flew STS-47 on Endeavour in 1992  
Flew STS-71 on Atlantis in 1995  
Total time in space:  36 days 4 hours 19 minutes

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 Mercury 6 in 1962  
Flew STS-95 on Discovery in 1998  
Total time in space:  9 days 2 hours 39 minutes
GODWIN, Linda M., Civilian
Born July 2, 1952 in Cape Girardeau, Missouri Hometown: Jackson, Missouri
Bachelor of Science in mathematics & physics from Southeast Missouri State
Master of Science and Doctor of Philosophy in physics from the University of Missouri
Flew STS-37 on Atlantis in 1991
Flew STS-59 on Endeavour in 1994
Flew STS-76 on Atlantis in 1996
Flew STS-108 on Endeavour in 2001
2 EVAs with total time of 10 hours 14 minutes
Total time in space: 38 days 6 hours 33 minutes

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
Flew Gemini 11 in 1966
Flew Apollo 12 in 1969
1 EVA with total time of 38 minutes
Total time in space: 13 days 3 hours 53 minutes

GORIE, Dominic L., Captain, U.S. Navy (Retired)
Born May 2, 1957 in Lake Charles, Louisiana
Bachelor of Science in ocean engineering from the U.S. Naval Academy
Master of Science in aviation systems from the University of Tennessee
Flew STS-91 on Discovery in 1998
Flew STS-99 on Endeavour in 2000
Flew STS-108 on Endeavour in 2001
Flew STS-123 on Endeavour in 2008
Total time in space: 48 days 15 hours 27 minutes

GRABE, Ronald J., Colonel, U.S. Air Force (Retired)
Born June 13, 1945 in New York, New York
Bachelor of Science in engineering science from the U.S. Air Force Academy
Flew STS-51-J on Atlantis in 1985
Flew STS-30 on Atlantis in 1989
Flew STS-42 on Discovery in 1992
Flew STS-57 on Endeavour in 1993
Total time in space: 26 days 3 hours 11 minutes

GRAVELINE, Duane F., Civilian
Born March 2, 1931 in Newport, Vermont
Bachelor of Science from the University of Vermont
Master of Science in public health from John Hopkins University
Doctor of Medicine from the University of Vermont
Total time in space: 0 (un-flown)

GREGORY, Frederick D., Colonel, U.S. Air Force (Retired)
Born January 7, 1941 in Washington DC
Bachelor of Science from the U.S. Air Force Academy
Master in information systems from George Washington University
Flew STS-51-B on Challenger in 1985
Flew STS-33 on Discovery in 1989
Flew STS-44 on Atlantis in 1991
Total time in space: 18 days 23 hours 7 minutes

Born May 14, 1957 in Lockport, New York
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 STS-67 on Endeavour in 1995
Total time in space: 16 days 15 hours 8 minutes

GUTERREZ, Sidney M., Colonel, U.S. Air Force (Retired)
Born June 27, 1951 in 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 STS-40 on Columbia in 1991
Flew STS-59 on Endeavour in 1994
Total time in space: 20 days 8 hours 3 minutes

HAISE, Fred W., Jr., Civilian
Born November 14, 1933 in Biloxi, Mississippi
Bachelor of Science in aeronautical engineering from the University of Oklahoma
Flew ALT tests 1, 3, 5
Flew Apollo 13 in 1970
Total time in space: 5 days 22 hours 54 minutes

HALSELL, James D., Jr., Colonel, U.S. Air Force (Retired)
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 U.S. Air Force Institute of Technology
Flew STS-65 on Columbia in 1994
Flew STS-74 on Atlantis in 1995
Flew STS-83 on Columbia in 1997
Flew STS-94 on Columbia in 1997
Flew STS-101 on Atlantis in 2000
Total time in space: 52 days 10 hours 34 minutes

HAM, Kenneth T., Captain, U.S. Navy
Born December 12, 1964 in Plainfield, New Jersey
Bachelor of Science in aerospace engineering from the U.S Naval Academy
Master of Science in aeronautical engineering from the Naval Postgraduate School
Flew STS-124 on Discovery in 2008
Flew STS-132 on Atlantis in 2010
Total time in space: 25 days 12 hours 41 minutes

HAMMOND, L. Brain, 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 STS-39 on Discovery in 1991
Flew STS-64 on Discovery in 1994
Total time in space: 19 days 6 hours 12 minutes

HARBAUGH, Gregory J., Civilian
Born April 15, 1956 in Cleveland, Ohio; Hometown: Willoughby, Ohio.
Bachelor of Science in aeronautical and astronautical engineering from Purdue
Master of Science in physical science from the University of Houston-Clear Lake
Flew STS-39 on Discovery in 1991
Flew STS-54 on Endeavour in 1993
Flew STS-71 on Atlantis in 1995
Flew STS-82 on Discovery in 1997
3 EVAs with total time of 18 hours 29 minutes
Total time in space: 34 days 1 hour 59 minutes

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 STS-55 on Columbia in 1993
Flew STS-63 on Discovery in 1995
1 EVA with total time of 4 hours 39 minutes
Total time in space: 18 days 6 hours 8 minutes

HART, Terry J., Civilian
Born October 27, 1946 in Pittsburgh, Pennsylvania
Bachelor of Science in mechanical engineering from Lehigh University
Master of Science in mechanical engineering from MIT
Master of Science in electrical engineering from Rutgers University
Honorary Doctor of engineering from Lehigh University
Flew STS-41-C on Challenger in 1984
Total time in space: 6 days 23 hours 40 minutes

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 STS-4 on Columbia in 1982
Flew STS-41-D on Discovery in 1984
Flew STS-61-A on Challenger in 1985
Total time in space: 20 days 2 hours 50 minutes

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 MIT
Flew STS-7 on Challenger in 1983
Flew STS-51-A on Discovery in 1984
Flew STS-26 on Discovery in 1988
Total time in space: 18 days 3 hours 9 minutes
HAWLEY, Steven A., Civilian
Born December 12, 1951 in Ottawa, Kansas; Hometown: Salina, Kansas.
Bachelor of Arts in physics & astronomy from the University of Kansas
Doctor of Philosophy in astronomy & astrophysics from the University of California
Flew STS-41-D on Discovery in 1984
Flew STS-61-C on Columbia in 1986
Flew STS-31 on Discovery in 1990
Flew STS-82 on Discovery in 1997
Flew STS-93 on Columbia in 1999
Total time in space: 32 days 2 hours 42 minutes

HELMS, Susan J., Lt. Gen., 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 STS-54 on Endeavour in 1993
Flew STS-64 on Discovery in 1994
Flew STS-78 on Columbia in 1996
Flew STS-101 on Atlantis in 2000
Flew Expedition 2: STS-102 Discovery (up) and STS-105 Discovery (down) in 2001
1 EVA with total time of 8 hours 56 minutes
Total time in space: 210 days 23 hours 6 minutes

HENNEN, Thomas J. Chief Warrant Officer, U. S. Army (Retired)
Payload Specialist
Born Aug. 17, 1952 in Albany, Georgia; Hometown: Columbus, Ohio.
Flew on STS-44 on Atlantis in 1991
Total time in space: 6 days 22 hours 50 minutes

HENDRICKS, Terence T., Colonel, U.S. Air Force (Retired)
Born July 5, 1952 in Bryan, Ohio; Hometown: Woodville, Ohio.
Bachelor of Science in civil engineering from the U.S. Air Force Academy
Master of Arts in public administration from Golden Gate University
Flew STS-44 on Atlantis in 1991
Flew STS-55 on Columbia in 1993
Flew STS-70 on Discovery in 1995
Flew STS-78 on Columbia in 1996
Total time in space: 42 days 18 hours 38 minutes

HERNANDEZ, Jose M., Civilian
Born August 7, 1962 in French Camp, California; Hometown: Stockton, 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
Flew STS-128 on Discovery in 2009
Total time in space: 13 days 20 hours 54 minutes

HERRINGTON, John B., Commander, U.S. Navy (Retired)
Born September 14, 1958 in Wetumka, Oklahoma.
Bachelor of Science in applied mathematics from the University of Colorado
Master of Science in aeronautical engineering from the U.S. Naval Postgraduate School
Flew STS-113 on Endeavour in 2002
3 EVAs with total time of 19 hours 55 minutes
Total time in space: 13 days 18 hours 47 minutes

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 STS-39 on Discovery in 1991
Flew STS-49 on Endeavour in 1992
Flew STS-65 on Columbia in 1994
3 EVAs with total time of 17 hours 38 minutes
Total time in space: 31 days 22 hours 34 minutes

HIGGINBOTHAM, Joan E., Civilian
Born August 3, 1964 in Chicago, Illinois
Bachelor of Science in electrical engineering from Southern Illinois University-Carbondale
Masters of management from the Florida Institute of Technology and Masters in space systems from Florida Institute of Technology
Flew STS-116 on Discovery in 2006
Total time in space: 12 days 20 hours 45 minutes

HILMERS, David O., 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 STS-51-J on Atlantis in 1985
Flew STS-26 on Discovery in 1988
Flew STS-36 on Atlantis in 1990
Flew STS-42 on Discovery in 1992
Total time in space: 20 days 14 hours 17 minutes

HOBAUGH, Charles O., Colonel, U.S. Marine Corps (Retired)
Born November 6, 1961 in Bar Harbor, Maine
Bachelor of Science in aerospace engineering from the U.S. Naval Academy
Flew STS-104 on Atlantis in 2001
Flew STS-118 on Endeavour in 2007
Flew STS-129 on Atlantis in 2009
Total time in space: 36 days 9 hours 47 minutes

HOFFMAN, Jeffrey A., Civilian
Bachelor of Arts in astronomy from Amherst College
Master degree in materials science from Rice University
Doctor of Philosophy in astrophysics from Harvard University
Flew STS-51-D on Discovery in 1985
Flew STS-35 on Columbia in 1990
Flew STS-46 on Atlantis in 1992
Flew STS-61 on Endeavour in 1993
Flew STS-75 on Columbia in 1996
4 EVAs with total time of 25 hours 8 minutes
Total time in space: 50 days 11 hours 54 minutes
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 from Baylor University  
Doctor of Medicine from Baylor University  
Juris Doctor degree from University of Houston  
Total time in space: 0 (un-flown)

HOROWITZ, Scott J., Colonel, U.S. Air Force (Retired)  
Bachelor of Science in engineering from the California State University-Northridge  
Master of Science in aerospace engineering from the Georgia Institute of Technology  
Doctor of Philosophy in aerospace engineering from the Georgia Institute of Technology  
Flew STS-75 on Columbia in 1996  
Flew STS-82 on Discovery in 1997  
Flew STS-101 on Atlantis in 2000  
Flew STS-105 on Discovery in 2001  
Total time in space: 47 days 9 hours 6 minutes

HUGHES-FULFORD, Millie, Civilian  
Payload Specialist  
Born December 21, 1945 in Mineral Wells, Texas  
Bachelor of Science in chemistry and biology from Tarleton State University  
Doctorate of Philosophy from Texas Woman's University  
Flew STS-40 on Columbia in 1991  
Total time in space: 9 days 2 hours 14 minutes

IVINS, Marsha S., Civilian  
Born April 15, 1951 in Baltimore, Maryland  
Bachelor of Science in aerospace engineering from the University of Colorado  
Flew STS-32 on Columbia in 1990  
Flew STS-46 on Atlantis in 1992  
Flew STS-62 on Columbia in 1994  
Flew STS-81 on Atlantis in 1997  
Flew STS-98 on Atlantis in 2001  
Total time in space: 55 days 21 hours 48 minutes

JEMISON, Mae C., Civilian  
Bachelor of Science in chemical engineering from Stanford University  
Doctor of Medicine from Cornell University  
Flew STS-47 on Endeavour in 1992  
Total time in space: 7 days 22 hours 30 minutes

JERNIGAN, Tamara E., Civilian  
Born May 7, 1959 in Chattanooga, Tennessee  
Bachelor of Science in physics from Stanford University  
Master of Science in engineering science from Stanford University  
Master of Science in astronomy from the University of California-Berkeley  
Doctor of Philosophy in space physics and astronomy from Rice University  
Flew STS-40 on Columbia in 1991
Flew STS-52 on Columbia in 1992
Flew STS-67 on Endeavour in 1995
Flew STS-80 on Columbia in 1996
Flew STS-96 on Discovery in 1999
1 EVA with total time of 7 hours 55 minutes
Total time in space:  62 days 1 hour 25 minutes

JETT, Brent W., Captain, U.S. Navy  (Retired)
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 STS-72 on Endeavour in 1996
Flew STS-81 on Atlantis in 1997
Flew STS-97 on Endeavour in 2000
Flew STS-115 on Atlantis in 2006
Total time in space:  41 days 18 hours 1 minute

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 on Philosophy in planetary science from the University of Arizona
Flew STS-59 on Endeavour in 1994
Flew STS-68 on Endeavour in 1994
Flew STS-80 on Columbia in 1996
Flew STS-98 on Atlantis in 2001
3 EVAs with total time of 19 hours 49 minutes
Total time in space:  53 days 0 hours 49 minutes

KELLY, Mark E., Captain, U.S. Navy (Retired)
Born February 21, 1964 in Orange, New Jersey; Hometown: West Orange, New Jersey.
Bachelor of Science in marine engineering & nautical science from the U.S. Merchant Marine Academy
Master of Science in aeronautical engineering from the U.S Naval Postgraduate School
Flew STS-108 on Endeavour in 2001
Flew STS-121 on Discovery in 2006
Flew STS-124 on Discovery in 2008
Flew STS-134 on Endeavour in 2011
Total time in space 54 days 2 hours 24 minutes

KERWIN, Joseph P., Captain, Medical Corps, U.S. Navy (Retired)
Born February 19, 1932 in Oak Park, Illinois
Bachelor of Arts in philosophy from College of the Holy Cross
Doctor of Medicine from Northwestern University Medical School
Flew Skylab 2 in 1973
1 EVA with total time of 3 hours 23 minutes
Total time in space:  28 days 0 hours 50 minutes

KILRAIN (Still), Susan L., Commander, U. S. Navy (Retired)
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 STS-83 on Columbia in 1997
Flew STS-94 on Columbia in 1997
Total time in space: 19 days 15 hours 58 minutes

**KREGEL, Kevin R., Civilian**
Bachelor of Science in astronautical engineering from the U. S. Air Force Academy
Master of public administration from Troy State University
Flew STS-70 on Discovery in 1995
Flew STS-78 on Columbia in 1996
Flew STS-87 on Columbia in 1997
Flew STS-99 on Endeavour in 2000
Total time in space: 52 days 17 hours 21 minutes

**LAWRENCE, Wendy B., Captain, U.S. Navy (Retired)**
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 MIT & Woods Hole Oceanographic Institution
Flew STS-67 on Endeavour in 1995
Flew STS-86 on Atlantis in 1997
Flew STS-91 on Discovery in 1998
Flew STS-114 on Discovery in 2005
Total time in space: 50 days 22 hours 56 minutes

**LEE, Mark C., Colonel, U.S. Air Force (Retired)**
Born August 14, 1952 in Viroqua, Wisconsin
Bachelor of Science in civil engineering from the U.S Air Force Academy
Master of Science in mechanical engineering from MIT
Flew STS-30 on Atlantis in 1989
Flew STS-47 on Endeavour in 1992
Flew STS-64 on Discovery in 1994
Flew STS-82 on Discovery in 1997
4 EVAs with total time of 26 hours 1 minute
Total time in space: 32 days 21 hours 46 minutes

**LESLIE, Fred W., Civilian**
Payload Specialist
Born December 19, 1951 in Ancon, Panama
Bachelor of Science in engineering science from the University of Texas
Doctor of Philosophy and Master in meteorology from the University of Oklahoma
Flew STS-73 on Columbia in 1995
Total time in space: 15 days 21 hours 52 minutes

**LICHTENBERG, Byron K., Civilian**
Payload Specialist
Born in Stroudsburg, Pennsylvania
Bachelor of Science in aerospace engineering from Brown University
Master of Science in mechanical engineering MIT
Doctor of Science biomedical engineering MIT
Flew STS-9 on Columbia in 1983
Flew on STS-45 on Atlantis in 1992
Total time in space: 19 days 5 hours 56 minutes

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 STS-51-B on Challenger in 1984
Total time in space: 7 days 0 hours 8 minutes

LINDSEY, Steven W., Colonel, U.S. Air Force (Retired)
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 U.S. Air Force Institute of Technology
Flew STS-87 on Columbia in 1997
Flew STS-95 on Discovery in 1998
Flew STS-104 on Atlantis in 2001
Flew STS-121 on Discovery in 2006
Flew STS-133 on Discovery in 2011
Total time in space: 62 days 22 hours 33 minutes

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
Master of public health in health policy from the University of North Carolina
Doctor of Medicine from Wayne State University
Doctor of Philosophy in epidemiology from the University of North Carolina
Flew STS-64 on Discovery in 1995
Flew Mir: STS-81 Atlantis (up) and STS-84 Atlantis (down) in 1997
1 EVA with total time of 4 hours 57 minutes
Total time in space: 143 days 2 hours 50 minutes

LINTERIS, Gregory T., Civilian
Payload Specialist
Bachelor of Science in chemical engineering from Princeton University
Master of Science in mechanical engineering from Stanford University
Doctor of Philosophy in mechanical and aerospace engineering from Princeton University
Flew on STS-83 on Columbia in 1997
Flew on STS 94 on Columbia in 1997
Total time in space: 19 days 15 hours 58 minutes

LLEWELLYN, John A., Civilian
Born April 22, 1933 in Cardiff, Wales, United Kingdom
Bachelor of Science in chemistry from University College at Cardiff
Doctor of Philosophy in chemistry from University College of Cardiff
Total time in space: 0 (un-flown)
LOCKHART, Paul S., Colonel, U.S. Air Force (Retired)
Born April 28, 1956 in Amarillo, Texas
Bachelor of Arts in mathematics from Texas Tech University
Master of Science in aerospace engineering from the University of Texas
Graduate of the Royal College of Defense Studies, London, England
Flew STS-111 on Endeavour in 2002
Flew STS-113 on Endeavour in 2002
Total time in space: 27 days 15 hours 23 minutes

LOPEZ-ALEGRIA, Michael E., Captain, U.S. Navy (Retired)
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
Graduate of the Harvard University Kennedy School of Government Program for Senior Executives in National and International Security
Flew STS-73 on Columbia in 1995
Flew STS-92 on Discovery in 2000
Flew STS-113 on Endeavour in 2002
Flew Expedition 14 on Soyuz in 2006
10 EVAs with a total time of 67 hours 40 minutes
Total time in space: 257 days 22 hours 44 minutes

LORIA, Christopher J. “Gus”, Colonel, U.S. Marine Corps (Retired)
Born July 9, 1960 in Belmont, Massachusetts; Hometown: League City, Texas.
Bachelor of Science in general engineering from the U.S. Naval Academy
Master in public administration from Harvard University John F. Kennedy School of Government
Total time in space: 0 (un-flown)

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
Master in aeronautical engineering from the U.S. Naval Postgraduate School
Flew Skylab 3 in 1973
Flew STS-3 on Columbia in 1983
2 EVAs with total time of 11 hours 1 minute
Total time in space: 67 days 11 hours 5 minutes

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 Gemini 7 in 1965
Flew Gemini 12 in 1966
Flew Apollo 8 in 1968
Flew Apollo 13 in 1970
Total time in space: 29 days 19 hours 3 minutes
LU, Edward T., Civilian
Bachelor of Science in electrical engineering from Cornell University
Doctor of Philosophy in applied physics from Stanford University
Flew STS-84 on Atlantis in 1997
Flew STS-106 on Atlantis in 2000
Flew Expedition 7 on Soyuz in 2003
1 EVA with total time of 6 hours 14 minutes
Total time in space: 206 days 18 hours 32 minutes

LUCID, Shannon W., Civilian
Born January 14, 1943 in Shanghai, China; Hometown: Bethany, Oklahoma.
Bachelor of Science in chemistry from the University of Oklahoma
Master of Science in biochemistry from the University of Oklahoma
Doctor of Philosophy in biochemistry from the University of Oklahoma
Flew STS-51-G on Discovery in 1985
Flew STS-34 on Atlantis in 1989
Flew STS-43 on Atlantis in 1991
Flew STS-58 on Columbia in 1993
Flew Mir: STS-76 on Atlantis (up) and STS-79 on Atlantis (down) in 1996
Total time in space: 223 days 2 hours 53 minutes

MAGNUS, Sandra H., Civilian
Born October 30, 1964 in Belleville, Illinois
Bachelor of Science in physics from University of Missouri-Rolla
Master of Science in electrical engineering from the University of Missouri-Rolla
Doctor of Philosophy in materials science and engineering from the Georgia Institute of Technology
Flew STS-112 on Atlantis in 2002
Flew Expedition 18: STS-126 Endeavour (up) and STS-119 Discovery (down) in 2009
Flew STS-135 on Atlantis in 2011
Total time in space: 157 days 8 hours 44 minutes

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 Apollo 16 in 1972
Flew STS-4 on Columbia in 1982
Flew STS-51-C on Discovery in 1985
1 EVA with total time of 1 hour 13 minutes
Total time in space: 21 days 4 hours 34 minutes

McBRIDE, Jon A., Captain, U.S. Navy (Retired)
Born August 14, 1943 in Charleston, West Virginia; Hometown: Beckley, West Virginia.
Bachelor of Science in aeronautical engineering from U.S. Naval Postgraduate School
Flew STS-41-G on Challenger in 1984
Total time in space: 8 days 5 hours 23 minutes

McCANDLESS, Bruce, II, Captain, U.S. Navy (Retired)
Born June 8, 1937 in Boston, Massachusetts
Bachelor of Science from 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 STS-41-B on Challenger in 1984
Flew STS-31 on Discovery in 1990
2 EVAs with total time of 12 hours 12 minutes
Total time in space: 13 days 0 hours 31 minutes

McCULLEY, Michael J., Captain, U.S. Navy (Retired)
Born August 4, 1943 in San Diego, California; Hometown: Livingston, Tennessee.
Bachelor of Science in metallurgical engineering from Purdue University
Master of Science in metallurgical engineering from Purdue University
Flew STS-34 on Atlantis in 1989
Total time in space: 4 days 23 hours 41 minutes

McDIVITT, James A., Brig. General U.S. Air Force (Retired)
Born June 10, 1929 in Chicago, Illinois
Bachelor of Science in astronautical engineering from the University of Michigan
Flew Gemini 4 in 1965
Flew Apollo 9 in 1969
Total time in space: 14 days 2 hours 56 minutes

McMONAGLE, Donald R., Colonel, U.S. Air Force (Retired)
Born May 14, 1952 in Flint, Michigan
Bachelor of Science in astronautical engineering for the U.S. Air Force Academy
Master of Science in mechanical engineering from California State University-Fresno
Flew STS-39 on Discovery 1991
Flew STS-54 on Endeavour in 1993
Flew STS-66 on Atlantis in 1994
Total time in space: 25 days 5 hours 34 minutes

MEADE, Carl J., Colonel, U.S. Air Force (Retired)
Born November 16, 1950 at Chanute Air Force Base, Illinois
Bachelor of Science in electronics engineering from the University of Texas
Master of Science in electronics engineering from the California Institute of Technology
Flew STS-38 on Atlantis in 1990
Flew STS-50 on Columbia in 1992
Flew STS-64 on Discovery in 1994
1 EVA with total time of 6 hours 15 minutes
Total time in space: 29 days 16 hours 14 minutes

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 the West Florida University
Flew STS-41 on Discovery in 1990
Flew STS-49 on Endeavour in 1992
Total time in space: 12 days 23 hours 27 minutes

MELROY, Pamela A., Colonel, U.S. Air Force (Retired)
Bachelor of Science in physics & astronomy from Wellesley College
Master of Science in earth and planetary sciences from MIT
Flew STS-92 on Discovery in 2000
Flew STS-112 on Atlantis in 2002
Flew STS-120 on Discovery in 2007
Total time in space: 38 days 20 hours 4 minutes

MICHEL, F. Curtis, Civilian
Born June 5, 1934 in LaCrosse, Wisconsin
Bachelor of Science in physics from the California Institute of Technology
Doctor of Philosophy in physics from the California Institute of Technology
Total time in space: 0 (un-flown)

MITCHELL, Edger 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 U.S. Naval Postgraduate School
Doctor of Science in aeronautics and astronautics from MIT
Flew Apollo 14 in 1971
2 EVAs with total time on 9 hours 17 minutes
Total time in space: 9 days 42 minutes

MORGAN, Barbara R., Civilian
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 – Belmont, California
Flew STS-118 on Endeavour in 2007
Total time in space: 12 days 17 hours 56 minutes

MULLANE, Richard M., Colonel, U.S. Air Force (Retired)
Born September 10, 1945 in Wichita Falls, Texas; Hometown: Albuquerque, New Mexico.
Bachelor of Science in military engineering from the U.S. Military Academy
Master of Science in aeronautical engineering from U.S. Air Force Institute of Technology
Flew STS-41-D on Discovery in 1984
Flew STS-27 on Atlantis in 1988
Flew STS-36 on Atlantis in 1990
Total time in space: 14 days 20 hours 20 minutes

MUSGRAVE, Story, Civilian
Born August 19, 1935 in Boston, Massachusetts; Hometown: Lexington, Kentucky.
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-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 STS-6 on Challenger in 1983
Flew STS-51-F on Challenger in 1985
Flew STS-33 on Discovery in 1989
Flew STS-44 on Atlantis in 1991
Flew STS-61 on Endeavour in 1993
Flew STS-80 on Columbia in 1996
4 EVAs with total time of 26 hours 19 minutes
Total time in space: 53 days 9 hours 55 minutes

NAGEL, Steven R., Colonel, U.S. Air Force (Retired)
Born October 27, 1946 in Canton, Illinois
Bachelor of Science in aerospace engineering from the University of Illinois
Master of Science in mechanical engineering from the California State University-Fresno
Flew STS-51-G on Discovery in 1985
Flew STS-61-A on Challenger in 1985
Flew STS-37 on Atlantis in 1991
Flew STS-55 on Columbia in 1993
Total time in space: 30 days 1 hour 36 minutes

NELSON, Bill, U. S. Senator
Payload Specialist
Born in Miami, Florida on September 29, 1942
Bachelor degree Yale University
Law degree University of Virginia
Flew STS-61C on Columbia in 1985
Total time in space: 6 days 2 hours 4 minutes

NELSON, George D., Civilian
Bachelor of Science in physics from Harvey Mudd College
Master of Science in astronomy from the University of Washington
Doctor of Philosophy in astronomy from the University of Washington
Flew STS-41-C on Challenger in 1984
Flew STS-61-C on Columbia in 1986
Flew STS-26 on Discovery in 1988
2 EVAs with total time of 10 hours 6 minutes
Total time in space: 17 days 2 hours 44 minutes

NEWMAN, James H., Civilian
Born October 16, 1956 in Trust Territory, Pacific Islands; Hometown: San Diego, California.
Bachelor of Arts in physics from Dartmouth College
Master of Arts in physics from Rice University
Doctor of Philosophy in physics from Rice University
Flew STS-51 on Discovery in 1993
Flew STS-69 on Endeavour in 1995
Flew STS-88 on Endeavour in 1998
Flew STS-109 on Columbia in 2002
6 EVAs with total time of 43 hours 13 minutes
Total time in space: 43 days 10 hours 1 minute

NOREIGA, Carlos I., Lt. Colonel, U.S. Marine Corps (Retired)
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 U. S. Naval Postgraduate School
Master of Science in space systems operations from the Naval Postgraduate School
Flew STS-84 on Atlantis in 1987
Flew STS-97 on Endeavour in 2000
3 EVAs with total time of 19 hours 20 minutes
Total time in space: 20 days 1 hour 18 minutes

**NOWAK, Lisa M., Captain, U.S. Navy (former)**
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 STS-121 on Discovery in 2006
Total time in space: 12 days 18 hours 36 minutes

**O’CONNOR, Bryan D., Colonel, U.S. Marine Corps (Retired)**
Born September 6, 1946 in Orange, California; Hometown: Twentynine Palms, California.
Bachelor of Science in engineering from U.S Naval Academy
Master of Science in aeronautical systems from West Florida University
Graduated Naval Safety School from the Naval Postgraduate School
Flew STS-61-B on Atlantis in 1985
Flew STS-40 on Columbia in 1991
Total time in space: 15 days 23 hours 18 minutes

**OEFELEIN, William A., Commander, U.S. Navy (former)**
Bachelor of Science in electrical engineering from the Oregon State University
Master of Science in aviation systems from the University of Tennessee Space Institute
Flew STS-116 on Discovery in 2006
Total time in space: 12 days 20 hours 45 minutes

**OLIVAS, John D., Civilian**
Bachelor of Science in mechanical engineering from the University of Texas-El Paso
Master of Science in mechanical engineering from the University of Houston
Doctor of Philosophy in mechanical engineering & materials science from Rice University
Flew STS-117 on Atlantis in 2007
Flew STS-128 on Discovery in 2009
5 EVAs with total time of 34 hours 28 minutes
Total time in space: 27 days 17 hours 5 minutes

**OSWALD, Stephen S., Civilian**
Bachelor of Science in aerospace engineering from the U. S. Naval Academy
Flew STS-42 on Discovery in 1992
Flew STS-56 on Discovery in 1993
Flew STS-67 on Endeavour in 1995
Total time in space: 33 days 22 hours 30 minutes

**PAILES, William A., Colonel, U.S. Air Force (Retired)**
Payload Specialist
Born June 26, Hackensack, New Jersey; Hometown: Kinnelon, New Jersey.
Bachelor of Science in computer science, the U. S. Air Force Academy
Master of Science in computer science from Texas A&M University
Flew STS-51J on Atlantis in 1985
Total time in space: 4 days, 1 hour, 45 minutes

PARAZYNSKI, Scott E., (M.D.) Civilian
Born July 28, 1961 in Little Rock, Arkansas; Hometowns: Palo Alto, California and Evergreen, Colorado
Bachelor of Science in biology from Stanford University
Doctor of Medicine from Stanford University
Flew STS-66 on Atlantis in 1994
Flew STS-86 on Atlantis in 1997
Flew STS-95 on Discovery in 1998
Flew STS-100 on Endeavour in 2001
Flew STS-120 on Discovery in 2007
7 EVAs with total time of 47 hours 5 minutes
Total time in space: 58 days 12 hours 16 minutes

PARKER, Robert A. R., Civilian
Born December 14, 1936 in New York, New York
Bachelor of Arts in astronomy and physics from Amherst College
Doctor of Philosophy in astronomy from the California Institute of Technology
Flew STS-9 on Columbia in 1983
Flew STS-35 on Columbia in 1990
Total time in space: 19 days 6 hours 52 minutes

PATRICK, Nicholas J.M., Civilian
Born March 22, 1964 in Saltburn, North Yorkshire, United Kingdom
Bachelor of Arts in engineering from the University of Cambridge, England
Master of Arts in engineering from the University of Cambridge, England
Master of Science in mechanical engineering from MIT
Doctor of Philosophy in mechanical engineering from MIT
Flew STS-116 on Discovery in 2006
Flew STS-130 on Endeavour in 2010
3 EVAs for total time of 18 hours 14 minutes
Total time in space: 26 days 14 hours 50 minutes

PAWELCZYK, James A., Civilian
Payload Specialist
Bachelor of Arts in biology and psychology from University of Rochester
Master of Science in physiology from the Pennsylvania State University
Doctor of Philosophy in biology from the University of North Texas
Flew on STS-90 on Columbia in 1998
Total time in space: 15 days 21 hours 51 minutes

PAYTON, Gary E., Major, U.S. Air Force
Born June 20, 1948
Bachelor of Science in astronautical engineering of the U. S. Air Force Academy
Master of Science in astronautical and aeronautical engineering from Purdue University
Flew on STS-51C on Discovery in 1985
Total time in space: 3 days 1 hour 33 minutes
PETERSON, Donald H., Colonel, U.S. Air Force (Retired)  
Born October 22, 1933 in Winona, Mississippi  
Bachelor of Science from U.S. Military Academy  
Master of Science in nuclear engineering from the U.S. Air Force Institute of Technology  
Flew STS-6 on Challenger in 1983  
1 EVA with total time of 4 hours 15 minutes  
Total time in space: 5 days 23 minutes

PHILLIPS, John L., Captain, U.S. Naval Reserves (Retired)  
Born April 15, 1951 in Fort Belvoir, Virginia; Hometown: Scottsdale, Arizona.  
Bachelor of Science in mathematics from the U.S. Naval Academy  
Bachelor of Science in Russian from the U.S. Naval Academy  
Master of Science in aeronautical systems from the University of West Florida  
Master of Science in geophysics and space physics from the University of California-Los Angeles  
Doctorate in geophysics and space physics from the University of California-Los Angeles  
Flew STS-100 on Endeavour in 2001  
Flew Expedition 11 on Soyuz in 2005  
Flew STS-119 on Discovery in 2009  
1 EVA with total time of 4 hours 58 minutes  
Total time in space: 203 days 8 hours 46 minutes

POGUE, William, 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 Skylab 4 in 1974  
2 EVAs with total time of 13 hours 31 minutes  
Total time in space: 84 days 1 hour 15 minutes

POLANSKY, Mark L., Civilian  
Born June 2, 1956 in Paterson, New Jersey; Hometown: Edison, New Jersey.  
Bachelor of Science and Master of Science in aeronautical & astronautical engineering from Purdue University  
Flew STS-98 on Atlantis in 2000  
Flew STS-116 on Discovery in 2006  
Flew STS-127 on Endeavour in 2009  
Total time in space: 41 days 10 hours 50 minutes

PRESCOURT, Charles J., Colonel, U.S. Air Force (Retired)  
Born June 29, 1955 in Waltham, Massachusetts; Hometown: Hudson, Massachusetts.  
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 & strategic studies from the U.S Naval War College  
Flew STS-55 on Columbia in 1993  
Flew STS-71 on Atlantis in 1995  
Flew STS-84 on Atlantis in 1997  
Flew STS-91 on Discovery in 1998  
Total time in space: 39 days 14 hours 16 minutes
READY, William F., Captain, U.S. Navy (Retired)
Born January 24, 1952 in Quonset Point, Rhode Island; Hometown: McLean, Virginia.
Bachelor of Science in aerospace engineering from the U.S Naval Academy
Flew STS-42 on Discovery in 1992
Flew STS-51 on Discovery in 1993
Flew STS-79 on Atlantis in 1996
Total time in space: 28 days 0 hours 44 minutes

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 STS-48 on Discovery in 1991
Flew STS-60 on Discovery in 1994
Total time in space: 13 days 15 hours 36 minutes

REILLY, James F., Civilian,
Born March 18, 1954 at Mountain Home AFB, Idaho; Hometown: Mesquite, Texas.
Bachelor of Science in geosciences from the University of Texas-Dallas
Master of Science in geosciences from the University of Texas-Dallas
Doctor of Philosophy in geosciences from the University of Texas-Dallas
Flew STS-89 on Endeavour in 1998
Flew STS-104 on Atlantis in 2001
Flew STS-117 on Atlantis in 2007
5 EVAs with a total time of 31 hours 10 minutes
Total time in space: 35 days 14 hours 34 minutes

REISMAN, Garrett E., Civilian
Bachelor of Science in economics from the University of Pennsylvania
Bachelor of Science in mechanical engineering from the University of Pennsylvania
Master of Science in mechanical engineering from the California Institute of Technology
Doctor of Philosophy in mechanical engineering from the California Institute of Technology
Flew Expedition 16/17: STS-123 Endeavour (up) and STS-124 Discovery (down) in 2008
Flew STS-132 on Atlantis in 2010
3 EVAs with total time of 21 hours 12 minutes
Total time in space: 107 days 3 hours 15 minutes

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 STS-28 on Columbia in 1989
Flew STS-41 on Discovery in 1990
Flew STS-50 on Columbia in 1992
Flew STS-64 on Discovery in 1994
Total time in space: 33 days 21 hours 29 minutes
ROBINSON, Stephen K., Civilian  
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 (minor in aeronautics and astronautics) from Stanford University  
Flew STS-85 on Discovery in 1997  
Flew STS-95 on Discovery in 1998  
Flew STS-114 on Discovery in 2005  
Flew STS-130 on Endeavour in 2010  
3 EVAS with total time of 20 hours 5 minutes  
Total time in space: 48 days 9 hours 50 minutes

ROMINGER, Kent V., Captain, U.S. Navy (Retired)  
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 STS-73 on Columbia in 1995  
Flew STS-80 on Columbia in 1996  
Flew STS-85 on Discovery in 1997  
Flew STS-96 on Discovery in 1999  
Flew STS-100 on Endeavour in 1991  
Total time in space: 67 days 2 hours 58 minutes

ROSS, Jerry L., Colonel, U.S. Air Force (Retired)  
Born January 20, 1948 in Crown Point, Indiana  
Bachelor of Science in mechanical engineering from Purdue University  
Master of Science in mechanical engineering from Purdue University  
Flew STS-61-B on Atlantis in 1985  
Flew STS-27 on Atlantis in 1988  
Flew STS-37 on Atlantis in 1991  
Flew STS-55 on Columbia in 1993  
Flew STS-74 on Atlantis in 1995  
Flew STS-88 on Endeavour in 1998  
Flew STS-110 on Atlantis in 2002  
9 EVAs with total time of 58 hours 18 minutes  
Total time in space: 58 days 59 minutes 36 seconds

SACCO, Albert, Jr., Civilian  
Payload Specialist  
Born May 3, 1949 in Boston, Massachusetts  
Bachelor of Science in chemical engineering Northeastern University  
Doctor of Philosophy in chemical engineering from MIT  
Flew on STS-73 on Columbia in 1995  
Time in space: 15 days 21 hours 52 minutes

SATCHEL, Robert L., Jr., Civilian  
Born September 22, 1965 in Hampton, Virginia  
Bachelor of Science in chemical engineering from MIT  
Doctorate in chemical engineering from MIT
Doctor in medicine from Harvard University
Flew STS-129 on Atlantis in 2009
2 EVAs with total time of 12 hours 19 minutes
Total time in space: 10 days 19 hours 16 minutes

**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 Apollo 17 in 1972
- 3 EVAs with total time of 22 hours 4 minutes
- Total time in space: 12 days 13 hours 51 minutes

**SCHWEICKART**, Russell L., Civilian
- Born on October 25, 1935 in Neptune, New Jersey
- Bachelor of Science and Master of Science in aeronautics & astronautics from MIT
- Flew Apollo 9 in 1969
- 1 EVA with total time of 46 minutes
- Total time in space: 10 days 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 & astronautics from MIT
- Flew Gemini 8 in 1966
- Flew Apollo 9 in 1969
- Flew Apollo 15 in 1971
- 4 EVAs with total time of 19 hours 35 minutes
- Total time in space: 22 days 18 hours 54 minutes

**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 U.S. Naval Postgraduate School
- Flew STS-72 on Endeavour in 1996
- Flew STS-87 on Columbia in 1997
- 3 EVAs with total time of 19 hours 36 minutes
- Total time in space: 24 days 14 hours 34 minutes

**SCULLY-POWER**, Paul D., Civilian
- Payload Specialist
- Born May 28 1944 in Sydney Australia
- Bachelor of Science in applied mathematics from the University of Sydney
- Flew on 41G on Challenger in 1984
- Total time in space: 8 days, 5 hours, 23 minutes

- 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 Science in aeronautics from the California Institute of Technology
- Flew STS-58 on Columbia in 1993
Flew STS-76 on Atlantis in 1996
Flew STS-90 on Columbia in 1998
Total time in space: 39 days 3 hours 19 minutes

SEDDON, Margaret Rhea, Civilian
Born November 8, 1947 in Murfreesboro, Tennessee
Bachelor of Arts in physiology from the University of California-Berkeley
Doctor of Medicine from the University of Tennessee
Flew STS-51-D on Discovery in 1985
Flew STS-40 on Columbia in 1991
Flew STS-58 on Columbia in 1993
Total time in space: 30 days 2 hours 22 minutes

SEGÀ, Ronald M., Colonel, U.S. Air Force Reserves (Retired)
Born December 4, 1952 in Cleveland, Ohio; Hometowns: Northfield, Ohio and Colorado Springs, Colorado
Bachelor of Science in physics & 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 STS-60 on Discovery in 1994
Flew STS-76 on Atlantis in 1996
Total time in space: 17 days 12 hours 24 minutes

SHAW, Brewster H., Jr., Colonel, U.S. Air Force (Retired)
Born May 16, 1945 in Cass City, Michigan
Bachelor of Science in engineering mechanics from the University of Wisconsin
Master of Science in engineering mechanics from the University of Wisconsin
Flew STS-9 on Columbia in 1983
Flew STS-61-B on Atlantis in 1985
Flew STS-28 on Columbia in 1989
Total time in space: 22 days 5 hours 52 minutes

SHEPHERD, William M., Captain, U.S. Navy (Retired)
Bachelor of Science in aerospace engineering from the U.S. Naval Academy
Master of Science in mechanical engineering from MIT
Flew STS-27 on Atlantis in 1988
Flew STS-41 on Discovery in 1990
Flew STS-52 on Columbia in 1992
Flew Expedition 1: Soyuz (up) in 2000 and STS-102 – Discovery (down) in 2001
Total time in space: 159 days 7 hours 49 minutes

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 STS-51-C on Discovery in 1985
Flew STS-31 on Discovery in 1990
Flew STS-46 on Atlantis in 1992
Total time in space: 16 days 2 hours 4 minutes
SPRING, Sherwood C., Colonel, U.S. Army (Retired)  
Born September 3, 1944 in Hartford, Connecticut  
Bachelor of Science in general engineering from the U.S. Military Academy  
Master of Science in aerospace engineering from the University of Arizona  
Flew STS-61-B on Atlantis in 1985  
2 EVAs with total time of 12 hours 14 minutes  
Total time in space: 6 days 21 hours 4 minutes

SPRINGER, Robert C., Colonel, U. S. Marine Corps (Retired)  
Born May 21, 1942 in St. Louis, Missouri; Hometown: Ashland, Ohio.  
Bachelor of Science in naval science from the U.S. Naval Academy  
Master of Science in operations research & systems analysis from the U.S. Naval Postgraduate School  
Flew STS-29 on Discovery in 1989  
Flew STS-38 on Atlantis in 1990  
Total time in space: 9 days 21 hours 32 minutes

STAFFORD, Thomas P., Lt. General, U.S. Air Force (Retired)  
Born September 17, 1930 in Weatherford, Oklahoma  
Bachelor of Science from the U.S. Naval Academy  
Flew Gemini 6 in 1965  
Flew Gemini 9 in 1966  
Flew Apollo 10 in 1969  
Flew Apollo Soyuz Test Project in 1975  
Total time in space: 21 days 3 hours 43 minutes

STEFANYSHYN-PIPER, Heidemarie M., Captain, U.S. Navy  
Born February 7, 1963 in St. Paul, Minnesota  
Bachelor of Science in mechanical engineering from MIT  
Flew STS-115 on Atlantis in 2006  
Flew STS-126 on Endeavour in 2008  
5 EVAs with total time of 33 hours 42 minutes  
Total time in space: 27 days 15 hours 36 minutes

STEWART, Robert L., Brig. General, U.S. Army (Retired)  
Born August 13, 1942 in Washington, DC  
Bachelor of Science in mathematics from the University of Southern Mississippi  
Master of Science in aerospace engineering from the University of Texas-Arlington  
Flew STS-41-B on Challenger in 1984  
Flew STS-51-J on Atlantis in 1985  
2 EVAs with total time 12 hours 12 minutes  
Total time in space: 12 days 1 hour

STURCKOW, Frederick W., Colonel, U.S. Marine Corps (Retired)  
Born August 11, 1961 in La Mesa, California; Hometown: Lakeside, California.  
Bachelor of Science in mechanical engineering from California Polytechnic State University  
Flew STS-88 on Endeavour in 1998  
Flew STS-105 on Discovery in 2001  
Flew STS-117 on Atlantis in 2007  
Flew STS-128 on Discovery in 2009  
Total time in space: 51 days 9 hours 36 minutes
SULLIVAN, Kathryn D., Civilian
Born October 3, 1951 in Patterson, New Jersey; Hometown: Woodland Hills, California.
Bachelor of Science in earth sciences from the University of California-Santa Cruz
Master of Science in earth sciences from the University of California-Santa Cruz
Doctor of Philosophy in geology from Dalhousie University, Halifax, Nova Scotia
Flew STS-41-G on Challenger in 1984
Flew STS-31 on Discovery in 1990
Flew STS-45 on Atlantis in 1992
1 EVA with total time of 3 hours 29 minutes
Total time in space: 22 days 4 hours 49 minutes

TANI, Daniel M., Civilian
Bachelor of Science in mechanical engineering from MIT
Master of Science in mechanical engineering from MIT
Flew STS-108 on Endeavour in 2001
Flew Expedition 16: STS-120 Discovery (up) and STS-122 Atlantis (down) in 2008
6 EVAs with total time of 39 hours 11 minutes
Total time in space: 131 days 18 hours 5 minutes

TANNER, Joseph R., Civilian
Born January 21, 1950 in Danville, Illinois
Bachelor of Science in mechanical engineering from the University of Illinois
Flew STS-66 on Atlantis in 1994
Flew STS-82 on Discovery in 1997
Flew STS-97 on Endeavour in 2000
Flew STS-115 on Discovery in 2001
7 EVAs with total time of 46 hours 29 minutes
Total time in space: 43 days 13 hours 15 minutes

THAGARD, Norman E., Civilian
Born July 3, 1943 in Marianna, Florida; Hometown: Jacksonville, Florida.
Bachelor of Science in engineering science from the Florida State University
Master of Science in engineering science from the Florida State University
Doctor of Medicine from the University of Texas Southwestern Medical School
Flew STS-7 on Challenger in 1983
Flew STS-51-B on Challenger in 1985
Flew STS-30 on Atlantis in 1989
Flew STS-42 on Discovery in 1992
Flew Mir: Soyuz (up) and STS-71 on Atlantis (down) in 1995
Total time in space: 140 days 13 hours 24 minutes

THOMAS, Donald A., Civilian
Born May 6, 1955 in Cleveland, Ohio
Bachelor of Science in physics from Case Western Reserve University
Master of Science in materials science from Cornell University
Doctor of Philosophy in materials science from Cornell University
Flew STS-65 on Columbia in 1994
Flew STS-70 on Discovery in 1995
Flew STS-83 on Columbia in 1997
Flew STS-94 on Columbia in 1997
Total time in space: 43 days 8 hours 13 minutes
THORNTON, Kathryn C., Civilian
Born August, 17, 1952 in Montgomery, Alabama
Bachelor of Science in physics from Auburn University
Master of Science in physics from the University of Virginia
Doctor of Philosophy in physics from the University of Virginia
Flew STS-33 on Discovery in 1989
Flew STS-49 on Endeavour in 1992
Flew STS-61 on Endeavour in 1993
Flew STS-73 on Columbia in 1995
3 EVAs with total time of 21 hours 11 minutes
Total time in space: 40 days 15 hours 15 minutes

THORNTON, William E., Civilian
Born April 14, 1929 in Faison, North Carolina
Bachelor of Science in physics from the University of North Carolina
Doctor of Medicine from the University of North Carolina
Flew STS-8 on Challenger in 1983
Flew STS-51-B on Challenger in 1985
Total time in space: 13 days 2 hour 47 minutes

THUOT, Pierre J., Commander, U.S. Navy
Born May 19, 1955 in Groton, Connecticut; Hometowns: Fairfax, Virginia & New Bedford, Massachusetts
Bachelor of Science in physics from the U.S. Naval Academy
Masters of Science in system management from the University of Southern California
Flew STS-36 on Atlantis in 1990
Flew STS-49 on Endeavour in 1992
Flew STS-62 on Columbia in 1994
3 EVAs with total time of 17 hours 38 minutes
Total time in space: 27 days 6 hours 51 minutes

TRINH, Eugene H., Civilian
Payload Specialist
Bachelor of Science in mechanical engineering-applied physics from Columbia University
Masters of Science and of Philosophy in applied physics from Yale University
Doctorate of Philosophy in Applied Physics from Yale University
Flew STS-50 on Columbia in 1992
Total time in space: 13 days 19 hours 30 minutes

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 ALT tests 2 and 4
Flew STS-2 on Columbia in 1981
Flew STS-8 on Challenger in 1983
Total time in space: 8 days 7 hours 21 minutes

VAN DEN BERG, Lodewijk, Civilian
Payload Specialist
Born March 24, 1932 in Sluiskil, The Netherlands
Master of Science in chemical engineering, Technical University, Delft, The Netherlands
Master of Science in applied science from the University of Delaware
Doctor of Philosophy in applied science from the University of Delaware
Few on STS-51B on Challenger in 1985
Time in space: 7 days 8 minutes

**VAN HOFTEN, James D., Civilian**
Born June 11, 1944 in Fresno, California; Hometown: Burlington, California.
Bachelor of Science in civil engineering from the University of California-Berkeley
Master of Science in hydraulic engineering from Colorado State University
Doctor of Philosophy in fluid mechanics from Colorado State University
Flew STS-41-C on Challenger in 1984
Flew STS-51-I on Discovery in 1985
4 EVAs with a total time of 21 hours 51 minutes
Total time in space: 14 days 2 hour 57 minutes

**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
Flew STS-44 on Atlantis in 1991
Flew STS-53 on Discovery in 1992
Flew STS-69 on Endeavour in 1995
Flew STS-101 on Atlantis in 2000
Flew Expedition 2 - STS-102 Discovery (up) in 2001 (March)
ST-105 Discovery (down) in 2001 (August)
4 EVAs with a total time of 22 hours 35 minutes
Total time in space: 202 days 5 hours 28 minutes

**WALKER, Charles D., Civilian**
Payload Specialist
Born Aug. 29, 1948
Bachelor of Science in aeronautical and astronautical engineering, Purdue University
Flew on STS-41D on Discovery in 1984
Flew on STS-51D on Discovery in 1985
Flew on STS-61B on Atlantis in 1985
Total time in space: 19 days 21 hours 56 minutes

**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
Flew STS-51 on Discovery in 1993
Flew STS-65 on Columbia in 1994
Flew STS-79 on Atlantis in 1996
Flew Expedition 4: STS-108 Endeavour (up) and STS-111 Endeavour (down) in 2002
3 EVAs with total time of 18 hours 55 minutes
Total time in space: 230 days 13 hours 4 minutes
WANG, Taylor G., Civilian
Payload Specialist
Born June 16, 1940 in Mainland China
Bachelor of Science in physics from the University of California at Los Angeles
Master of Science in physics from the University of California at Los Angeles
Doctorate of Philosophy in physics from the University of California at Los Angeles
Flew STS-51B on Challenger in 1985
Total time in space: 7 days 8 minutes

WEBER, Mary E., Civilian
Born August 24, 1962 in Cleveland, Ohio; Hometown: Bedford Heights, Ohio.
Bachelor of Science in chemical engineering from Purdue University
Doctor on Philosophy in physical chemistry from the University of California-Berkeley
Flew STS-70 on Discovery in 1995
Flew STS-101 on Atlantis in 2000
Total time in space: 18 days 18 hours 30 minutes

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 U.S. Naval Postgraduate School
Flew Skylab 2 in 1973
Flew STS-6 on Challenger in 1983
1 EVA with total time of 2 hour 11 minutes
Total time in space: 33 days 1 hour 13 minutes

WETHERBEE, James D., Captain, U.S. Navy (Retired)
Bachelor of Science in aerospace engineering from the University of Notre Dame
Flew STS-32 on Columbia in 1990
Flew STS-52 on Columbia in 1992
Flew STS-63 on Discovery in 1995
Flew STS-86 on Atlantis in 1997
Flew STS-102 on Discovery in 2001
Flew STS-113 on Endeavour in 2002
Total time in space: 66 days 10 hours 23 minutes

WILLIAMS, Donald E., Captain, U.S. Navy (Retired)
Born February 13, 1958 in Lafayette, Indiana
Bachelor of Science in mechanical engineering from Purdue University
Flew STS-51-D on Discovery in 1985
Flew STS-34 on Atlantis in 1989
Total time in space: 11 days 23 hours 34 minutes

WISOFF, Peter J. K., Civilian
Born August 16, 1958 in Norfolk, Virginia
Bachelor of Science in physics from the University of Virginia
Master of Science and Doctor of Philosophy in applied physics from Stanford University
Flew STS-57 on Endeavour in 1993
Flew STS-68 on Endeavour in 1994
Flew STS-81 on Atlantis in 1997
Flew STS-92 on Discovery in 2000
3 EVAs with total time of 19 hours 53 minutes
Total time in space: 44 days 8 hours 9 minutes

**WOLF, David A., Civilian**
Born August 23, 1956 in Indianapolis, Indiana
Bachelor of Science in electrical engineering from Purdue University
Doctor of Medicine from Indiana University
Flew STS-58 on Columbia in 1993
Flew Mir: STS-86 on Atlantis (up) and STS-89 on Endeavour (down) in 1998
Flew STS-112 on Atlantis 2002
Flew STS-127 on Endeavour in 2009
7 EVAs with total time of 41 hours 05 minutes
Total time in space: 168 days 12 hours 56 minutes

**WOODWARD, Neil W., III, Commander, U.S. Navy**
Born July 26, 1962 in Chicago, Illinois
Bachelor of Science in physics from MIT
Master of Arts in physics from the University of Texas-Austin
Master of management from George Washington University – Washington DC
Total time in space: 0 (un-flown)

**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 astronautical & aeronautical engineering & instrumentation engineering from University of Michigan
Flew Apollo 15 in 1971
1 EVA with total time of 38 minutes
Total time in space: 12 days 7 hours 12 minutes

**YOUNG, John W., Captain, U.S. Navy (Retired)**
Born September 24, 1930 in San Francisco, California
Bachelor of Science in aeronautical engineering from the Georgia Institute of Technology
Flew Gemini 3 in 1965
Flew Gemini 10 in 1966
Flew Apollo 10 in 1969
Flew Apollo 16 in 1972
Flew STS-1 on Columbia in 1981
Flew STS-9 on Columbia in 1983
3 EVAs with total time of 20 hours 15 minutes
Total time in space: 34 days 19 hours 39 minutes

**ZAMKA, George D., Colonel, U.S. Marine Corps (Retired)**
Bachelor of Science in mathematics from U.S. Naval Academy
Master of Science in engineering management from Florida Institute of Technology
Flew STS-120 on Discovery in 2007
Flew STS-130 on Endeavour in 2010
Total time in space: 28 days 20 hours 29 minutes
4.4 DECEASED U.S. ASTRONAUTS

ANDERSON, Michael P., Lt. Colonel, U.S. Air Force
  Bachelor of Science in physics/astronomy from University of Washington
  Master of Science in physics from Creighton University
  Flew STS-89 on Endeavour in 1998
  Flew STS-107 on Columbia in 2003
  Total time in space: 24 days 18 hours 8 minutes
  DIED: February 1, 2003 in the STS-107 accident over Texas

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 University of Southern California
  Flew Gemini 8 in 1966
  Flew Apollo 11 in 1969
  1 EVA with total time of 2 hours 31 minutes
  Total time in space: 8 days 13 hours 59 minutes
  DIED: August 25, 2012

BASSETT II, Charles A., Captain, U.S. Air Force
  Born December 30, 1931 in Dayton, Ohio
  Bachelor of Science in electrical engineering from Texas Technological College
  Total time in space: 0 (un-flown)
  DIED: February 28, 1966 in a T-38 jet crash in St. Louis, Missouri

BRADY, Charles E., Jr., Captain, U. S. Navy
  Doctor of Medicine from Duke University
  Flew STS-78 on Columbia in 1996
  Total time in space: 16 days 21 hours 48 minutes
  DIED: July 23, 2006 at his home in Washington State.

BROWN, David M., Captain, U.S. Navy
  Born April 16, 1956 in Arlington, Virginia
  Bachelor of Science in biology from College of William & Mary
  Doctor of Medicine from Eastern Virginia Medical School
  Flew STS-107 on Columbia in 2003
  Total time in space: 15 days 22 hours 20 minutes
  DIED: February 1, 2003 in the STS-107 accident over Texas

BULL, John S., Civilian
  Born September 25, 1934 in Memphis, Tennessee
  Bachelor of Science in mechanical engineering from Rice University
  Master of Science in aeronautical engineering from Stanford University
  Doctor in aeronautical engineering from Stanford University
  Total time in space: 0 (un-flown)
  DIED: August 11, 2008 following complications related to long-term asthma.
CALDEIRO, Fernando, Civilian
Born June 12, 1958 in Buenos Aires, Argentina; Hometown: New York City and Merritt Island, Florida
Bachelor of Science in mechanical engineering from University of Arizona
Master of Science in engineering management from University of Central Florida
Total time in space: 0 (un-flown)
DIED: October 3, 2009 from brain tumor

CARTER, Manley Lanier, Jr., “Sonny”, Captain, U.S. Navy
Born August 15, 1947 in Macon, Georgia
Bachelor of Arts in chemistry from Emory University
Doctor of Medicine from Emory University
Flew STS-33 On Discovery in 1989
Total time in space: 5 days 0 hours 7 minutes
DIED: April 5, 1991 in a commercial air-line crash while on NASA business travel near New Brunswick, Georgia

CHAFFEE, Roger B., Lt. Commander, U.S. Navy
Born February 15, 1935 in Grand Rapids, Michigan
Bachelor of Science in aeronautical engineering from Purdue University
Total time in space: 0 (un-flown)
DIED: January 27, 1967 in the Apollo 1 spacecraft fire at KSC, Florida

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-Arlington
Doctor of Philosophy in aerospace engineering from University of Colorado
Flew STS-87 on Columbia in 1997
Flew STS-107 on Columbia in 2003
Total time in space: 30 days 14 hours 54 minutes
DIED: February 1, 2003 in the STS-107 accident over Texas

CLARK, Laurel B., Captain, U.S. Navy
Born March 10, 1961 in Ames, Iowa; Hometown: Racine, Wisconsin.
Bachelor of Science in Zoology from University of Wisconsin-Madison
Doctor of Medicine from University of Wisconsin-Madison
Flew STS-107 on Columbia in 2003
Total time in space: 15 days 22 hours 20 minutes
DIED: February 1, 2003 in the STS-107 accident over Texas

CONRAD, Charles, Jr., Captain, U.S. Navy (Retired)
Born June 2, 1930 in Philadelphia, Pennsylvania
Bachelor of Science in aeronautical engineering from Princeton University
Flew Gemini 5 in 1965
Flew Gemini 11 in 1966
Flew Apollo 12 in 1969
Flew Skylab 2 in 1973
4 EVA with total time of 12 hours 28 minutes
Total time in space: 49 days 3 hours 38 minutes
DIED: July 8, 1999 in a motorcycle accident in Ojia, California
COOPER, L. Gordon, Jr., Colonel, U.S. Air Force (Retired)
Born March 6, 1927 in Shawnee, Oklahoma
Bachelor of Science in aeronautical engineering from Air Force Institute of Technology
Honorary Doctorate of Science from Oklahoma City University
Flew Mercury 9 in 1963
Flew Gemini 5 in 1965
Total time in space: 9 days 9 hours 15 minutes
DIED: October 4, 2004 in Ventura California

EISELE, Donn F., Colonel, U.S. Air Force (Retired)
Born June 23, 1930 in Columbus, Ohio
Bachelor of Science in astronautics from U.S. Naval Academy
Master of Science in astronautics from U.S. Air Force Institute of Technology
Flew Apollo 7 in 1968
Total time in space: 10 days 20 hours 8 minutes
DIED: December 2, 1987 of a heart attack in Tokyo, Japan

EVANS, Ronald E., Captain, U.S. Navy (Retired)
Born November 10, 1933 in St. Francis, Kansas
Bachelor of Science in electrical engineering from University of Kansas
Master of Science in aeronautical engineering from U.S Naval Postgraduate School
Flew Apollo 17 in 1972
1 EVA with a total time of 1 hour 5 minutes
Total time in space: 12 days 13 hours 52 minutes
DIED: April 6, 1990 of a heart attack in Scottsdale, Arizona

FREEMAN, Theodore C., Captain, U.S. Air Force
Born February 18, 1930 in Haverford, Pennsylvania
Bachelor of Science from U.S. Naval Academy
Master of Science in aeronautical engineering from University of Michigan
Total time in space: 0 (un-flown)
DIED: October 31, 1964 in a T-38 jet crash at Ellington AFB in Houston

GIVENS, Edward G. Jr., Major, U.S. Air Force
Born January 5, 1930 in Quanah, Texas
Bachelor of Science in naval sciences from U.S. Naval Academy
Total time in space: 0 (un-flown)
DIED: June 6, 1967 in an automobile accident near Houston, Texas

GRIGGS, S. David, Civilian
Born September 7, 1939 in Portland, Oregon
Bachelor of Science from U.S. Naval Academy
Master of Science in administration from George Washington University
Flew STS-51-D on Discovery in 1985
1 EVA with total time of 3 hours 6 minutes
Total time in space: 6 days 23 hours 55 minutes
DIED: June 17, 1989 in crash of WWII era training plane near Earle, Arkansas

GRISSOM, Virgil I., Lt. Colonel, U.S. Air Force
Born April 3, 1926 in Mitchell, Indiana
Bachelor of Science in mechanical engineering from Purdue University
Flew Mercury 4 in 1961
Flew Gemini 3 in 1965
Total time in space: 5 hours 08 minutes
DIED: January 27, 1967 in the Apollo 1 spacecraft fire at KSC, Florida

HENIZE, Karl G., Civilian
Born October 17, 1926 in Cincinnati, Ohio
Bachelor of Arts in mathematics from University of Virginia
Master of Arts in astronomy from University of Virginia
Doctor of Philosophy in astronomy from University of Michigan
Flew STS-51-F on Challenger in 1985
Total time in space: 7 days 22 hours 45 minutes
DIED: October 5, 1993 of respiratory & heart failure climbing Mt. 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 STS-96 on Discovery in 1999
Flew STS-107 on Columbia in 2003
Total time in space: 25 days 17 hours 33 minutes
DIED: February 1, 2003 in the STS-107 accident over Texas

IRWIN, James B., Colonel, U.S. Air Force (Retired)
Born March 17, 1930 in Pittsburgh, Pennsylvania
Bachelor of Science in naval science from U.S. Naval Academy
Master of Science in aeronautical engineering and instrumentation engineering from University of Michigan
Flew Apollo 15 in 1971
3 EVAs with total time of 19 hours 46 minutes
Total time in space: 12 days 7 hours 12 minutes
DIED: August 8, 1991 of a heart attack

JARVIS, Gregory, Civilian
Born Aug. 24, 1944 in Detroit
Bachelor of Science in electrical engineering from State University of New York at Buffalo
Masters in electrical engineering from Northeastern University
Flew on STS-51L on Challenger in 1986
DIED: Jan. 28, 1986 when Challenger exploded after launch

LENOIR, William B., Civilian
Born March 14, 1939 in Miami, Florida
Bachelor of Science in electrical engineering from MIT
Master of Science in electrical engineering from MIT
Doctor of Philosophy in electrical engineering from MIT
Flew STS-5 on Columbia in 1982
Total time in space: 5 days 2 hours 14 minutes
DIED: August 26 2012 from head injuries sustained during a bicycle accident.
LOUNGE, John M. “Mike”, Civilian
Born June 28, 1946 in Denver Colorado
Bachelor of Science in physics and mathematics from U.S. Naval Academy
Master of Science in astrogeophysics from University of Colorado
Flew STS-51-I on Discovery in 1985
Flew STS-26 on Discovery in 1988
Flew STS-35 on Columbia in 1990
Total time in space: 20 days 3 hours 23 minutes
DIED: March 1, 2011

LOW, G. David, Civilian
Born February 19, 1956 in Cleveland, Ohio
Bachelor of Science in physics-engineering from Washington & Lee University
Bachelor of Science in mechanical engineering from Cornell University
Master of Science in aeronautics & astronautics from Stanford University
Flew STS-32 on Columbia in 1990
Flew STS-43 on Atlantis in 1991
Flew STS-57 on Endeavour in 1993
1 EVA with total time of 5 hours 50 minutes
Total time in space: 29 days 18 hours 6 minutes
DIED: March 15, 2008 in Reston, Virginia

McAuliffe, S. Christa, Civilian
Born Sept. 2, 1948 in Boston, Massachusetts
Bachelor of Arts in education Framingham State College
Master in education Bowie State College
Flew on STS-51L
DIED: Jan. 28, 1986 when Challenger exploded after launch

McCoom, William C., Commander, U.S. Navy
Born September 23, 1961 in San Diego, California
Bachelor of Science in applied science from U.S Naval Academy
Master of Science in computer science from University of Maryland
Master of Science in aeronautical engineering from U.S Naval Postgraduate School
Flew STS-107 on Columbia in 2003
Total time in space: 15 days 22 hours 20 minutes
DIED: February 1, 2003 in the STS-107 accident over Texas

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 MIT
Flew STS-41-B on Challenger
Total time in space: 7 days 23 hours 15 minutes
DIED: January 28, 1986 in the STS-51-L accident over Florida

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 University of California-Berkeley
ONIZUKA, Ellison S., Lt. Colonel, U.S. Air Force
Born June 24, 1946 in Kealakekua, Kona, Hawaii
Bachelor of Science in aerospace engineering from University of Colorado
Master of Science in aerospace engineering from University of Colorado
Flew STS-51-C on Discovery in 1985
Total time in space: 3 days 1 hour 33 minutes
DIED: January 28, 1986 in the STS-51-L accident over Florida

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 U.S Naval Postgraduate School
Flew STS-5 on Columbia in 1982
Flew STS-51-B on Challenger in 1985
Total time in space: 12 days 2 hours 23 minutes
DIED: March 22, 1996 in crash of a light aircraft he was testing

PARISE, Ronald A., Civilian
Born May 24, 1951 in Warren, Ohio
Bachelor of Science in physics from Youngstown State University
Master of Science in astronomy from University of Florida
Doctor of Philosophy in astronomy from University of Florida
Flew STS-35 on Columbia in 1990
Flew on STS-67 on Endeavour in 1995
Total time in space: 25 days 14 hours 14 minutes

POINDEXTER, Alan G., Captain, U.S. Navy
Born November 5, 1961 in Pasadena, California; Hometown: Rockville, Maryland.
Bachelor of Science in aerospace engineering from Georgia Institute of Technology
Master of Science in aeronautical engineering from U.S. Naval Postgraduate School
Flew STS-122 on Atlantis in 2008
Flew STS-131 on Discovery in 2010
Total time in space: 27 days 21 hours 9 minutes
DIED: July 1, 2012 in jet ski accident in Florida

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 University of Maryland
Flew STS-41-D on Discovery in 1984
Total time in space: 6 days 0 hours 56 minute
DIED: January 28, 1986 in the STS-51-L accident over Florida

RIDE, Sally K., Civilian
Born May 26, 1951 in Los Angeles, California
Bachelor of Science in physics from Stanford University
Bachelor of Arts in English from Stanford University
Master of Science in physics from Stanford University
Doctor of Philosophy in physics from Stanford University
Flew STS-7 on Challenger in 1983
Flew STS-41-G on Challenger in 1984
Total time in space: 14 days 7 hours 46 minutes
DIED: July 2012 in California of pancreatic cancer

ROBERTSON, Patricia Hilliard, Civilian
  Bachelor of Science in biology from Indiana University of Pennsylvania
  Doctor of Medicine from Medical College of Pennsylvania
  Total time in space: 0 (un-flown)
  DIED: May 24, 2001 of injuries from the crash of a private plane at Wolfe Air Park in
  Manvel, Texas

ROOSA, Stuart A., Colonel, U.S. Air Force (Retired)
  Born August 16, 1933 in Durango, Colorado
  Bachelor of Science in aeronautical engineering from University of Colorado
  Flew Apollo 14 in 1971
  Total time in space: 9 days 42 minutes
  DIED: December 12, 1994 of complications of pancreatitis

SCHIRRA, Walter M., Captain, U.S Navy (Retired)
  Born March 12, 1923 in Hackensack, New Jersey
  Bachelor of Science from U.S. Naval Academy
  Flew Mercury 8 in 1962
  Flew Gemini 6 in 1965
  Flew Apollo 7 in 1968
  Total time in space: 12 days 7 hours 12 minutes
  DIED: May 2, 2007 in San Diego, California

SCOBEE, Francis R., Major, U.S. Air Force (Retired)
  Born May 19, 1939 in Cle Elum, Washington
  Bachelor of Science in aerospace engineering from University of Arizona
  Flew STS-41-C on Challenger in 1984
  Total time in space: 6 days 23 hours 40 minutes
  DIED: January 28, 1986 in the STS-51-L accident over Florida

SEE, Elliot M., Jr., Civilian
  Born July 23, 1927 in Dallas Texas
  Bachelor of Science from U.S. Merchant Marine Academy
  Master of Science in engineering from University of California – Los Angeles
  Total time in space: 0 (un-flown)
  DIED: February 28, 1966 in crash of T-38 jet in St. Louis, Missouri

SHEPARD, Alan B. Jr., Rear Admiral, U.S. Navy (Retired)
  Born November 18, 1923 in East Derry, New Hampshire
  Bachelor of Science from U.S. Naval Academy
  Flew Mercury 3 in 1961
  Flew Apollo 14 in 1971
  2 EVAs with total time of 9 hours 17 minutes
  Total time in space: 9 days 57 minutes
  DIED: July 21, 1998 after a lengthy illness
SLAYTON, Donald K., Major, U.S. Air Force Reserve  
Born March 1, 1924 in Sparta, Wisconsin  
Bachelor of Science in aeronautical engineering from University of Minnesota  
Flew Apollo-Soyuz Test Project (ASTP) in 1975  
Total time in space: 9 days 1 hour 28 minutes  
DIED: June 13, 1993 from complications of a brain tumor in League City, Texas

SMITH, Michael J., Captain, U.S. Navy  
Born August 30, 1945 in Beaufort, North Carolina  
Bachelor of Science in naval science from U.S. Naval Academy  
Master of Science in aeronautical engineering from U.S Naval Postgraduate School  
Total time in space: 0 (un-flown)  
DIED: January 28, 1986 in the STS-51-L accident over Florida

SWIGERT, John L., Jr., Civilian 
Born August 30, 1931 in Denver, Colorado  
Bachelor of Science in mechanical engineering from University of Colorado  
Master of Science in aerospace science from Rensselaer Polytechnic Institute  
Master of Business Administration from University of Hartford  
Flew Apollo 13 in 1970  
Total time in space: 5 days 22 hours 54 minutes  
DIED: December 27, 1982 of cancer

THORNE, Stephen D., Lt. Commander, U.S. Navy  
Born February 11, 1953 in Frankfurt-on-Main, West Germany  
Bachelor of Science in engineering from U.S Naval Academy  
Total time in space: 0 (un-flown)  
DIED: May 24, 1986 in airplane crash in Alta Loma, Texas

VEACH, Charles Lacy, Civilian  
Bachelor of Science in engineering management from U.S. Air Force Academy  
Flew STS-39 on Discovery in 1991  
Flew STS-52 on Columbia in 1992  
Total time in space: 18 days 4 hours 18 minutes  
DIED: October 3, 1995 of cancer in Houston, Texas

VOSS, Janice E., Civilian  
Born October 8, 1956 in South Bend, Indiana  
Bachelor of Science in engineering science from Purdue University  
Master of Science in electrical engineering from MIT  
Doctor in aeronautics/astronautics from MIT  
Flew STS-57 on Endeavour in 1993  
Flew STS-63 on Discovery in 1995  
Flew STS-83 on Columbia in 1997  
Flew STS-94 Columbia in 1997  
Flew STS-99 on Endeavour in 2000  
Total time in space: 49 days 3 hours 50 minutes  
DIED: Feb. 6, 2012 of cancer in Houston, Texas
WALKER, David M., Captain, U.S. Navy (Retired)  
Born May 20, 1944 in Columbus, Georgia; Hometown: Eustis, Florida.  
Bachelor of Science from U.S. Naval Academy  
Flew STS-51-A on Discovery in 1984  
Flew STS-30 on Atlantis in 1989  
Flew STS-53 on Discovery in 1992  
Flew STS-69 on Endeavour in 1995  
Total time in space: 30 days 4 hours 30 minutes  
DIED: April 23, 2001 following a sudden and brief illness

Born November 14, 1930 in San Antonio, Texas  
Bachelor of Science from U.S. Military Academy  
Master of Science in aeronautical engineering from University of Michigan  
Flew Gemini 4 in 1965  
1 EVA with total time of 36 minutes  
Total time in space: 4 days 1 hour 56 minutes  
DIED: January 27, 1967 in the Apollo 1 spacecraft fire at KSC, Florida

WILLIAMS, Clifford C. Jr., Major, U.S. Marine Corps  
Born September 26, 1932 in Mobile, Alabama  
Bachelor of Science in mechanical engineering from Auburn University  
Total time in space: 0 (un-flown)  
DIED: October 5, 1967 in T-38 jet crash near Tallahassee, Florida
5.0 U.S. ASTRONAUT SELECTION BY GROUPS

Females

GROUP 1 - Mercury Astronauts, April 1959:
Carpenter/USN, Cooper/USAF, Glenn/USMC, Grissom/USAF,
Schirra/USN, A. Shepard/USN, Slayton/USAF Reserves (7)

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

GROUP 3 - Pilot Astronauts, October 1963:
Aldrin/USAF, Andrews/USAF, Bassett/USAF, Bean/USN, Cernan/USN, Chaffee/USN, M.
Collins/USAF, Cunningham/USMC Reserves, Eisele/USAF, Freeman/USAF, Gordon/USN,
Schweickart/ANG, D. Scott/USAF, C. Williams/USMC (14)

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

GROUP 5 - Pilot Astronauts, April 1966:
Brand, Bull/USN, Carr/USMC, Duke/USAF, Engle/USAF, Evans/USN, Givens/USAF,
Haise, Irwin/USAF, Lind/USNR, Lousma/USMC, Mattingly/USN, McCandless/USN,

Group 6 - Scientist Astronauts, August 1967:
J. Allen, Chapman, England, Heinze, Holmquest, Lenoir, Llewellyn, Musgrave, O’Leary,
Parker, W. Thornton (11)

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

GROUP 8 - Pilots and Mission Specialists, January 1978:
Bluford/USAF, Brandenstein/USN, Buchli/USMC, Coats/USN, Covey/USAF,
Creighton/USN, Fabian/USAF, A. Fisher, D. Garner/USN, R. Gibson/USN,
F. Gregory/USAF, Griggs/USNR, Hart/ANG, Hauck/USN, Hawley, Hoffman, Lucid,
McBride/USN, McNair, Mullane/USAF, Nagel/USAF, Nelson, Onizuka/USAF, Resnik, Ride,
Scobee/USAF, Seddon, Shaw/USAF, Shriver/USAF, Stewart/USA, Sullivan, Thagard, van
Hoffen/UNR, D. Walker/USN, D. Williams/USN (35)

GROUP 9 - Pilots and Mission Specialists, January 1980:
Bagian/USAFR, Blaha/USAF, Bolden/USMC, Bridges/USAF, Chang-Diaz, Cleave, Dunbar,
W. Fisher, G. Gardner/USAF, Grabe/USAF, Hilmers/USMC, Leestma/USN, Lounge,
O’Connor/USMC, R. Richards/USN, Ross/USAF, M. Smith/USN, Spring/USA,
Springer/USMC (19)

GROUP 10 - Pilots and Mission Specialists, May 1984:
Adamson/USA, E. Baker, M. Brown/USAF, Cameron/USMC, Carter/USN, Casper/USAF,
Culbertson/USN, Guiterrez/USAF, Hammond/USAF, Ivins, Lee/USAF, Low,
McCulley/USN, W. Shepherd/USN, K. Thornton, Veatch/ANG, Wetherbee/USN (17)
GROUP 11 - Pilots and Mission Specialists, June 1985:

GROUP 12 - Pilots and Mission Specialists, August 1987:

GROUP 13 - Pilots and Mission Specialists, January 1990:

GROUP 14 - Pilots and Mission Specialists, March 1992:

GROUP 15 - Pilots and Mission Specialists, January 1995:

GROUP 16 - Pilots and Mission Specialists, May 1996:

GROUP 17 - Pilots and Mission Specialists, June 1998:

GROUP 18 - Pilots and Mission Specialists, July 2000:

GROUP 19 - Pilots, Mission Specialists & Educator Mission Specialists, May 2004:
Acaba(edu), Arnold(edu), Bresnik/USMC, Cassidy/USN, Dutton/USAF, Hernandez, Kimbrough/USA, Marshburn/, Metcalf-Lindenburger(edu), Satchler, S. Walker (11)
GROUP 20 – U S Astronauts, July 2009

Aunon, Epps, Fischer/USAF, Hopkins/USAF, Lindgren, Rubins, Tingle/USN,
Vande Hei/USA, Wiseman/USN (9)

As of the ASCAN Class of 2009, 44,658 people have applied to become astronauts

Only 330 have been accepted into the astronaut candidate program
(48 females & 282 men)
6.0 CONGRESSIONAL SPACE MEDAL OF HONOR

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 in 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.

Rick D. Husband, Willie C. McCool, David M. Brown, Kalpana Chawla, Michael P. Anderson, Laurel B. Clark and Ilan Ramon were posthumously presented the medal for their ultimate sacrifice in service to their Nations and mankind. President George W. Bush presented the medal to their families on February 3, 2004.

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. President George W. Bush presented the medal to their families on July 23, 2004.
## 7.0 ASTRONAUTS AFFILIATIONS TO STATES

### 7.1 ASTRONAUT BIRTHPLACES

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<th>STATE</th>
<th>ASTRONAUT</th>
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<tr>
<td>Alabama (6)</td>
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<td>Forrester, Patrick</td>
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<td>Harris, Bernard</td>
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<td>Kimbrough, Robert (Shane)</td>
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<td>Utah (1)</td>
<td>Lind, Don</td>
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<td>Graveline, Duane</td>
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<td>Bowersox, Ken</td>
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7.2 ASTRONAUT COLLEGES

ALABAMA
- Auburn University(6)
  Former: J. Davis, H. Hartsfield, T. Mattingly, K. Thornton, James Voss
  Deceased: C. Williams
- Troy State(4)
  Active: K. Ford
  Former: W. Gregory, J. Halsell, K. Kregel
- University of Alabama(1)
  Management: J. Kelly
- University of Alabama-Huntsville(1)
  Former: J. Davis
- University of Alabama-Birmingham(1)
  Management: L. Morin

ARIZONA
- University of Arizona(6)
  Active: J. Acaba, D. Pettit
  Former: T. Jones, S. Spring
  Deceased: F. Caldeiro, D. Scobee

CALIFORNIA
- Naval Post-Graduate School (32)
  Active: J. Williams
  Management: M. Foreman, S. Frick, D. Leestma
  Former: S. Altman, D. Bursch, G. Carr, E. Cernan, M. Coats, R. Curbeam,
  C. Ferguson, K. Ham, J. Herrington, D. Hilmers, B. Jett, M. Kelly, M. Lopez-Algeria,
  J. Lousma, J. McBride, E. Mitchell, C. Noriega, L. Nowak, K. Reightler, K. Rominger,
  W. Scott, R. Springer, P. Weitz
  Deceased: R. Evans, W. McCool, R. Overmyer, A. Poindexter, M. Smith
- Stanford University (21)
  Active: M. Fincke, M. Hopkins, K. Rubins, M. Vande Hei
  Management: E. Ochoa, S. Smith
  B. McCandless, B. Morgan, S. Parazynski, S. Robinson J. Wisoff
  Deceased: J. Bull, G.D. Low, S. Ride
- California Institute of Technology (11)
  Active: R. Behnken, G. Chamitoff
  Former: F. Borman, C.G. Fullerton, E. Gibson, C. Meade, C. Michel, R. Parker,
  G. Reisman, H. Schmitt, R. Searfoss
- University of Southern California (10)
  Management: C. Bolden, N. Currie
  Deceased: N. Armstrong
- University of California – Berkeley (8)
  Active: R. Walheim
  Deceased: B. O’Leary
- University of California-Los Angeles (7)
  Active: M. McArthur
  Management: A. Fisher
Former: V. Brand, J. Phillips, W. Cunningham, S. Musgrave
Deceased: E. See
• California Polytechnic (3)
Active: G. Chamitoff
Former: R. Gibson, R. Sturckow
• California State – Fresno (3)
Former: S. Nagel, D. McMonagle
Deceased: R. Husband
• University of California-Santa Barbara (3)
Active: J. Acaba
Former: L. Chiao, J. Hernandez
• Golden Gate (2)
Former: C. Precourt, T. Henricks
• Harvey Mudd (2)
Management: S. Love
Former - G. Nelson
• University of California – Davis (2)
Active: T. Caldwell Dyson
Former: S. Robinson
• University of California-San Diego (2)
Active: M. McArthur, K. Rubins
• University of California-Santa Cruz (2)
Former: S. Hawley, K. Sullivan
• Cal State(1) Active: T. Caldwell Dyson
• Cal State-Northridge(1) Former: S. Horowitz
• San Diego State(1) Management: E. Ochoa
• San Francisco State(1) Management: Y. Cagle
• University of Pacific(1) Former: J. Hernandez

COLORADO
• United States Air Force Academy (36)
Management: J. Casper, J. Kelly, J. Dutton
Former: J. Blaha, M. Bloomfield, K. Bobko, R. Bridges, C. Brown, K. Chilton,
R. Covey, B. Duffy, G. Gardner, R. Grabe, F. Gregory, W. Gregory, S. Gutierrez, J. Halsell,
McMonagle, C. Precourt, R. Searfoss, R. Sega, L. Shriver
Deceased: C. Veach
• University of Colorado (14)
Active - K. Lindgren, S. Swanson
Former - V. Brand, S. Carpenter, J. Herrington, R. Hieb, M. Ivins, R. Sega, James Voss
• Colorado State (4)
Active: K. Lindgren
Former: M. Cleave, K. Rominger, J. van Hoften

CONNECTICUT
• Coast Guard Academy (2)
Active: D. Burbank
Former: B. Melnick
University of Connecticut (2)  
  **Active:** R. Mastracchio  
  **Former:** Franklin Chang-Diaz  
  **Hartford (1)**  
  **Deceased:** J. Swigert  
  **Yale(1)**  
  **Former:** J. Allen  

**DC (Washington)**  
  **George Washington University (7)**  
  **Active:** S. Aunon  
  **Management:** C. Camarda  
  **Former:** J. Creighton, F. Gregory, M. Coats, N. Woodward  
  **Deceased:** D. Griggs  
  **Georgetown(1)  
  **Deceased:** B. O’Leary  

**FLORIDA**  
  **Embry-Riddle University (6)**  
  **Active:** D. Burbank, A. Drew, N. Stott, T. Virts  
  **Management:** R. Garan  
  **Former:** S. Still-Kilrain  
  **University of West Florida (6)**  
  **Management:** K. Cockrell  
  **Former:** J. Buchli, B. Melnick, B. O’Connor, J. Phillips, R. Richards  
  **Florida Tech (4)**  
  **Active:** S. Williams  
  **Management:** K. Hire  
  **Former:** J. Higginbotham, G. Zamka  
  **University of Florida (3)**  
  **Active:** K. Ford,  
  **Management:** R. Garan  
  **Former:** W. Fisher  
  **Florida State (2)**  
  **Former:** W. Scott, N. Thagard  
  **Atlantic(1)**  
  **Active:** S. Swanson  
  **University of Central Florida(1)  
  **Deceased:** F. Caldeiro  
  **University of Central Florida(1)**  
  **Active:** N. Stott  
  **University of Miami(1)**  
  **Former:** D. Barry  

**GEORGIA**  
  **Georgia Institute of Technology (14)**  
  **Active:** E. Boe, R.S. Kimbrough, T. Kopra, S. Magnus, D. Wheelock  
  **Management:** W. McArthur  
  **Former:** M. Clifford, N.J. Davis, B. Hammond, S. Horowitz, S. Still-Kilrain, R. Truly, J. Young  
  **Deceased:** A. Poindexter  
  **Emory (1)**  
  **Deceased:** M. Carter  

**IOWA**  
  **Cornell(1)  
  **Deceased:** D. Hilmers  
  **Iowa State(1)**  
  **Management:** C. Anderson  
  **Wesleyan(1)  
  **Active:** P. Whitson
IDAHO
- Northwest Nazarene (1)  Former: R. Hieb
- University of Idaho (1)  Former: J. Ashby

ILLINOIS
- University of Illinois (6)
  Active: M. Hopkins
  Former: S. Altman, L. Archambault, D. Gardner, S. Nagel, J. Tanner
- Northwestern (2)
  Active: M. Barratt
  Former: J. Kerwin
- Southern Illinois University (1)  Former: J. Higginbotham
- University of Chicago (1)  Management: J. Grunsfeld

INDIANA
- Purdue University (20)
  Active: A. Feustel, S. Tingle
  Management: J. Casper
  Deceased: R. Chaffee, V. Grissom, N. Armstrong
- Notre Dame (3)
  Active: K. Ford
  Management: M. Good
  Former: J. Wetherbee
- DePauw University (1)  Former: J. Allen
- Indiana University (1)  Former: D. Wolf

KANSAS
- University of Kansas (3)
  Former: J. Engle, S. Hawley
  Deceased: R. Evans

KENTUCKY
- University of Kentucky (1)  Former: S. Musgrave
- West Kentucky University (1)  Management: T. Wilcutt

LOUISIANA
- Tulane University (1)  Active: D. Hurley

MARYLAND
- United States Naval Academy (52)
  Active: S. Bowen, C. Cassidy, S. Williams
  Management: C. Bolden, R. Cabana, M. Foreman, S. Frick, K. Hire, D. Leestma


- University of Maryland (5)
  Active: R. Arnold, J. Epps
  Management: P. Richards
  Deceased: W. McCool, J. Resnik

- John Hopkins (1)
  Active: G. Wiseman

- Frostberg State University (1)
  Active: R. Arnold

- Loyola University (1)
  Management: T.J. Creamer

MASSACHUSETTS
- Massachusetts Institute of Technology (34)
  Management: T. Creamer, J. Grunsfeld, M. Massimino
  Deceased: W. Lenoir, R. McNair, Janice Voss

- Harvard University (4)
  Active: S. Wilson
  Former: J. Hoffman, R. Satcher, H. Schmitt

- Amherst (2)
  Former: J. Hoffman, R. Parker

- University of Massachusetts (1)
  Active: C. Coleman

- SE Massachusetts University (1)
  Active: S. Tingle

- Harvard College (1)
  Former: J. Apt

- Holy Cross (1)
  Former: J. Kerwin

- Tufts (1)
  Former: R. Hauck

- Williams College (1)
  Deceased: B. O'Leary

MICHIGAN
- University of Michigan (7)
  Former: J. Lousma, J. McDivitt, A. Worden
  Deceased: T. Freeman, K. Henize, J. Irwin, E. White

MINNESOTA
- University of Minnesota (3)
  Active: K. Lindgren
  Former: D. Carey
  Deceased: D. Slayton

- St. John's University (1)
  Active: M. Vande Hei

MISSOURI
- University of Missouri-Rolla (3)
  Active: S. Magnus
  Management: J. Kavandi
  Former: T. Akers
• University of Missouri (2)
  Former: L. Godwin, R. Richards
• Webster - Missouri (2)
  Former: E. Collins, S. Gutierrez
• Missouri Southern (1)
  Management: J. Kavandi
• Southeast Missouri State (1)
  Former: L. Godwin
• Washington University (1)
  Former: R. Behnken

MISSISSIPPI
• Southern Mississippi (1)
  Former: R. Stewart

MONTANA
• John Carroll University (1)
  Former: C. Walz

NEBRASKA
• Creighton (1)
  Deceased: M. Anderson
• Hastings (1)
  Management: C. Anderson
• Wayne State (1)
  Former: J. Linenger

NEW HAMPSHIRE
• University of New Hampshire (2)
  Management: R. Linnehan, L. Morin
• Dartmouth (1)
  Former: J. Newman

NEW JERSEY
• Princeton (4)
  Former: J. Adamson, D. Barry, G. Carr
  Deceased: C. Conrad
• Rutgers (2)
  Management: M. Runco
  Former: T. Hart

NEW YORK
• United States Military Academy, West Point (18)
  Active: R.S. Kimbrough, T. Kopra, D. Wheelock, J. Williams
  Management: P. Forrester, W. McArthur
  Former: J. Adamson, E. Aldrin, F. Borman, M. Clifford, M. Collins, C. Gemar,
  R. Mullane, D. Peterson, D. Scott, S. Spring, A. Worden
  Deceased: E. White
• Columbia University (6)
  Active: G. H. Johnson
  Management: M. Massimino
  Former: K. Bowersox, K. Chilton, W. Gregory, S. Musgrave
• Cornell University (6)
  Former: E. Baker, D. Barry, M. Jemison, E. Lu, D. Thomas
  Deceased: G. D. Low
• Rensselaer Polytechnic (3)
  Active: R. Mastracchio, G. Wiseman
  Deceased: J. Swigert
• Merchant Marine Academy (2)
  Former: M. Kelly
  Deceased: E. See
• State University of New York (2)
  Management: R. Garan
  Former: E. Baker
• Syracuse (2)
  Former: E. Collins, S. Musgrave
  • City College (1)
  • LeMoyne College (1)
  • New York University (1)
  • Polytechnic Institute of Brooklyn (1)
  • Rochester (1)
  • NY State-Farmingdale (1)
  • NY State-Maritime (1)

NORTH CAROLINA
  • University of North Carolina (3)
    Former: J. Linenger, W. Thornton
    Deceased: C. Brady
  • Davidson College (1)
  • Duke University (1)
  • Wake Forest (1)
  • Agricultural & Technical State (1)

NORTH DAKOTA
• University of North Dakota (1)
  Active: K. Nyberg

OHIO
  • Air Force Institute of Technology (12)
    Active: K. Ford, M. Fossum
    Former: W. Anders, G. Bluford, M. Brown, J. Fabian, J. Halsell, S. Lindsey, M. Mullane, D. Peterson
    Deceased: G. Cooper, D. Eisele
  • The Ohio State University (3)
    Management: N. Currie, R. Linnehan
    Former: R. Sega
    • Baldwin-Wallace (1)
    • Case Western (1)
    • Kent State (1)
    • Marietta (1)
    • Muskingum (1)
    • Wright State (1)

OKLAHOMA
• University of Oklahoma (3)
  Former: S. Lucid, O. Garriott, F. Haise,
• **Oklahoma Baptist** (1)  
  *Former: W. Pogue*  
  *Deceased: G. Cooper (hon Sci doctorate)*

• **Oklahoma City** (1)  
  *Former: W. Pogue*  
  *Deceased: G. Cooper (hon Sci doctorate)*

• **Oklahoma State** (1)  
  *Former: W. Pogue*

**OREGON**

• **Oregon State (2)**  
  *Active: D. Pettit*  
  *Former: W. Oefelein*

**PENNSYLVANIA**

• **Drexel University (3)**  
  *Management: P. Richards*  
  *Former: C. Ferguson, J. Bagian*

• **University of Pennsylvania (3)**  
  *Management: M. Gernhardt*  
  *Former: G. Reisman*

• **Indiana University of Pennsylvania (1)**  
  *Deceased: P. Robertson*

• **Carnegie-Mellon (2)**  
  *Former: E. Mitchell*  
  *Deceased: J. Resnik*  
  *Penn State (2)*  
  *Former: G. Bluford, P. Weitz*

• **Lehigh (1)**  
  *Former: T. Hart*

• **Pennsylvania Medical College (1)**  
  *Deceased: P. Robertson*

• **Thomas Jefferson (1)**  
  *Former: J. Bagian*

• **Villanova (1)**  
  *Former: A. Allen*

**RHODE ISLAND**

• **Naval War College (1)**  
  *Active: J. Williams*

**SOUTH CAROLINA**

• **The Citadel (1)**  
  *Active: R. Bresnik*

**TENNESSEE**

• **University of Tennessee - Tennessee (7)**  
  *Active: S. Kelly, B. Wilmore*  

• **Tennessee Tech (1)**  
  *Active: B. Wilmore*

• **Vanderbilt (1)**  
  *Management: M. Gernhardt*  
  *Former: W. Oefelein*

• **Tennessee Space Institute (1)**  
  *Former: W. Oefelein*

**TEXAS**

• **University Of Houston (7)**  
  *Active: R. Walheim*  
  *Management: N. Currie*  
  *Former: B. Dunbar, B. Harris, D. Holmquest, S. Musgrave, J.D. Olivas*
University of Texas (12)
Active:  S. Aunon, K. Nyberg, S. Wilson
Management:  M. Baker, K. Cockrell
Former:  A. Bean, R. Crippen, P. Lockhart, C. Meade, N. Thagard, N. Woodward
Deceased:  K. Chawla
Rice University (7)
Active:  S. Walker, P. Whitson
Deceased:  J. Bull
University of Houston-Clear Lake (7)
Active:  G. Chamitoff, M. Fincke, M. Fossum, R. Mastracchio
Former:  G. Bluford, G. Harbaugh, B. McCandless
Texas Tech (4)
Former:  B. Harris, P. Lockhart
Deceased:  C. Bassett, R. Husband
Texas A&M (2)
Active:  M. Fossum, S. Swanson
University of Texas-Arlington (1)
Former:  R. Stewart
University of Texas – Medical Branch (2)
Active:  K. Lindgren, T. Marshburn
Baylor University(1)  Former:  D. Holmquest
University of Texas-Dallas(1)  Former:  J. Reilly
University of Texas-El Paso(1)  Former:  D. Olivas
Univ. of Texas-Public Health(1)  Former:  E. Baker

UTAH
University of Utah(1)  Former:  D. Lind
Utah State(1)  Former:  M. Cleave

VERMONT
University of Vermont(1)  Former:  D. Graveline

VIRGINIA
University of Virginia (6)
Active:  T. Marshburn
Management:  P. Forrester, L. Melvin
Former:  K. Thornton, J. Wisoff
Deceased:  C. Henize
East Virginia Medical(1)  Deceased:  D. Brown
Old Dominion(1)  Former:  M. Bloomfield Virginia
Polytech(1)  Management:  C. Camarda
William & Mary(1)  Deceased:  D. Brown
University of Richmond(1)  Management:  L. Melvin
Washington & Lee(1)  Deceased:  G. Low
WASHINGTON

- University of Washington (12)
  
  Active: D. Antonelli, M. Barratt
  
  Management: Y. Cagle, G.C. Johnson, J. Kavandi, S. Love, J. Dutton
  
  Former: B. Dunbar, J. Fabian, R. Gordon, G. Nelson
  
  Deceased: M. Anderson

- Washington State(1)  Former: J. Fabian
- Whitman College(1)  Active: D. Metcalf-Lindenburger

WISCONSIN

- University of Wisconsin - Wisconsin (2)
  
  Former: B. Shaw
  
  Deceased: L. Clark

- University of Wisconsin-River Falls(1)  Former: D. Brandenstein
8.0 ASTRONAUTS BORN IN OTHER COUNTRIES

* (Includes Current International Astronauts)

ARGENTINA: Caldeiro

AUSTRALIA: Chapman, Scully-Power, A. Thomas

BRAZIL: Pontes

CANADA: Chamitoff, Hadfield, Hansen, Payette, Saint-Jacques, Thirsk, D. R. Williams

CHINA: Anders, Lucid, Wang

COSTA RICA: Chang-Diaz

DENMARK: Mogensen

ENGLAND: Foale, G.H. Johnson, Patrick, Peake, Sellers

FRANCE: Eyharts, Pesquet

GERMANY: Gerst, Schlegel, Thorne

INDIA: Chawla

ITALY: Cristoforetti, M. Collins, Nespoli, Parmitano, Vittori

JAPAN: Doi, Furukawa, Hoshide, Kanai, Noguchi, Onishi, Wakata, Yui

NETHERLANDS: Kuipers, Van Den Berg

PACIFIC ISLANDS: Newman

PERU: Noriega

SPAIN: Lopez-Alegria

SWITZERLAND: Nicollier

SWEDEN: Fuglesang

TAIWAN: Lindgren

VIETNAM: Trinh

WALES: Llewellyn

*See biographical sketches for city.
9.0  ASTRONAUTS' SCOUTING RECORDS

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

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

Clark, Janice Voss

CURRENT-REGULAR
FORMER-ITALICS
DECEASED BOLD
10.0 MILITARY ASTRONAUTS

10.1 UNITED STATES AIR FORCE

Akers, Thomas D. Former Lt. Colonel USAF Retired
Aldrin, Edwin (Buzz) Former Colonel USAF Retired
Anderson, Michael P. Deceased Lt. Colonel USAF
Archambault, Lee J. Former Colonel USAF
Bassett, Charles A Deceased Captain USAF
Behnken, Robert (Bob) Current Lt. Colonel USAF
Blaha, John E. Former Colonel USAF Retired
Bloomfield, Michael (Mike) Former Colonel USAF Retired
Bluford, Guion S. Former Colonel USAF Retired
Bobko, Karol J. Former Colonel USAF Retired
Boe, Eric Current Colonel USAF Retired
Borman, Frank Former Colonel USAF Retired
Bridges, Roy D. Former Major General USAF Retired
Brown, Curtis (Curt) Former Colonel USAF Retired
Brown, Mark N. Former Colonel USAF Retired
Cagle, Yvonne Management Colonel USAF
Carey, Duane G. Former Lt. Colonel USAF Retired
Casper, John Management Colonel USAF Retired
Chilton, Kevin P. Former General US Retired
Coleman, Catherine (Cady) Current Colonel USAF Retired
Collins, Eileen M. Former Colonel USAF Retired
Cooper, L. Gordon (Gordo) Deceased Colonel USAF Retired
Covey, Richard O. Former Colonel USAF Retired
Drew, B. Alvin (Al) Current Colonel USAF Retired
Duffy, Brian Former Colonel USAF Retired
Duke, Charles Former Brig. General USAF Retired
Dutton, James P. (Jim) Current Colonel USAF
Eisele, Donn F. Deceased Colonel USAF Retired
Engle, Joe H. Former Major General USAF Retired
Fabian, John M. Former Colonel USAF Retired
Fincke, Edward Michael Current Colonel USAF Retired
Fischer, Jack D. Current Lt. Colonel USAF
Ford, Kevin A. Current Colonel USAF Retired
Freeman, Theodore C. Deceased Captain USAF
Fullerton, C. Gordon Former Colonel USAF Retired
Garan, Ronald J. (Ron) Current Colonel USAF Retired
Gardner, Guy S. Former Colonel USAF Retired
Givens, Edward G. Deceased Major General USAF
Good, Michael Management Colonel USAF Retired
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10.2 UNITED STATES ARMY

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Clifford, Michael R. Former Lt. Colonel USA Retired
Creamer, Timothy J. (TJ) Management Colonel USA Retired
Currie, Nancy (Sherlock) Management Colonel USA Retired
Forrester, Patrick (Pat) Management Colonel USA Retired
Gemar, Charles (Sam) Former Lt. Colonel USA
Kimbrough, Robert Shane Current Colonel USA
Kopra, Timothy (Tim) Current Colonel USA Retired
McArthur, William S. (Bill) Management Colonel USA Retired
Spring, Sherwood C. (Woody) Former Colonel USA Retired
Stewart, Robert L. Former Brig. General USA Retired
Vande Hei, Mark Current Colonel USA
Voss, James S. (Jim) Former Colonel USA Retired
Wheelock, Douglas H Current Colonel USA
Williams, Jeffrey N. (Jeff) Current Colonel USA Retired

10.3 UNITED STATES COAST GUARD

Burbank, Daniel C. (Dan) Current Captain USCG Retired
Melnick, Bruce E. Former Commander USCG Retired
### 10.4 UNITED STATES MARINE CORPS

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## 10.5 UNITED STATES NAVY

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<td>Shepherd, William M. (Bill)</td>
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<td>Captain</td>
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<tr>
<td>Smith, Michael J.</td>
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<td>Thuot, Pierre J.</td>
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<td>Wetherbee, James D. (Jim)</td>
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<td>Phillips, John L.</td>
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### 11.0 U.S. SPACE PROGRAM HUMAN SPACE FLIGHT LOG

### 11.1 PRE-SHUTTLE SPACE FLIGHT

#### MERCURY-REDSTONE

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<thead>
<tr>
<th>Rocket</th>
<th>Astronaut</th>
<th>Date</th>
<th>Duration</th>
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<tbody>
<tr>
<td>Mercury 3</td>
<td>Alan Shepard</td>
<td>5/5/61</td>
<td>15 min – 28 sec</td>
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<tr>
<td>Mercury 4</td>
<td>Virgil Grissom</td>
<td>7/21/61</td>
<td>15 min – 37 sec</td>
</tr>
<tr>
<td>Mercury 6</td>
<td>John Glenn</td>
<td>2/20/62</td>
<td>4 hr – 55 min – 23 sec</td>
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<tr>
<td>Mercury 7</td>
<td>Scott Carpenter</td>
<td>5/24/62</td>
<td>4 hr – 56 min – 05 sec</td>
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<tr>
<td>Mercury 8</td>
<td>Walter Schirra</td>
<td>10/3/62</td>
<td>9 hr – 13 min – 11 sec</td>
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<tr>
<td>Mercury 9</td>
<td>Gordon Cooper</td>
<td>5/15-16/63</td>
<td>34 hr – 19 min – 49 sec</td>
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#### GEMINI-TITAN

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<th>Rocket</th>
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<tr>
<td>Gemini III</td>
<td>Virgil Grissom, John Young</td>
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<tr>
<td>Gemini IV</td>
<td>James McDivitt, Edward White</td>
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<td>Gemini V</td>
<td>L. Gordon Cooper, Charles Conrad</td>
<td>8/21-29/65</td>
<td>190 hr – 55 min – 14 sec</td>
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<tr>
<td>Gemini VII</td>
<td>Frank Borman, James Lovell</td>
<td>12/4-18/65</td>
<td>330 hr – 35 min – 01 sec</td>
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<td>Gemini VI-A</td>
<td>Walter Schirra, Thomas Stafford</td>
<td>12/15-16/65</td>
<td>25 hr – 51 min – 24 sec</td>
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<td>Gemini VIII</td>
<td>Neil Armstrong, David Scott</td>
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<td>Gemini IX-A</td>
<td>Thomas Stafford, Eugene Cernan</td>
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<td>Gemini XII</td>
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<td>Crew 3</td>
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<td>Apollo 7</td>
<td>Walter Schirra</td>
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<td>Apollo 8</td>
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<td>Rusty Schweickart</td>
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<td>Michael Collins</td>
<td>Buzz Aldrin</td>
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<td>Apollo 14</td>
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<td>Apollo 16</td>
<td>John Young</td>
<td>Ken Mattingly</td>
<td>Charlie Duke</td>
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<td>Apollo 17</td>
<td>Eugene Cernan</td>
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<td>Skylab SL-2</td>
<td>Charles Conrad, Joseph Kerwin, Paul Weitz</td>
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<td>672 hr – 49 min – 49 sec</td>
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<td>Skylab SL-3</td>
<td>Al Bean, Owen Garriott, Jack Lousma</td>
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<td>1427 hr – 09 min – 04 sec</td>
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<tr>
<td>Skylab SL-4</td>
<td>Gerald Carr, Edward Gibson, William Pogue</td>
<td>11/16/73 – 2/8/74</td>
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**APOLLO-SOYUZ TEST PROJECT (ASTP)**

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## 11.2 SHUTTLE MISSIONS

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Lichtenberg, Byron - PS
Merbold, Ulf - PS (Germany)

41-B  
Challenger  
Brand, Vance D. - CDR 7/23/15 Feb-03-84 07:00:00 a.m. CST
Gibson, Robert L. "Hoot" - PLT 127 Feb-11-84 06:15:55 a.m. CST
McCandless II, Bruce - MS 2,870,000 KSC
Stewart, Robert L. - MS
McNair, Ronald E. - MS

41-C  
Challenger  
Crippen, Robert L. "Bob" - CDR 6/23/40 Apr-06-84 07:58:00 a.m. CST
Scobee, Francis R. "Dick" - PLT 107 Apr-13-84 07:38:05 a.m. CST
Nelson, George D. "Pinky" - MS 2,880,000 EAFB
Van Hoften, James D. "Ox" - MS
Hart, Terry J. "TJ" - MS

41-D  
Discovery  
Hartsfield, "Hank" - CDR 06/00:56:04 Aug-30-84 07:41:53 a.m. CDT
Coats, Michael L. "Mike" - PLT 144:56:04 Sep-05-84 08:37:57 a.m. CDT
Resnik, Judith A. - MS 97 EAFB
Hawley, Steven A. - MS 2,210,000
Mullane, "Mike" - MS
Walker, Charles D. - PS

41-G  
Challenger  
Crippen, Robert L. "Bob" - CDR 08/05/23 Oct-05-84 06:03:00 a.m. CDT
McBride, Jon A. - PLT 133 Oct-13-84 11:26:37 a.m. CDT
Sullivan, Kathryn D. - MS 3,400,000 KSC
Ride, Sally K. - MS
Leestma, David D. - MS
Garneau, Marc - PS (Canada)
Scully-Power, Paul D. - PS

51-A  
Discovery  
Hauck, "Rick" - CDR 07/23/44 Nov-08-84 06:15:00 CST
Walker, David M. - PLT 127 Nov-16-84 05:59:56 CST
Fisher, Anna L. - MS 2,870,000 KSC
Gardner, Dale A. - MS
Allen, Joseph P. - MS

51-C  
Discovery  
Mattingly, "TK" - CDR 3/01/33 Jan-24-85 1:50 p.m. CST
Shriver, Loren J. - PLT 48 Jan-27-85 3:23:27 p.m. CST
Onizuka, Ellison S. - MS 1,242,566 KSC
Buchli, James F. "Jim" - MS
Payton, Gary E. - PS (DOD)

51-D  
Discovery  
Bobko, Karol J. "Bo" CDR 6/23/54 Apr-12-85 07:59:05 a.m. CST
Williams, Donald E. - PLT 110 Apr-19-85 07:54:24 a.m. CST
Seddon, M. Rhea - MS 2,889,785 KSC
Hoffman, Jeffrey A. - MS
Griggs, S. David - MS
Walker, Charles D. - PS
Garn, E. J. "Jake" - PS (U.S. Sen-UT)
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<tr>
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<th>Crew Members</th>
<th>Launch Date</th>
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<td>Overmyer, &quot;Bob&quot; - CDR</td>
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<td>van den Berg, Lodewijk - PS</td>
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Nicollier, Claude - MS2
Hoffman, Jeffrey A. - MS3
Akers, Thomas D. - MS5

STS-60
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Bolden, Jr., Charles F. - CDR 8/07/09 Feb-03-94 06:10 a.m. CST
Reightler, Jr., Kenneth S. - PLT 130 Feb-11-94 01:19 p.m. CST
Chang-Diaz, Franklin R. - MS3 (PYLD CDR) 3,439,704 KSC
Davis, N. Jan - MS1
Sega, Ronald M. - MS2
Krikalev, Sergei K. - MS4 (Russia)

STS-62
Columbia
Casper, John H. - CDR 13/23/16 Mar-04-94 07:53 a.m. CST
Allen, Andrew M. - PLT 224 Mar-18-94 07:09 a.m. CST
Thout, Pierre J. - MS1 5,820,146 KSC
Gemar, Charles "Sam" - MS2
Ivins, Marsha S. - MS3

STS-59
Endeavour
Gutierrez, Sidney M. - CDR 11/05/49 Apr-09-94 06:06 a.m. CDT
Chilton, Kevin P. - PLT 182 Apr-20-94 11:54 a.m. CDT
Godwin, Linda M. - MS3 (PYLD CDR) 4,704,835 EAFB
Apt, Jay - MS1
Clifford, Michael R. "Rich" - MS2
Jones, Thomas D. - MS4

STS-65
Columbia
Cabana, Robert D. "Bob" - CDR 14/17/55 Jul-08-94 11:43 a.m. CDT
Halsell, Jr., "Jim" - PLT 236 Jul-23-94 5:38 a.m. CDT
Hieb, Richard J. "Rick" - MS1 (PYLD CDR) 6,143,846 KSC
Walz, Carl E. - MS2
Chiao, Leroy - MS3
Thomas, Donald A. "Don" - MS4
Naito-Mukai, Chiaki - PS1 (Japan)

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Richards, "Dick" - CDR 10/22/49 Sep-09-94 5:23 p.m. CDT
Hammond, L. Blaine - PLT 177 Sep-20-94 4:14 p.m. CDT
Linenger, Jerry M. - MS1 4,576,174 EDW
Helms, Susan J. - MS2
Meade, Carl J. - MS3/EV2
Lee, Mark C. - MS4/EV1

STS-68
Endeavour
Baker, "Mike" - CDR 11/05/46 Sep-30-94 6:16 a.m. CDT
Wilcutt, "Terry" - PLT 182 Oct-11-94 12:02 p.m. CDT
Smith, Steven L. - MS1 4,703,000 EDW
Bursch, Daniel W. "Dan" - MS2
Wisoff, Peter J. K. "Jeff" - MS3
Jones, Thomas D. "Tom" - MS4 (PYLD CDR)
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| STS-73 | Bowersox, Ken*  -  CDR  
Columbia | Rominger, Kent V.  -  PLT  
Coleman, "Cady"  -  MS1  
Lopez-Alegria, Michael E.  -  MS2  
Thornton, Kathryn C. "KT"  -  MS3  
Leslie, Fred W.  -  PS1  
Sacco Jr., Albert  -  PS2 | 15/21/52  
Oct-20-95  
8:53 a.m. CDT | 256  
Nov-05-95  
5:45 a.m. CST | 6,600,000  
KSC |
|---|---|---|---|---|
| STS-74 | Cameron, "Ken"  -  CDR  
Atlantis | Halsell, Jr., "Jim"  -  PLT  
Hadfield, Chris  -  MS1 (Canada)  
Ross, Jerry L.  -  MS2  
McArthur, William S. "Bill"  -  MS3 | 8/04/30  
Nov-12-95  
6:31 a.m. CST | 129  
Nov-20-95  
11:01 a.m. CST | 3,400,000  
KSC |
| STS-72 | Duffy, Brian  -  CDR  
Endeavour | Jett Jr., Brent W.  -  PLT  
Chiao, Leroy  -  MS1  
Scott, Winston E.  -  MS2  
Wakata, Koichi  -  MS3  
Barry, Daniel "Dan"  -  MS4 | 8/22/00  
Jan-11-96  
3:41 a.m. CST | 142  
Jan-20-96  
1:42 a.m. CST | 3,700,000  
KSC |
| STS-75 | Allen, Andrew M. "Andy"  -  CDR  
Columbia | Horowitz, Scott J.  -  PLT  
Hoffman, Jeffrey A.  -  MS1  
Cheli, Maurizio  -  MS2 (Italy)  
Nicollier, Claude  -  MS3 (Switzerland)  
Chang-Diaz, Franklin R.  -  MS4 (PYLD CDR)  
Guidoni, Umberto  -  PS1 (Italy) | 15/17/40  
Feb-22-96  
2:18 p.m. CST | 252  
Mar-09-96  
7:58 a.m. CST | 6,500,000  
KSC |
| STS-76 | Chilton, Kevin P.  -  CDR  
Atlantis | Searfoss, "Rick"  -  PLT  
Sega, Ronald  -  MS1 (PYLD CDR)  
Clifford, "Rich"  -  MS2  
Godwin, Linda M.  -  MS3  
Lucid, Shannon W.  -  MS4 (up) | 9/05/15  
Mar-22-96  
2:13 a.m. CST | 144  
Mar-31-96  
7:29 a.m. CST | 3,800,000  
EDW |
| STS-77 | Casper, John H.  -  CDR  
Endeavour | Brown, Curtis L. "Curt"  -  PLT  
Thomas, Andrew "Andy"  -  MS1  
Bursch, Daniel W. "Dan"  -  MS2  
Runco, Mario  -  MS3  
Gameau, Marc  -  MS4 (Canada) | 10/00/39  
May-19-96  
5:30 a.m. CDT | 160  
May-29-96  
6:09 a.m. CDT | 4,100,000  
KSC |
| STS-78 | Henricks, "Tom"  -  CDR  
Columbia | Kregel, Kevin R.  -  PLT  
Linnehan, Rick  -  MS1  
Helms, Susan J.  -  MS2 (PYLD CDR)  
Brady, Charles "Chuck"  -  MS3 | 16/21/47  
Jun-20-96  
9:49 a.m. CDT | 271  
Jul-07-96  
7:37 a.m. CDT | 7,046,000  
KSC |
Favier, Jean-Jacques - PS1 (Canada)
Thirsk, Robert B. "Bob" - PS2 (Canada)

**STS-79**

- **Atlantis**
  - Readdy, William F. "Bill" - CDR
  - Wilcutt, "Terry" - PLT
  - Apt, Jay - MS1
  - Akers, Thomas D. - MS2
  - Walz, Carl E. - MS3
  - Blaha, John E. - MS4 (up)
  - Lucid, Shannon - MS4 (down)

**STS-80**

- **Columbia**
  - Cockrell, "Ken" - CDR
  - Rominger, Kent V. - PLT
  - Jernigan, "Tammy" - MS1
  - Jones, Thomas D. "Tom" - MS2
  - Musgrave, F. Story - MS3

**STS-81**

- **Atlantis**
  - Baker, Michael A. "Mike" - CDR
  - Jett Jr., Brent W. - PLT
  - Wisoff, Peter J.K. "Jeff" - MS1
  - Grunsfeld, John M. - MS2
  - Ivins, Marsha S. - MS3
  - Linenger, Jerry M. - MS4 (up)
  - Blaha, John E. - MS4 (down)

**STS-82**

- **Discovery**
  - Bowersox, "Ken" - CDR
  - Horowitz, Scott J. - PLT
  - Tanner, Joseph R. "Joe" - MS1
  - Hawley, Steve A. - MS2
  - Harbaugh, "Greg" - MS3
  - Lee, Mark C. - MS4
  - Smith, Steven L. - MS5

**STS-83**

- **Columbia**
  - Halsell, James D. "Jim" - CDR
  - Still (Kilrain), Susan L. - PLT
  - Voss, Janice E. - MS1 (PYLD CDR)
  - Gernhardt, "Mike" - MS2
  - Thomas, Donald A. "Don" - MS3
  - Crouch, Roger K. - PS1
  - Linteris, Gregory T. "Greg" - PS2

**STS-84**

- **Atlantis**
  - Precourt, Charles J. - CDR
  - Collins, Eileen M. - PLT
  - Clervoy, Jean-Francois - MS1 (France)
  - Noriega, Carlos I. - MS2
  - Lu, Edward T. "Ed" - MS3
  - Kondakova, Elena V. - MS4 (Russia)
  - Foale, C. Michael "Mike" (up)
  - Linenger, Jerry M. (down)
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<td>Crouch, Roger K. - PS1</td>
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<td>Hire, Kathryn P. &quot;Kay&quot; - MS2</td>
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Williams, "Dave" - MS3 (Canada)
Buckey Jr., Jay Clark - PS1
Pawlczcyk, "Jim" - PS2

**STS-91**
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Precourt, Charles J. - CDR 9/19/53  Jun-02-98  5:06 p.m. CDT
Gorie, "Dom" - PLT 154  Jun-12-98  1 p.m. CDT
Chang-Diaz, Franklin R. - MS1 (PYLD CDR) 3,800,000  KSC
Lawrence, Wendy B. - MS2
Kavandi, Janet L. - MS3
Ryumin, Valery - MS4 (Russia)
Thomas, Andrew S.W. - MS5 (down)

**STS-95**
Discovery
Brown, Curtis L. "Curt" - CDR 8/21/43  Oct-29-98  1:20 p.m. CST
Lindsey, Steven W. - PLT 134  Nov-07-98  11:04 a.m. CST
Robinson, Steven K. - MS1 3,644,459  KSC
Parazynski, Scott E. - MS2
Duque, Pedro - MS3
Nahto-Mukai, Chiaki - PS1
Glenn Jr., John Herschel - PS2

**STS-88**
Endeavour
Cabana, Robert D. "Bob" - CDR 11/19/17  Dec-04-98  2:36 a.m. CST
Sturckow, "Rick" - PLT 185  Dec-15-98  9:54 p.m. CST
Ross, Jerry L. - MS1
Currie, Nancy J. - MS2
Newman, James H. "Jim" - MS3
Krikalev, Sergei - MS4 (Russia)

**STS-96**
Discovery
Rominger, Kent V. - CDR 9/19/13  May-27-99  5:50 a.m. CDT
Husband, Rick D. - PLT 153  Jun-06-99  1:03 a.m. CDT
Jernigan, "Tammy" - MS1 4,051,000  KSC
Ochoa, Ellen - MS2
Barry, Daniel T. "Dan" - MS3
Payette, Julie - MS4 (Canada)
Tokarev, Valery - MS5 (Russia)

**STS-93**
Columbia
Collins, Eileen M. - CDR 4/22/49  Jul-22-99  11:31 p.m. CDT
Ashby, Jeffrey S. "Jeff" - PLT 79  Jul-27-99  10:21 p.m. CDT
Coleman, "Cady" - MS1 1,796,000  KSC
Hawley, Steven A. - MS2
Tognini, Michel - MS3 (France)

**STS-103**
Discovery
Brown, Curtis L. "Curt" - CDR 7/23/11  Dec-19-99  6:50 p.m. CST
Kelly, Scott - PLT 120  Dec-27-99  6:01 p.m. CST
Smith, Steven L. - MS1
Clervoy, Jean-Francois - MS2 (France)
Grunsfeld, John M. - MS3
Foale, C. Michael "Mike" - MS4
Nicoller, Claude - MS5 (Switzerland)
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<td>Endeavour</td>
<td>11/05/38</td>
<td>Kregel, Kevin R. - CDR, Gorie, &quot;Dom&quot; - PLT, Thiele, Gerhard - MS1 (Germany), Kavandi, Janet L. - MS2, Voss, Janice E. - MS3, Mohri, Mamoru - MS4 (Japan)</td>
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<td>Halsell, James D. &quot;Jim&quot; - CDR, Horowitz, Scott J. - PLT, Weber, Mary Ellen - MS1, Williams, Jeff N. - MS2, Voss, James S. &quot;Jim&quot; - MS3, Helms, Susan J. - MS4, Usachev, Yury - MS5 (Russia)</td>
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<td>Duffy, Brian - CDR, Melroy, Pamela A. &quot;Pam&quot; - PLT, Chiao, Leroy - MS1, McArthur, William S. &quot;Bill&quot; - MS2, Wisoff, Peter J.K. &quot;Jeff&quot; - MS3, Lopez-Alegria, Michael E. &quot;Mike&quot; - MS4, Wakata, Koichi - MS5 (Japan)</td>
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<td>&quot;Danny&quot;</td>
<td>MS 3</td>
</tr>
<tr>
<td></td>
<td>Fuglesang, Christer</td>
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<tr>
<td></td>
<td>Stott, Nicole P.</td>
<td>MS 5 (up)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kopra, Timothy L.</td>
<td>&quot;Tim&quot;</td>
<td>MS 5 (down)</td>
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<tr>
<td>STS-129</td>
<td>Hobaugh, &quot;Charlie&quot;</td>
<td>CDR</td>
<td>10/19/16</td>
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<tr>
<td></td>
<td>Wilmore, Barry E.</td>
<td>PLT</td>
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<tr>
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<td>Melvin, Leland D.</td>
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<td>4,490,138</td>
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<tr>
<td></td>
<td>Bresnik, &quot;Randy&quot;</td>
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<td>Foreman, &quot;Mike&quot;</td>
<td>MS 3</td>
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<tr>
<td></td>
<td>Satcher Jr., &quot;Bobby&quot;</td>
<td>MS 4</td>
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<tr>
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<td>Stott, Nicole P.</td>
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<td>Zamka, George D.</td>
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<td>Virts Jr., Terry W.</td>
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<td>Hire, Kathryn P.</td>
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<tr>
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<td>Robinson, Stephen K.</td>
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<td>Behnken, Robert L.</td>
<td>&quot;Bob&quot;</td>
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<td>Dutton Jr., James P.</td>
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<td>Mastracchio, &quot;Rick&quot;</td>
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<td>6,232,235</td>
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<td>Metcalf-Lindenberger, &quot;Dottie&quot;</td>
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<td>Wilson, Stephanie D.</td>
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<tr>
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<td>Yamazaki, Naoko</td>
<td>MS 4 (Japan)</td>
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<td>Anderson, &quot;Clay&quot;</td>
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<td>Reisman, Garrett E.</td>
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<td>Good, Michael T.</td>
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<td>Lindsey, Steve L. - CDR</td>
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<td>39th flight</td>
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<td>Stott, Nicole P. - MS 4</td>
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<tr>
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<td><strong>148,221,675</strong> for 39 flights</td>
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<td>STS-134</td>
<td>Endeavour</td>
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<td>25th flight</td>
<td>Johnson, Greg H. &quot;Box&quot; - PLT</td>
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<td>Fincke, Michael E. &quot;Mike&quot; - MS 1</td>
<td>6,510,221</td>
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<td>Vittori, Roberto - MS 2 (Italy)</td>
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<td>Feustel, &quot;Drew&quot; - MS 3</td>
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<td>Chamitoff, &quot;Greg&quot; - MS 4</td>
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<td></td>
<td><strong>122,883,151</strong> for 25 flights</td>
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<td>STS-135</td>
<td>Atlantis</td>
<td>Ferguson, &quot;Chris&quot; - CDR</td>
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<td>33rd flight</td>
<td>Hurley, &quot;Doug&quot; - PLT</td>
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<td>Magnus, &quot;Sandy&quot; - MS 1</td>
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<td>Walheim, Rex J. - MS 2</td>
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<td></td>
<td><strong>125,935,769</strong> for 33 flights</td>
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</table>

**Total Time:**

**37164:31:05**

**Miles**

**542,398,878 (135 flights)**
11.3 INTERNATIONAL SPACE STATION EXPEDITIONS

Expedition 1
William Shepherd - Yury Gidzenko - Sergei Krikalev
Launch: October 2000
Land: March 2001
141 days

Expedition 2
Yuri Usachev - Jim Voss - Susan Helms
Launch: March 2001
Land: August 2001
167 days

Expedition 3
Frank Culbertson - Vladimir Dezhurov - Mikhail Tyurin
Launch: August 2001
Land: December 2001
129 days

Expedition 4
Yury Onufrienko - Carl Walz - Daniel Bursch
Launch: December 2001
Land: June 2002
196 days

Expedition 5
Valery Korzum - Sergei Treschev - Peggy Whitson
Launch: June 2002
Land: December 2002
185 days

Expedition 6
Ken Bowersox - Nikolai Budarin - Donald Pettit
Launch: November 2002
Land: May 2003
161 days

Expedition 7
Yuri Malenchenco - Ed Lu
Launch: April 2003
Land: October 2003
185 days

Expedition 8
Mike Foale - Alexander Kaleri
Launch: October 2003
Land: April 2004
195 days

Up with Ex 8 / Down with Ex 7
Pedro Duque
Launch & Land: October 2003
10 days

Up with Ex 9 / Down with Ex 8
Andre Kuipers
Launch & Land: April 2004
11 days
Expedition 9
Gennady Padalka - Michael Fincke
Launch: April 2004
Land: October 2004
188 days

Expedition 10
Leroy Chiao - Salizhan Sharipov
Launch: October 2004
Land: April 2005
193 days

Expedition 11
Sergei Krikalev - John Phillips
Launch: April 2005
Land: October 2005
179 days

Expedition 12
William McArthur - Valery Tokarev
Launch: October 2005
Land: April 2006
190 days

Expedition 13
Pavel Vinogradov - Jeffrey Williams
Launch: March 2006
Land: September 2006
183 days

Expedition 14
Mike Lopez-Alegria - Mikhail Tyurin
Launch: September 2006
Land: April 2007
215 days

Expedition 15
Fyodor Yurchikhin - Oleg Kotov
Launch: April 2007
Land: October 2007
196 days

Expedition 16
Peggy Whitson - Yuri Malenchenko
Launch: October 2007
Land: April 2008
192 days

Expedition 16
Leopold Eyharts

Up with Ex 10 / Down with Ex 9
Yuri Shargin
Launch & Land: October 2004
10 days

Up with Ex 11 / Down with Ex 10
Roberto Vittori
Launch & Land: April 2005
10 days

Up with Ex 12 / Down with Ex 11
Greg Olson
Launch & Land: October 2005
10 days

Expedition 13 & 14
Thomas Reiter
Launch: July 2006
Land: December 2006
171 days

Expedition 14 & 15
Suni Williams
Launch: December 2006
Land: June 2007
194 days

Expedition 15 & 16
Clay Anderson
Launch: June 2007
Land: November 2007
152 days

Expedition 16
Dan Tani
Launch: October 2007
Land: February 2008
120 days

Expedition 16 & 17
Garrett Reisman
Launch:  February 2008  
Land:  March 2008  
48 days

Expedition 17
Serget Volkov - Oleg Kononenko
Launch:  April 2008  
Land:  October 2008  
199 days

Expedition 18
Michael Fincke - Yuri Lonchakov
Launch:  October 2008  
Land:  April 2009  
178 days

Expedition 18
Sandy Magnus
Launch:  November 2008  
Land:  March 2009  
134 days

Expedition 19 & 20
Grennadi Padalka - Michael Barratt
Launch:  March 2009  
Land:  October 2009  
199 days

Expedition 20 & 21
Roman Romanenko - Frank DeWinne- Robert Thirsk
Launch:  May 2009  
Land:  December 2009  
187 days

Expedition 20
Tim Kopra
Launch:  July 2009  
Land:  September 2009  
58 days

Expedition 21 & 22
Jeffrey Williams – Maxim Suraev
Launch:  September 2009  
Land:  March 2010  
169 days

Expedition 21
Nicole Stott
Launch:  August 2009  
Land:  November 2009  
91 Days
<table>
<thead>
<tr>
<th>Expedition</th>
<th>Crew Members</th>
<th>Launch Date</th>
<th>Land Date</th>
<th>Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>22 &amp; 23</td>
<td>Oleg Kotov - Soichi Noguchi - Timothy Creamer</td>
<td>December 2009</td>
<td>June 2010</td>
<td>163</td>
</tr>
<tr>
<td>23 &amp; 24</td>
<td>Aleksandr Skvortsov - Mikhail Kornienko - Tracy Caldwell-Dyson</td>
<td>April 2010</td>
<td>September 2010</td>
<td>176</td>
</tr>
<tr>
<td>24 &amp; 25</td>
<td>Douglas Wheelock - Fyodor Yurchikhin - Shannon Walker</td>
<td>June 2010</td>
<td>November 2010</td>
<td>163</td>
</tr>
<tr>
<td>25 &amp; 26</td>
<td>Scott Kelly - Aleksandr Kaleri - Oleg Skripochka</td>
<td>October 2010</td>
<td>March 2011</td>
<td>159</td>
</tr>
<tr>
<td>26 &amp; 27</td>
<td>Dmitri Kondratyev - Catherine Coleman - Paolo Nespoli</td>
<td>December 2010</td>
<td>May 2011</td>
<td>159</td>
</tr>
<tr>
<td>27 &amp; 28</td>
<td>Andrei Borisenko - Aleksandr Samokutaev - Ronald Garan</td>
<td>April 2011</td>
<td>September 2011</td>
<td>164</td>
</tr>
<tr>
<td>28 &amp; 29</td>
<td>Michael Fossum - Sergei Volkov - Satoshi Furukawa</td>
<td>June 2011</td>
<td>November 2011</td>
<td>167</td>
</tr>
<tr>
<td>29 &amp; 30</td>
<td>Daniel Burbank - Anton Shkaplerov - Anatoly Ivanishin</td>
<td>November 2011</td>
<td>April 2012</td>
<td>165</td>
</tr>
<tr>
<td>30 &amp; 31</td>
<td>Oleg Kononenko - Donald Pettit - Andre Kuipers</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Launch: December 2011
Land: July 2012
192 days

**Expedition 31 & 32**
Gennadi Padalka – Sergei Revin – Joseph Acaba
Launch: May 2012
Land: September 2012
123 Days

**Expedition 32 & 33**
Sunita Williams - Yuri Malenchenko - Aki Hoshide
Launch: July 2012
Land: November 2012
127 Days

**Expedition 33 & 34**
Kevin Ford - Oleg Novitsky - Yevgeni Tarelkin
Launch: October 2012
Land: March 2013

**Expedition 34 & 35**
Chris Hadfield - Roman Romanenko - Tom Marshburn
Launch: December 2012
Land: May 2013

**Expedition 35 & 36**
Pavel Vinogradov - Aleksander Misurkin - Chris Cassidy
Launch: March 2013
Land: September 2013

**Expedition 36 & 37**
Fyodor Yurchikhin - Luca Parmitano - Karen Nyberg
Launch: May 2013
Land: November 2013

**Expedition 37 & 38**
Oleg Kotov - Sergey Ryzansky - Mike Hopkins
Launch: September 2013
Land: March 2014

**Expedition 38 & 39**
Koichi Wakata - Mikhail Tyurin - Rick Mastracchio
Launch: November 2013
Land: TBD

**Expedition 39 & 40**
Steve Swanson - Aleksandr Skvortsov - Oleg Artemiev
Launch: March 2014
Land: September 2014
Expedition 40 & 41
Makin Suraev - Reid Wiseman - Alexander Gerst
Launch: June 2014
Land: November 2014

Expedition 41 & 42
Barry Wilmore - Alexander Samoukutyaev - Yelena Serova
Launch: October 2014
Land:

Expedition 42 & 43
Sergie Zalyotin - Samantha Cristoforetti - Terry Virts
Launch: December 2014
Land: May 2015

Expedition 43 & 44
Yuri Lonchakov - Aleksei Ovchinin - Kjell Lindgren
Launch: 
Land:
### 11.4 EVA STATISTICS FOR US ASTRONAUTS

<table>
<thead>
<tr>
<th>ASTRONAUT</th>
<th># of EVAs</th>
<th>Total Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Michael (L.A.) Lopez-Algeria (F)</td>
<td>10</td>
<td>67 hours – 40 minutes</td>
</tr>
<tr>
<td>Jerry Ross (F)</td>
<td>9</td>
<td>58 hours – 18 minutes</td>
</tr>
<tr>
<td>John Grunsfeld (M)</td>
<td>8</td>
<td>58 hours – 30 minutes</td>
</tr>
<tr>
<td>Sunita “Suni” Williams (A)</td>
<td>7</td>
<td>50 hours – 40 minutes</td>
</tr>
<tr>
<td>Steve Smith (M)</td>
<td>7</td>
<td>49 hours – 25 minutes</td>
</tr>
<tr>
<td>Michael “Mike” Fincke (A)</td>
<td>9</td>
<td>48 hours 37 minutes</td>
</tr>
<tr>
<td>Michael &quot;Mike&quot; Fossum (A)</td>
<td>7</td>
<td>48 hours – 32 minutes</td>
</tr>
<tr>
<td>Steve Bowen (A)</td>
<td>7</td>
<td>47 hours – 18 minutes</td>
</tr>
<tr>
<td>Scott Parazynski (F)</td>
<td>7</td>
<td>47 hours – 5 minutes</td>
</tr>
<tr>
<td>Joe Tanner (F)</td>
<td>7</td>
<td>46 hours – 29 minutes</td>
</tr>
<tr>
<td>Robert “Beamer” Curbeam (F)</td>
<td>7</td>
<td>45 hours – 34 minutes</td>
</tr>
<tr>
<td>Doug “Wheels” Wheelock (A)</td>
<td>6</td>
<td>43 hours – 30 minutes</td>
</tr>
<tr>
<td>James “Jim” Newman (F)</td>
<td>6</td>
<td>43 hours – 13 minute</td>
</tr>
<tr>
<td>Andrew “Drew” Feustel (A)</td>
<td>6</td>
<td>42 hours – 18 minutes</td>
</tr>
<tr>
<td>Rick Linnehan (M)</td>
<td>6</td>
<td>42 hours – 11 minutes</td>
</tr>
<tr>
<td>David “Dave” Wolf (F)</td>
<td>7</td>
<td>47 hours – 05 minutes</td>
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<tr>
<td>Piers Sellers (M)</td>
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<tr>
<td>Peggy Whitson (A)</td>
<td>6</td>
<td>39 hours – 46 minutes</td>
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<tr>
<td>Dan Tani (F)</td>
<td>6</td>
<td>39 hours – 11 minutes</td>
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<tr>
<td>Rick Mastracchio (A)</td>
<td>6</td>
<td>38 hours – 30 minutes</td>
</tr>
<tr>
<td>Clay Anderson (F)</td>
<td>6</td>
<td>38 hours – 28 minutes</td>
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<td>Robert “Bob” Behnken (A)</td>
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<td>37 hours – 33 minutes</td>
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<td>Rex Walheim (A)</td>
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<td>Leroy Chiao (F)</td>
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<td>John “Danny” Olivas (F)</td>
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<td>Heide Stefanyshyn-Piper (F)</td>
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<td>Michael Foreman (M)</td>
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<td>James “Jim” Reilly (F)</td>
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<td>Michael “Bueno” Good (M)</td>
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<td>Thomas “Tom” Akers (F)</td>
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<td>Story Musgrave (F)</td>
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<td>Mark Lee (F)</td>
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<td>Daniel “Dan” Barry (F)</td>
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<td>Partick “Pat” Forrester (M)</td>
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<tr>
<td>Jeffrey “Jeff” Hoffman (F)</td>
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<td>Eugene “Gene” Cernan (F)</td>
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<tr>
<td>Michael Gernhardt (M)</td>
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<tr>
<td>Tracy Caldwell Dyson (A)</td>
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</tr>
<tr>
<td>Michael “Mike” Foale (A)</td>
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<td>22 hours – 44 minutes</td>
</tr>
<tr>
<td>James “Jim” Voss (F)</td>
<td>4</td>
<td>22 hours – 35 minutes</td>
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<tr>
<td>ASTRONAUT</td>
<td># of EVAs</td>
<td>Total Time</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>-----------</td>
<td>----------------------</td>
</tr>
<tr>
<td>Harrison “Jack” Schmitt (F)</td>
<td>3</td>
<td>22 hours – 4 minutes</td>
</tr>
<tr>
<td>James “Ox” van Hoften (F)</td>
<td>4</td>
<td>21 hours – 51 minutes</td>
</tr>
<tr>
<td>Garrett Reisman (F)</td>
<td>3</td>
<td>21 hours – 12 minutes</td>
</tr>
<tr>
<td>Kathryn Thornton (F)</td>
<td>3</td>
<td>21 hours – 11 minutes</td>
</tr>
<tr>
<td>Charlie Duke (F)</td>
<td>3</td>
<td>20 hours 15 minutes</td>
</tr>
<tr>
<td>John Young (F)</td>
<td>3</td>
<td>20 hours – 15 minutes</td>
</tr>
<tr>
<td>Steven “Steve” Robinson (F)</td>
<td>3</td>
<td>20 hours – 5 minutes</td>
</tr>
<tr>
<td>John Herrington (F)</td>
<td>3</td>
<td>19 hours – 55 minutes</td>
</tr>
<tr>
<td>Peter “Jeff” Wisoff (F)</td>
<td>3</td>
<td>19 hours – 53 minutes</td>
</tr>
<tr>
<td>Thomas “Tom” Jones (F)</td>
<td>3</td>
<td>19 hours – 49 minutes</td>
</tr>
<tr>
<td>Franklin Chang-Diaz (F)</td>
<td>3</td>
<td>19 hours – 31 minutes</td>
</tr>
<tr>
<td>Winston Scott (F)</td>
<td>3</td>
<td>19 hours – 26 minutes</td>
</tr>
<tr>
<td>Carlos Noriega (F)</td>
<td>3</td>
<td>19 hours – 20 minutes</td>
</tr>
<tr>
<td>Jeffrey “Jeff” Williams (A)</td>
<td>3</td>
<td>19 hours – 9 minutes</td>
</tr>
<tr>
<td>Thomas “Tom” Marshburn (A)</td>
<td>3</td>
<td>18 hours – 59 minutes</td>
</tr>
<tr>
<td>Carl Walz (F)</td>
<td>3</td>
<td>18 hours – 55 minutes</td>
</tr>
<tr>
<td>James Irwin (D)</td>
<td>3</td>
<td>18 hours – 35 minutes</td>
</tr>
<tr>
<td>David Scott (F)</td>
<td>3</td>
<td>19 hours – 35 minutes</td>
</tr>
<tr>
<td>Gregory “Greg” Harbaugh (F)</td>
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<tr>
<td>Nicholas “Nick” Patrick (F)</td>
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<td>Pierre Thuot (F)</td>
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</tr>
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<td>Gerald “Gerry” Carr (F)</td>
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<tr>
<td>Stanley “Stan” Love (M)</td>
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<tr>
<td>Lee Morin (M)</td>
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</tr>
<tr>
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<td>Robert “Shane” Kimbrough (A)</td>
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<td>B. Alvin “Al” Drew (A)</td>
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<td>Charles “Pete” Conrad (D)</td>
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<tr>
<td>Dale Gardner (F)</td>
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<tr>
<td>Joseph “Joe” Allen (F)</td>
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<td>Bruce McCandless (F)</td>
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<td>Robert Stewart (F)</td>
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<tr>
<td>William “Bill” Fisher (F)</td>
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<tr>
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<td>Total Time</td>
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<td>Jack Lousma (F)</td>
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<td>Jerome “Jay” Apt (F)</td>
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<td>Alan Bean (F)</td>
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<td>Linda Godwin (F)</td>
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<tr>
<td>George “Pinky” Nelson (F)</td>
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<td>Alan Shepard (D)</td>
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<tr>
<td>Edgar Mitchell (F)</td>
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<td>Tammy Jernigan (F)</td>
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<td>Carl Meade (F)</td>
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<tr>
<td>Nicole Stott (A)</td>
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<tr>
<td>Andrew “Andy” Thomas (M)</td>
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<tr>
<td>Paul Richards (M)</td>
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<tr>
<td>Edward “Ed” Lu (F)</td>
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<td>Michael “Rich” Clifford (F)</td>
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<td>G. David Low (D)</td>
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<td>Timothy “Tim” Kopra (A)</td>
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<td>Frank Culbertson (F)</td>
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<td>John Phillips (F)</td>
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<tr>
<td>Mario Runco (M)</td>
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<td>David Leestma (M)</td>
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<td>Kathryn Sullivan (F)</td>
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<td>Neil Armstrong (D)</td>
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<tr>
<td>Paul Weitz (F)</td>
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<tr>
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<tr>
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<td>Ronald “Ron” Evans (F)</td>
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<td>Al Worden (F)</td>
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<td>Richard Gordon (F)</td>
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<td>2 hours – 44 minutes</td>
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<tr>
<td>Michael Collins (F)</td>
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<td>1 hour – 27 minutes</td>
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<tr>
<td>Edward “Ed” White (D)</td>
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